

INTRODUCTION: RATIONALE, AIMS & OUTLINE

In the past six decades there has been a tremendous interest in and empirical research on the negative impact of work stress on psychological wellbeing (Fielden & Cooper, 2001; Goh, Sawang & Oie, 2010; Haines, Hurlbert & Zimmer, 1990; Schabracq & Cooper, 2000). Stress in organisations has become a central concern for both organisational researchers and management practitioners because of its relationship to a multitude of individual and organisational symptoms. The need to explore the impact of work stress has been necessitated by the enormous cost implications that it has in terms of stress-related illness for both individuals and organisations (Acker, 2004; Baatjies, Fouche, Watson & Povey, 2006; Foley, Ngo, & Lui, 2005; Snooks, 2005).

Research on the means to minimise stress or attenuate its impact on individual and organisational strain have centred on the role of gender and personality in stress perception and on the beneficial effects of social support on stress and health (Mackay, Cousins, Kelly, Lee & McCaig, 2004; Sarason & Sarason, 1990; Weeks, McLean & Berger, 2005).

Yet the research on stress, gender and social support has been plagued with equivocal findings. With regard to stress and gender a large body of research evidence suggests that women, in general, respond more negatively to stress than men. Furthermore, research suggests that men and women experience stress *differently* with certain stressors having more of a negative impact on women while others have more of a negative impact on men. However, these findings have not been consistent. In this respect, what the research has revealed is that *not all women and not all men* perceive the same stressors in the same way. Furthermore all women and all men do not respond to a set of specific stressors with the same manifestations of strain.

These, at times, contrary findings have been attributed to the fact that much of the research has viewed gender from a dichotomous biological perspective without exploring the possible *within* gender differences with regard to behavioural repertoire (defined in terms of variations in sex role identity) that affect the way in which men and women (biologically defined) perceive of and respond to stress.

With regard to stress and social support, while much of the research has demonstrated the positive effect of support on stress and health, there have been many researchers who have found support to have no effect on perceptions of stress and/or no moderating effect in the relationship between stress perception and strain. In some instances, negative effects have been demonstrated in that social support has been shown to exacerbate the relationship between stress and strain (Crockett & Neff, 2012; Croezen, Haveman-Nies, Picavet, Smid, de Groot, van Veer & Verschuren, 2010; Gleason, Shrout & Bolger, 2008; Jungwa Ha, 2009; Kappes & Shrout, 2011; Lincoln & Chae, 2010; O'Reilly, 1988; Siewert, Antoniow, Kubiak & Weber, 2011; Tardy, 1985). These equivocal findings have been attributed to a number of theoretical problems identified in the social support literature. These pertain to a lack of conceptual clarity with regard to defining the construct and a lack of specificity with regard to matching up the right sources of support with specific stress strain situations (Cohen & Wills, 1985; Kappes & Shrout, 2011; Payne & Jones, 1987; Tardy, 1985).

Furthermore, historically, internationally and within South Africa, much of the previous research conducted on work stress, particularly at a managerial level, has focused largely on the male gender and has been carried out on samples that were predominantly white (Clark, Chandler & Barry, 1996; Fielden & Cooper, 2001; Guppy & Rick, 1996; Rydstedt, Johansson & Evans, 1998; Van den berg & Van Zyl, 2008). Within South Africa, pre-1994, managerial positions were mainly the preserve of white males. However with the change in political dispensation and the promulgation of the Employment Equity Act No. 55 of 1998 (Republic of South Africa, 1998) current trends in the South African workplace have seen a change in the demographics of the South African workforce with an ever-increasing number of South African females, of all races, occupy higher level positions within organisations. This gender shift has meant that women are now being exposed to greater work demands and work stress than previously (Thomas, 2003; Van den berg & Van Zyl, 2008).

The implications of this increased demand upon women's health has been widely documented internationally with figures indicating that work stress-related illness is no longer the preserve of males. Increasingly women are developing the same type of stress-related disorders seen in male managers as a result of their increased representation within higher level positions (Cheng, Kawachi, Coakley, Schwartz & Colditz, 2000).

Consequently, in order to address the gaps in research that has looked mainly at white male managers, the purpose of the present research was to explore the work stress experience of South African female managers of varying sex role identities across all race groups, with the aim of identifying which factors within this stress process can serve to reduce or circumvent the 'female' experience of stress and its negative health outcomes.

The present study's objectives was thus to assess variations in the sex role identities of female managers and how these relate to perceptions of occupational stress, social support and indicators of wellbeing. In addition, the study explored the role of social support from various sources as utilised by female managers of various sex role identities, in the stress-wellbeing relationship.

More specifically the present study objectives were to determine

1. Whether individuals with varying patterns of sex role identity had differing perceptions of stress;
2. Whether individuals with varying patterns of sex role identity had differing perceptions of self-esteem;
3. Whether individuals with varying patterns of sex role identity had differing perceptions psychological wellbeing;
4. Whether individuals with varying patterns of sex role identity had differing perceptions of social support;
5. Whether, under varying conditions of stress, individuals with varying patterns of sex role identity had differing perceptions of self-esteem and psychological wellbeing; and
6. Whether, in the event of stress perception, different sources of social support would have a moderating effect upon self-esteem and psychological wellbeing.

The rationale for these objectives and the findings obtained are presented through a number of chapters, the structure and outline of which are as follows:

Chapter 1 to 6 reviews the literature in order to locate the study within the context of stress, sex, gender, social support and wellbeing. The literature review provides a comprehensive discussion of

the previous research on all of these aforementioned variables and the relationships between them. This discussion is then followed by an in-depth review of the mixed findings on these relationships and the gaps in present knowledge that these mixed findings suggest. Furthermore, the relevance of these findings to the South African population and how the present study aims to address these gaps within the South African context will be contextualised. More specifically:

Chapter 1 reviews the general literature on stress, historically defining stress and the key stress traditions and the models developed from these traditions. The chapter highlights both biological and psychological traditions of stress and the models that evolved from these traditions. In particular, the chapter focuses on the Transactional Model of stress and considers the limitations of this model. Limitations of the model are examined by delineating the wide variety of inter- and extra-organismic variables that are implicated in the stress process and their lack of explicit inclusion within the Transactional Model. The chapter concludes with a discussion as to how the present study intends to address these limitations.

Chapter 2 reviews the literature on occupational stress and positions the proposed model that will be used in the present research within the occupational context. This is attained by examining occupational stress models and incorporating aspects of these occupational models into the Transactional Model described within Chapter 1. This incorporation is undertaken in order to firmly position the Transactional Model within the occupational context and thereby enhance its explanation of the work-stress-strain process. The Chapter thus proposes an eclectic version of the Transactional Model proposed by Cox and Mackay (1981) and Lazarus and Folkman (1984) by integrating various components described in a number of other key occupational stress models.

Chapter 3 provides a detailed review on the research literature conducted on the relationship between stress, sex and gender, coping, wellbeing and social support. The chapter commences with a discussion of the extent to which women's participation in the labour force, at both professional and managerial levels, has increased over the years particularly within South African post-1994. The chapter then moves on to examine the differences between men and women with regard to perceptions of stressors, coping with stressors, the outcomes of such stressors on health and wellbeing and the differences between men and women with regard to social support provision and

utilisation. The chapter concludes with the observation that there are inconsistencies in this body of research as not all men and not all women respond in precisely the same way to stressors. In addition the chapter concludes that not all men and not all women adopt the same patterns of social support provision and utilisation. The conclusion notes that these inconsistencies will be fully explored within Chapter 5. However as Social Support is central focus of two of the study's hypotheses, before exploring inconsistencies, Chapter 4 is devoted to a thorough examination of the construct.

Chapter 4 provides a comprehensive literature review on social support. This review offers a detailed discussion on the origins of the construct and the various definitions of social support in terms of type, source and effects. The chapter provides a specific focus on the work stress social support literature in order to position social support within the occupational context of the present study. The chapter distinguishes between perceived versus enacted support and pro-social versus antisocial support and the extent to which individual characteristics and early socialisation experiences can determine the way in which social support is utilised. The chapter further elaborates on the relationship between stress, sex and gender, social support and wellbeing by examining previous literature on the topic. As with Chapter 3, Chapter 4 comments on inconsistencies within the social support literature with regard to its effects and with regard to the disparities in the literature relating to sex and social support. The chapter notes that not all men and not all women adopt the same patterns of social support provision and usage and it is noted that these inconsistencies and the aforementioned consistencies in relation to sex and stress discussed in Chapter 3 are to be examined in depth in Chapter 5.

Chapter 5 provides a discussion of sex and gender and promotes an argument as to why the two terms should be regarded to be theoretically and practically distinct. The argument does however take into account the interaction between the two, acknowledging that the development of gender is not entirely independent of the constraints of one's biological sex. A number of theories are examined which explicate the development of gender or sex role identity. The examination of these theories accounts for the extent to which individuals are sex-typed and the extent to which stereotypes prescribe the roles that biological males and females should or should not adopt. The chapter also delineates the historical movement of gender role theories, following the evolution of

these theories from those that were unifactorial to those that were multidimensional. The chapter pays specific attention to the pioneering work of Sandra Bem which commenced in the 1970s and which led to the emergence of the 'Androgyny Era'. The chapter concludes with a discussion on the inconsistencies evident in the research literature on sex and gender, stress, and social support proposing that these inconsistencies may have arisen due to previous research having only explored gender from a dichotomous perspective, that is, gender that is biologically defined.

Chapter 6 explores the concept of androgyny, defining the concept, the measurement instrument that have been utilised to measure it and the context of the feminist movement within which the era of androgyny developed. The chapter further provides an in-depth examination and a critique of the research literature on psychological androgyny, explicating the various limitations associated with this literature. The chapter closes and concludes on these limitations along with those raised within the previous chapters, providing a discussion of the theoretical knowledge and research gaps that these limitations suggest and how the present study intends to address these.

Chapter 7 outlines the aims and rationale of the present study, the proposed research questions and hypotheses, the research design, the theoretical model adopted and the measuring instruments that will be utilised to test the proposed hypotheses. In addition, the chapter covers the data analyses that are employed to assess the proposed relationships between the variables, as described within the hypotheses, the procedure that will be applied in operationalising the study and ethical considerations.

Chapter 8 contains the empirical findings obtained within the present study. The various phases of the study are described along with a detailed description of the sample utilised within each phase of the study. A detailed description of all the data analyses conducted, the results of the assumptions tests underlying each statistical technique, and the findings of the analyses are presented. Summaries and concluding comments of all findings are also presented for ease of interpretation of the analyses conducted within the many phases of the study.

Chapter 9 is devoted to a detailed discussion and interpretation of the present study's findings. Both non-significant and significant findings are discussed and their implications in relation to the

previous literature are elaborated upon in depth. The contributions of the present study's findings to the body of research on sex role identity, stress and wellbeing are specifically highlighted.

Chapter 10 concludes the research report, with a discussion of the study's theoretical and methodological limitations, the implications thereof for future research and the researcher's concluding comments.

CHAPTER 1: STRESS: A LITERATURE REVIEW

INTRODUCTION

A vast amount of international and South African research has indicated the substantial negative impact of stress upon individual wellbeing in both work and non-work settings (Bakker & Demerouti, 2006; Bakker, van Veldhoven & Xanthopoulou, 2010; Cunningham, Lischeron, Koh & Farrier, 2004; Fielden & Cooper, 2001; Ganster & Rosen, 2013; Kristof-Brown, Zimmerman & Johnson, 2005; Lin & Ensel, 1989; McNair, Vojick, Congdon, Monacelli & Lamont, 2006; Mackay et al., 2004; Schabracq & Cooper, 2000; Snooks, 2005; Vaananen, Antila, Turtainen & Varje, 2012). This research has revealed that there is enormous health and cost implications at individual, organisational and societal levels when individuals are exposed to excessive stressors in the form of acute and/or chronic work stressor events (Ganster & Rosen, 2013; Vaananen, et al., 2012). With regard to health, at an individual level work stress has been shown to lead to a decrements in a wide variety of health indicators ranging from impaired psychological wellbeing (anxiety, depression, psychological distress, exhaustion and burnout); physiological impairments (increases in somatic symptoms such as headaches, muscular-skeletal problems, high blood pressure and cardiovascular disease) and an increase in negative health behaviours (increased smoking, substance abuse and a greater dependency on prescription medications) (Ganster & Rosen, 2013). Such individual health decrements, in turn, have cost implications for organisations as workers engage in greater absenteeism, suffer from lowered morale and motivation, decreased job satisfaction and lowered levels of productivity. With regard to costs, a conservative estimate of the costs caused by work-related stress to both organisations and health care systems amount to some twenty billion euros annually (Vaananen et al., 2012). Work stress is thus considered to a major hazard that profoundly threatens worker health and lowers worker productivity, thereby heavily costing organisations and placing an immense financial burden on societal health care systems (Vaananen et al., 2012).

Given the enormous impact that work stress has at all levels, that is, the individual organisational and societal level, research interest in this area has continued to grow globally (Siegrist, Lunaa, Wahrendorf & Dragano, 2012).

This research on work stress has been guided by a number of general stress approaches, definitions and models (Ganster & Rosen, 2013). Below follows an historical review of these approaches, definitions and models, commencing with the seminal works of Selye (1935) and Cannon (1936) to more modern day 20th and 21st century approaches.

1.1 TOWARDS A DEFINITION OF STRESS – AN HISTORICAL REVIEW

O'Driscoll and Brough (2003) suggest that while a multitude of definitions of stress exist, the majority of researchers agree on the notion of a stressor as an event or stimulus within the environment, and a strain as an indication of the reaction of an individual to that stressor. More specifically, Ganster and Rosen (2013) note that stress can be thought of as a feature of the environment that acts upon the individual and that manifests in individual responses to these environmental demands, threats and/or challenges (psychologically, physiologically and behaviourally) and that the stressor-strain relationship is thus an *interaction* between the two, that is, between the environment and the individual. Within this view stressors are considered antecedents and strains are the psychological, physiological and behavioural reactions to stressful antecedent events. Stress is thus considered to be an overall process linking stressors, strain, and coping (O'Driscoll & Brough, 2003). Ganster and Rosen (2013) and Jex (1998) add that within the organisational context, exposure to stressors, in the form of stressful occupational conditions, generally results in high levels of strain. Strain may manifest in poor physical health and reduced psychological wellbeing in individuals and poor organisational outcomes in terms of reduced productivity, job satisfaction and organisational commitment and increased absenteeism, turnover and intention to leave. O'Driscoll and Brough (2003) identify three general and seminal approaches to stress, namely, the stimulus-response based approach, the transactional approach and the interactional approach.

Stimulus-response based approaches fall under the Biological or Physiological tradition while transactional and interactional approaches fall under the Psychosocial or Psychological tradition. A review of these approaches will examine the models of stress that they propose and will outline how the more recent psychological models have evolved out of the earlier biological tradition. In addition, the review will identify the strengths and weaknesses within these models, concluding with a discussion of the model to be used within the present research's framework.

1.2 THE BIOLOGICAL STRESS TRADITION

The stimulus-response based biological definitions of stress were developed within the fields of medicine and physiology (Ganster & Rosen, 2013; O'Driscoll & Brough, 2003). More specifically, the modern roots of this biological stress tradition began with Cannon's (1936) and Selye's (1935; 1976) work on emotional stress. Both describe stress as an orchestrated defence operated by physiological systems designed to protect the body from environmental harm. According to Cannon (1936) an organism would respond to stress, that is, an outside threat, with an emergency response. Such a response would be adaptive in that it would prepare the organism to cope with danger. Recognition of such danger would be followed by adrenal gland activity and sympathetic arousal that increased heart rate, respiration and skeletal muscle tone while reducing blood flow to the skin and viscera. This heightened state of arousal would then better enable the organism to fight or flee from the threat (Bloisi, Cook & Hunsaker, 2007; Brown-Baaitjies, Fouche, Watson & Ogden, 2006; Fleming, Baum & Singer, 1984; Ganster & Rosen, 2013; Hobfoll, 1989; Mackay et al., 2004; Ogden, 2004; Singer & Davidson, 1986).

Selye (1935) defined stress as a *non-specific* response of the body to any demand made upon it noting that the physiological stress response did not depend on the nature of the stressor, nor within reason, on the species within which it was evoked. The response syndrome thus represented a *universal* pattern of defence reactions serving to protect the organism (person or animal) and his/her/it's integrity (Cox 1978).

Selye (1935) went further and described a three stage process of bodily stress reactions referred to as the General Adaption Syndrome (GAS) (Bloisi et al., 2007; Brown-Baaitjies et al., 2006; Fleming et al., 1984).

The first stage referred to as *Alarm Reaction* is where the body demonstrates physiological changes characteristic of initial exposure to a stressor. These changes manifest in pupil dilation, increased heart rate and galvanic skin response (Bloisi et al., 2007; Chalmers, 1981; Cox, 1978). The second stage, referred to as *Resistance*, occurs if the stressor or stressors persists. Here alarm reaction disappears to be replaced by changes which mark the individual's adaptation to the situation. At this particular point the individual engages in a fight or flight response. At the third stage, if the

individual is unable to fend off or flee from the stressful situation, *Exhaustion* is experienced. Unable to resist or adapt to a persisting stressor or stressors, the body's immune system begins to break down and 'diseases of adaptation' could become manifest. Such diseases could manifest in the form of gastro-intestinal disorders, heart disease and/or muscular-skeletal disorders (Bloisi et al., 2007; Chalmers, 1981; Cox, 1978).

Selye (1935) noted that the effects of stress are cumulative with effects of later or ongoing stressors being added on to the effect/s of earlier stressors. While the additive model of stress is still applicable in more modern stress approaches, Selye's model has been critiqued for its proposal that responses to all types of threats are *all the same, that is non-specific* and therefore an individual would respond to any and all stressors in precisely the same fashion. Furthermore this model implies that the individual is purely reactive, responding to any and all stressors with a *unitary all-or-nothing stress response* (Appleby & Turnbull, 1986). Such models, with their emphasis on physiological responses to stress, fail to address the issue of individual variability in response to stressors, neglecting both the psychological and emotional aspects associated with stress reactions (Brown-Baaitjies et al., 2006). Attempts to address the weakness of these models is evidenced by psychological transactional and interactional models of stress which view stress as a *transaction between the individual and his or her environment* and the Life Events Stress (LES) models which identifies taxonomies of normatively stressful life events (Brown-Baaitjies et al., 2006; Lin & Ensel 1989; Mackay et al., 2004).

1.3 THE PSYCHOLOGICAL STRESS TRADITION

The psychological stress tradition embraces a number of models, such as the Transactional Model as proposed by Lazarus and Folkman (1966; 1984) and Cox and Mackay (1981), the Conservation of Resources Model (Hobfoll 1989); the Interactional Person-Environment Fit Model (Caplan, Cobb & French, 1979; Caplan, Cobb, French, Harrison and Pinneau, 1975; French 1973) and the Interactional Job Demands Control Model (JDC) (Karasek, 1979); the Effort-Reward-Imbalance Model (EFI) (Siegreist 1996); the Michigan Occupational Stress Model (Caplan et. al., 1975; Edwards, Caplan & Van Harrison, 1998) and the Job Demands Resources Model (JD-R) (Bakker & Demouriti, 2006; Bakker, et al., 2010).

However, the P-E Fit, JDC, JDR, ERI and Michigan Models are specifically focussed on occupational stress and will, therefore, be discussed in Chapter 2. Suffice to say, all these models are transactional in nature and the focus therefore will be on first discussing the seminal transactional model proposed, that is, the Transactional Model as developed by Lazarus and Folkman (1966; 1984) and Cox and Mackay (1981).

1.3.1 The Transactional Model

O'Driscoll and Brough (2003), note that the transactional approach is the most widely advocated approach within the study of stress. Chronologically, this approach developed after the biological approaches. Daniels and Guppy (1994) highlight that transactional approaches view the stress process as a continual transaction between external demands, personal resources and internal needs and values; in which the individual strives to maintain balance. They suggest that this approach implies a far more complex set of relationships between environmental variables, individual cognitions and stressors and their relationship to wellbeing as compared to the simplistic biological approaches.

The transactional approach evolved during the 1940s and 1950s when researchers studying the impact of stress on performance within the military discovered that individuals were not uniformly impaired in response to a set condition of stressors as implied by the physiological tradition (Lazarus, 1966; Lazarus & Folkman, 1984). This research revealed that all individuals *did not* respond to a stressor in precisely the same way nor did individuals respond to different stressors in an all-or-none fashion, that is, individual differences were observed in terms of whether or not an individual responded to a demand situation with a stress outcome. Furthermore, the *extent* to which an individual reacted to the same demand situation varied amongst different individuals. These studies thus indicated that individuals did not respond to all stressors in unitary and automatic 'black-box' fashion, suggesting that researchers pay more attention to the underlying psychological processes that could be responsible for individual differences in reaction (Lazarus, 1966; Lazarus & Folkman, 1984). It was noted that differences in the extent, intensity, direction and duration of a stress response and outcome could be ascertained by determining the way in which individuals *appraised* the stressor situation.

Within this transactional approach stress is thus defined as the outcome of the interaction between an individual and his/her environment. In order for stress to be experienced, the interaction between the individual and his/her environment needs to be *perceived of or appraised of* by the individual, as containing a condition or set of conditions that can possibly endanger the individual and can exceed his/her capacity to deal with the condition/s. Inherent in this interaction is the extent to which the individual can *cope* with the set of conditions or demands placed upon him or her (Lazarus & Folkman, 1984). Key elements of this perspective are thus appraisal as well as the notion of coping.

Appraisal is defined as the cognitive, evaluative process that determines why and to what extent a particular transaction or series of transactions between the person and the environment would be experienced as stressful, while coping is defined as the process through which the individual manages the demands of the person-environment transaction that are appraised as being stressful, as well as the emotion that this transaction generates (Lazarus & Folkman, 1984). Research using this perspective has shown that the extent to which the individual appraises the environment to be stressful combined with the extent that the individual believes that this stress exceeds his or her ability to cope, could lead to a negative impact on the individual's wellbeing.

This approach also acknowledges that the same stressor or set of stressors does not produce *the same degree* of negative consequences, in terms of wellbeing, in *all* individuals and that there are certain factors, intrinsic and/or extrinsic to the individual that can reduce the extent to which stress is perceived and/or can reduce the negative impact of the stress on wellbeing when it is perceived (Kaufmann & Beehr, 1989).

The transactional approach is encapsulated within the Transactional Model as described by Cox (1978), Cox and Mackay (1981), Lazarus (1966) and Lazarus and Folkman (1984). The model contains four stages (See Figure 1) which describe the process of stress perception and the impact thereof on individual health outcomes.

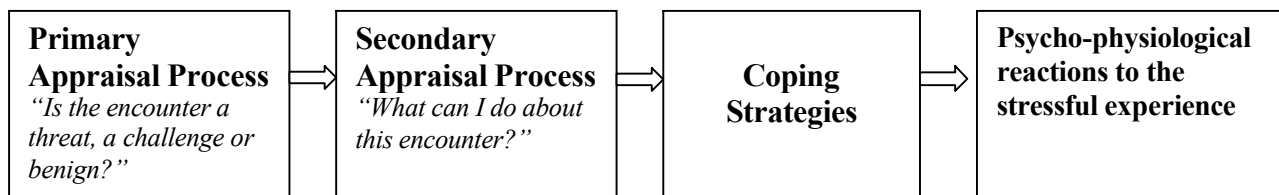


Figure 1

The Transactional Approach (Adapted from Cox and Mackay, 1981; Lazarus & Folkman, 1984).

Cox and Mackay's Model (1981) elaborates on the model provided by Lazarus et al. (1966; 1984) by including further dimensions and stages (See Figure 2, p. 15). According to Cox and Mackay (1981) the first stage is referred to as the '*Demand Stage*'. They distinguish between '*Actual Demand*' and '*Perceived Demand*'. Actual demand refers to an objective measurement of an environmental force or stress or acting upon an individual while perceived demand refers to the subjective perception of the actual demand, in terms of the extent of threat the demand is believed to pose to the individual exposed to it. The model also distinguishes between '*Actual Capability*' and '*Perceived Capability*'. Actual capability refers to the individual's real capability to cope with, respond to and/or circumvent the threat posed by the perceived stressor while perceived capability refers to the individual's belief, that is, the extent of the individual's sense of self-efficacy that he or she can cope with or circumvent the perceived threat (Cox, 1978; Cox & Mackay, 1981).

It is apparent that at the first stage the individual commences with the cognitive appraisal of the external demand and evaluates the extent to which it poses a threat and the extent to which the individual believes he/she is able to cope with the posed threat. Lazarus and Folkman (1984) described this as the stage of '*Primary Appraisal*'.

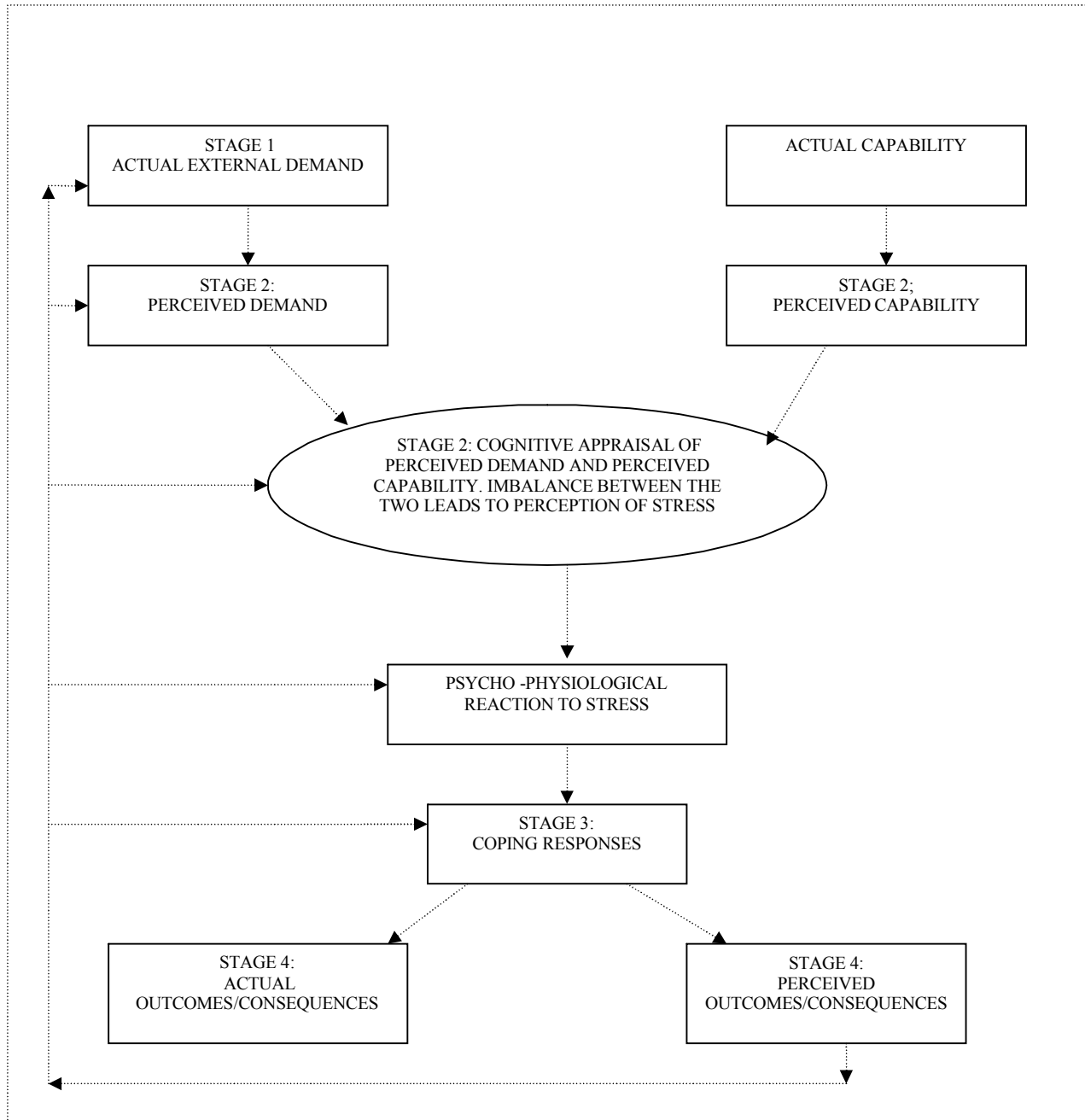


Figure 2

The Transactional Model (Adapted from Cox & Mackay, 1981)

During this stage the matching of perceived demand and perceived capability is taken a step further as the two are evaluated in terms of '*Balance or Imbalance*'. Lazarus and Folkman (1984) refer to this evaluation as '*Secondary Appraisal*'. Balance is experienced if the individual believes that he/she has the capacity to cope with, respond to or circumvent the threat perceived at the stage of primary appraisal. The individual then mobilises his/her coping responses and if these responses are successful, the individual is able to reduce, ameliorate or completely circumvent the perceived stressor; thereby reducing or completely circumventing any negative impact upon the individual in terms of stress outcomes or consequences. It is important to note that at this stage, if *no threat is perceived then there is no triggering of the stress process* and there is no need to engage in coping

If an imbalance is experienced, post-primary and secondary appraisal, that is, if the individual believes immediately after encountering the demand/s that he/she is unable to cope (in terms of perceived capability) then the individual is likely to experience a state of negative affect and psycho-physiological reactions to the stressor. The subjective emotional stress experience that this imbalance engenders will lead to the third stage, that is, the '*Stage of Defence or Methods of Coping*'. At this stage the individual engages in counter measures of cognitive and behavioural reactions in order to cope with the demand, albeit measures or reactions that the individual may or may not have total confidence in (Cox, 1978; Cox & Mackay, 1981).

If the individual did not perceive any imbalance at stage two, that is if the individual believed that he/she had the capacity to deal with the demand, only to discover that his/her coping responses engaged in were ineffectual, this could trigger a reappraisal of the stressor event, thereby altering the individual's initial perceptions of balance to one of imbalance. This altered perception of imbalance may, similar to the individual who perceives imbalance immediately at secondary appraisal, lead to the individual experiencing the negative affect of psycho-physiological reactions to the stressor and then engaging in a *further* series of coping defences to try to address the failure of the earlier coping response/s. In both instances, the outcomes of these reactions or methods of coping will determine the actual consequences of the stress experience.

'*Consequences*' constitute the fourth stage of the model. To the extent that the individual is able to engage in responses that ameliorate or circumvent his or her continued exposure to the stressor, so will the impact of the stressor upon the individual's wellbeing be reduced. That is, if the perceived consequences of one's actions are seen to be able to meet the perceived demands, then the experience of stress is relieved (Cox, 1978; Cox & Mackay, 1981; Goh et al., 2010).

However, if the perceived consequences of one's actions are seen to be inadequate in meeting the demand, then stress will not be relieved. At this point there could be a continuation of the stress experience or perhaps the commencement of a new, slightly modified, stress sequence which could occur if there is a shift in environmental conditions and/or a shift in the individual's perception of the initially perceived of demand (Chalmers, 1981; Goh et al., 2010). The experience of stress is thus prolonged. Furthermore, as the stress experience is prolonged, the individual's belief in his her capacity to deal with the same or similar stressors currently and/or in the future may be eroded. It is also at this point, when stress is not relieved, that consequences manifest. Consequences are described within the transactional model in terms of actual symptoms of strain, that is, physiological, psychological and behavioural symptoms.

At a physiological level consequences can manifest in the form of gastro-intestinal disorders, cardiac disorders, muscular disorders such as back pain and headaches and even terminal illnesses such as cancer. Ulcers, arthritis and allergies may also be triggered or exacerbated by stress (Bloisi et al., 2007; Sarafino, 2002). From a psycho-neuro-immunology perspective it is acknowledged that when an individual experiences stress, if this stress is on-going, the immune system may be compromised and the individual may experience any number of physiological disorders ranging in severity from chronic headaches and back pain to terminal illnesses (Kiegoldt-Glaser, McGuire, Robles & Glaser, 2002).

At a psychological level the individual may experience symptoms in the form of irritability, tension, anxiety and depression. All of these detract from feelings of wellbeing and can contribute to cognitive impairments of poor concentration, indecision, and decreased attention span. Inability to escape from or reduce the stress experience may manifest in general negativism, anger, feelings of persecution, helplessness, hopelessness, apathy, and/or withdrawal (Bloisi et al., 2007; Sarafino,

2002). Eventually when the experience of stress is so prolonged and the individual finds him/herself in a situation where all available adaptive energy has been depleted, then burnout syndrome can be experienced (Maslach, 1982). Burnout syndrome is a term coined by Maslach (1982) and is defined in terms of three states; employees feel emotionally fatigued (emotional exhaustion); they become reflective of an isolated attitude towards others (depersonalization) and/or devalue their self-worth at work (reduced personal accomplishment) (Wright & Bonett, 1997). Emotional exhaustion is the main component of burnout (Morris & Feldman, 1996). Burnout syndrome also has many negative consequences in terms of decreased work functioning such as job dissatisfaction, low organisational commitment and high turnover rates (Bloisi et al., 2007; Golembiewski & Munzenrider, 1988; Sarafino, 2002; Visser & Rothmann, 2008).

At a behavioural level the individual may engage in behaviours of substance abuse such as smoking and the use of alcohol and/or drugs to alleviate the stress experience (Bloisi et al., 2007; Sarafino, 2002). Usage of such substances, in turn, serves to exacerbate the impact of stress in the long term on one's physiological wellbeing. Sleep disorders and eating disorders, in which the individual sleeps and/or eats too little or too much may also be experienced (Bloisi et al., 2007; Sarafino, 2002).

Finally, the Transactional Model includes a '*Feedback Loop*' which feeds back into various stages of the stress process as it is being enacted or as it continues. To the extent that the individual perceives that he/she is successfully coping with the stressor whilst undergoing exposure or to the extent that the individual perceives that he/she has successfully coped with the process after its enaction so will this feed back into the perception of the stressor as it is occurring or, if the process is complete, if and when it reoccurs, in the same or a similar form, in the future (Cox & Mackay, 1981). Obviously this 'successful' feedback would enhance one's sense of perceived capability currently and in the future. Similarly, if the feedback is that of unsuccessful coping this will detract from one's perceived capability currently and in the future.

1.3.1.1 Limitations of the transactional model

While the Transactional Model offers an understanding of the stress process that is far more complex than the unitary ‘all-or-none’ explanations offered by physiological models, it may still be critiqued for a number of limitations.

The first limitation pertains to the distinctions that the model makes between actual demand and actual capability and perceived demand and perceived capability. According to Lazarus and colleagues (1984) this distinction may be an erroneous one as the reality or actuality of the demand situation and one’s capability to cope successfully with it is defined *exclusively* on the individuals’ perception thereof. However, there are circumstances where consideration of the actual dimensions may be of consequence, particularly with regard to demand. At stage one of actual demand and perceived demand, it is important to note that while this model stresses that it is an individual’s perception of the demand that triggers the stress process, irrespective of the extent of the actual demand; it must be acknowledged that there are actual demands that would ‘normally’ lead to stress, irrespective of the perceptions of the individuals exposed to them. This normative view of stress acknowledges and identifies events that are likely to produce stress in all individuals (Elliot & Eisdorfer, 1982; Lin & Ensel, 1989; Ogden, 2004). In such instances the extent to which physiological and neuro-endocrine concomitants can be influenced or determined by cognition may be questionable. For example, some stressors such as exposure to radiation, chemical hazards and natural disasters may be so noxious, invasive or even lethal that they would result in strain in the form of actual tissue damage and/or damage to the psyche for *all* individuals exposed to them, irrespective of perceptual mediation (Singer & Davidson, 1986). Thus, while perceptions of stressors are critical determinants in terms of the impact of such stressors on individual wellbeing, such perceptions are not entirely ideographic as there are some events that are so noxious that they would produce stress in *all* individuals irrespective of cognitive mediation. In addition, the normative view with its’ greater consideration of actual demand is of consequence as it enables researchers to provide *a starting point* for their examination of the stress process. It allows for the identification of those events that are most likely to lead to stress responses in individuals exposed to them. By creating such an anchor point, in which a taxonomy of stressful events are identified; researchers can examine the variation of appraisals and stress responses that exposure to such events give rise to (Hobfoll, 1989; Lin & Ensel, 1989; Ogden, 2004).

The Life Events Stress (LES) Model is typical of this approach in which taxonomies of major life events as well as daily hassles are compiled, with such events being regarded as those that would elicit levels of stress in almost all individuals exposed to them. This model also distinguishes between stressors that are acute and chronic and further acknowledges that exposure to stressful events can be cumulative in that individuals have a limit with regard to their reservoir of coping with chronic or cumulative stressors. This model demonstrates considerable evidence for a relationship between life events stress, operationally defined in terms of self-reported life changes and physical and psychological illness (Dohrenwend & Dohrenwend, 1974; Lin & Ensel, 1989; Ogden, 2004).

As with the transactional models, origins of this approach can be found in Cannon's (1929) and Selye's (1936) observations indicating that emotionally arousing stimuli can cause harmful changes in basic physiological processes. Early laboratory experiments which exposed animals to noxious stimuli such as electric shocks and temperature extremes have revealed that such exposure produces both physiological and psychological disorders (Dohrenwend & Dohrenwend, 1974; Selye, 1976). Similarly, physiological and psychological after-effects have been observed in victims of natural and man-made disasters (Fritz & Marks, 1954). As early as the 1930s researchers have suggested that it is not only noxious stimuli that could cause harmful changes in physiological processes, but that even 'normal' life events could be potential contributors to the development of pathological conditions (Selye, 1976). As a result of such early observations researchers began to focus on identifying a class of stressful stimuli or situations which nearly everyone could be exposed to, to a lesser or greater extent, within the course of life. These situations, called 'life events', included major life experiences such as marriage, birth of a child, divorce, serious illness or death of a significant other, job loss and geographical relocation and/or less major events, such as changes in living conditions and/or social habits (Chalmers, 1981).

This research has thus acknowledged that it is not only 'negative' events such as illness or death of a significant other that produced stress but so-called 'positive' events as well, such as marriage and birth of a child. What this approach has proposed is that it is the *adjustment* required by such life changes that can produce stress. Further research on LES has linked these events to the etiology of a wide variety of psychological and somatic disorders such as coronary heart disease, various

cancers, anxiety, depression and psychoses such as schizophrenia and suicide or attempted suicide (Brown, 1978; Ogden, 2004; Holmes & Rahe, 1978). This research has also indicated that the severity of physical and mental illness can increase with the intensity and amount of life changes experienced. This approach thus views stress as an *additive phenomenon* in that each new stressor may compound the experience of other stressors being experienced. Therefore, a cumulative effect can be observed, with those exposed to more and more life events experiencing a greater negative impact on health and wellbeing. The more demand the individual is exposed to the more his/her capacity to deal with the demand could be eroded, until such a point that the individual is no longer able to resist the demand. In such an event the individual may become overwhelmed and could experience deleterious health impacts. At this point the individual would experience the exhaustion or burnout described in the third stage of earlier physiological models such as the General Adaption Syndrome (Selye, 1935). As previously mentioned, this additive model also distinguishes between acute and chronic stressors and the threat that these could pose in overwhelming the individual's capacity to deal with demands.

Acute stressors are single events, usually of serious magnitude such as death of a loved one or being fired from one's job. Although a single event, the aftermath of the experience in terms of the impact that it has on the individual can be prolonged. To the extent that the individual experiences a series of acute stressors and/or experiences a number of acute stressors at a particular point in time so can the individual be overwhelmed by the overall demand of such excessive stressors (Bloisi et al., 2007; Holmes & Rahe, 1978). At this point the additive stressors overload the endocrine system, thereby depleting stress-coping resources and suppressing the immune system, which makes the body susceptible to diseases of adaptation (Bloisi et al., 2007).

Chronic stressors are those that vary in severity but persist over long periods of time and may, in fact, never resolve. Chronic stressors may, for example, be caring for a seriously disabled child or dealing with an abusive boss or colleague/s. Such stressors are experienced on an on-going basis and may even at times be compounded by the occurrence of other acute stressors or by the 'daily hassle' stressors that are of lesser severity but are still often encountered on a chronic basis, (e.g. driving in daily traffic or a new born baby who wakes regularly at night leaving the parent sleep-deprived) (Kasl, 1987).

A considerable body of research evidence exists indicating the significance of the accumulation of a series of both major and minor life events and acute and chronic stressors on health and wellbeing (Goh et al., 2010; Kessler & McGee, 1993; Turner & Avison, 2003; Turner & Lloyd, 1995). However this approach has been widely critiqued as it tends to be stimulus-response based to some degree. Although it is useful in identifying taxonomies of normatively stressful events it does not explicitly acknowledge that the extent to which a life event is perceived of as negative or positive depends on the personality and circumstances of the individual exposed to them. Assessment of life experiences centre around the objectivity of defining the experience as an actual demand without considering the variations in an individual's subjective interpretations of such events (Ogden, 2004). This approach thus takes no cognisance of possible individual differences in responding to these environmental events. Although these events are considered to be 'normatively' stressful, there are variations in determining the extent of desirability or undesirability of a particular life event as perceived of by the individual exposed to it. For example, the birth of a child, despite the adjustments required, may be extremely positive for an individual who has longed for and planned for a family as opposed to how it will be experienced by an individual who has no desire to have children or whose life circumstances are so difficult that the birth of a child would be a great burden. It is thus, once again, the *cognitive appraisal* of the *so-called* stressful event that is of paramount importance and while the transactional model does specifically take this into account; like the life events stress model, it *does not fully discuss* individual, circumstantial and environmental differences.

The second limitation of the transactional model is thus its less than complete discussion of inter-organismic and extra-organismic variables that can impact upon the stress process. While the roles of these variables are mentioned implicitly they are not fully described. In addition, their operation within the stress process is not fully explicated nor is this process of operation included as a stage within the model. While the crux of the model's explanation for differing response patterns is explained under the 'general rubric' of individual differences or vulnerability factors this does not offer a full enough explanation as to what these individual differences are; nor does it sufficiently explain how these differences make one more or less susceptible to perceiving a demand to be

threatening and therefore more or less susceptible to the experience of stress reactions (Ganster & Victor, 1988). A full discussion of these variables is elaborated upon below.

1.3.1.2 Inter-organismic variables

1.3.1.2.1 Personality variables

Inter-organismic variables can be examined by identifying and exploring personality differences and how these differences can affect the way in which an individual perceives a demand situation (Cunningham et al., 2004). Personality variables most noted in the literature as those that can impact on the individual's level of affect when exposed to stressor situations and upon an individual's capacity to successfully respond to such stressors are those of personality hardiness, locus of control, sense of coherence, resilience, self-esteem, self-efficacy, assertiveness, aggression, negative affectivity or positive affectivity, Type A versus Type B personality, openness to experience, agreeableness, antagonism, competitiveness, conscientiousness, neuroticism and anxiety. (Almedon, 2005; Cunningham et al., 2004; Costa & McCrae, 1992; Edwards & Besseling, 2001; Fielden & Cooper, 2001; Ganster, Fusilier & Mayes, 1986; Garber & Seligman, 1980; Gianakos, 2002; Greene & Nowack, 1991; Ivancevich & Matteson, 1980; Kobasa, 1979; Lefcourt, 1980; 1991; Nowack, 1991).

Hardiness is a combined personality characteristic describing individuals who believe they are in control of their lives and have the capacity to respond to and even transform potentially negative situations. Hardy individuals actively seek out challenges, novelty and change and have a high tolerance for ambiguity. These traits enable them to perceive less threat from external environmental demands such as role stress and change and enable them to cope better with such demands (Bloisi et al., 2007; Kobasa, 1979). Locus of control although a separate personality characteristic, does share some conceptual overlap with hardiness. An individual's locus refers to the degree to which an individual believes that his or her life is controlled by internal or external forces (Rotter, 1966). Individuals who believe they can exert control over their life experiences and/or their responses to life experiences are considered to have an internal locus of control. Externals, in contrast believe that they do not have control over their life experiences and that what they do experience is a result of luck, misfortune, fate or other external forces beyond their control (Bloisi et al., 2007).

Sense of coherence, is defined as a personality trait that is presumed to “engender, sustain and enhance health as well as strength” within an individual. It is developed from “birth up until the age of about 30, after which it “remains fairly stable” (Antonovsky 1979; 1987; Strumpfer, Gouws & Viviers, 1998, p. 458). Throughout the early life span, an individual is exposed to constant stress and tension-related challenges that require a response and eventual resolution. If such experiences are characterised by a consistent participation in shaping outcome and an ability to balance underload-overload stimuli, a view of the world as predictable and coherent will result (Strumpfer et al., 1998). The ability to handle unpredictable situations and rapid change is also essential in the development of a high sense of coherence. Antonovsky (1979; 1987 as cited in Flensburg-Madsen, Ventegodt, & Merrick, 2005) provides that a sense of coherence is thus “a global orientation that expresses the extent to which one has a pervasive, enduring, though dynamic feeling of confidence that one’s internal and external environments are predictable and that there is a high probability that things will work out as well as can reasonably be expected” (Flensburg-Madsen et al., 2005, p.769). Sense of coherence can therefore be classified as an internal coping resource that functions as a mechanism to tweak one’s perceptions of stressful or threatening situations and by which an individual embraces rather than avoids challenges; perceiving these challenges as something “worthy of engaging with and investing oneself in” (Strumpfer et al., 1998, p. 458). A strong sense of coherence allows an individual to make cognitive sense of the stimuli that impact upon him or her, and consequently these stimuli become more manageable and controllable. Difficult situations therefore become “meaningful and motivationally relevant” for the individual (Strumpfer et al., 1998, p. 458). Stressful events are thus less likely to impact upon individuals with a strong sense of coherence, as opposed to individuals who are low on this trait.

Kobasa’s (1979) construct of hardiness and Rotter’s (1966) locus of control are closely related to sense of coherence in terms of the latter’s definition and function which focus on an individual’s internal sense of control, especially in highly stressful situations. Antonovsky (1987) refers to this overlap in terms of the crucial assumption that both promote that how one perceives his/her external world is a decisive factor in coping and health outcome.

Another construct closely linked to the notion of sense of coherence is Rutter’s (1985) ‘resilience’. According to Rutter (1985), resilience refers to the ability to deal with stressful encounters in such a

way that “allows self-confidence and social competence to increase through mastery and appropriate responsibility” (Rutter, 1985, p. 608). There is a strong degree of correlation between sense of coherence, resilience, hardiness and locus of control and these traits together can be seen to be a part of a ‘competency cluster of traits’ that may, to a lesser or greater extent, constitute and individual’s personality make-up (Almedom, 2005).

Similarly self-esteem, self-efficacy and assertiveness are also part of the competency cluster of positive personality traits. Self-esteem refers to the judgment an individual makes regarding his/her own self-worth. Muhlenkamp and Sayles (1986) refer to self-esteem as a learned phenomenon involving life-long processes. Such processes revolve around the interaction of the individual with the social environment, referring primarily to the family of origin and including significant others as they vary across the individual’s lifespan.

The high self-esteem person is conceptualised as liking or valuing him or herself as well as seeing him or herself as competent in dealing with the world he or she perceives. There thus seems to be some conceptual overlap between self-esteem, internal locus of control and hardiness which may be argued to form part of a ‘competency cluster’ which better enables an individual to adapt to the demands of his or her world.

The low self-esteem person is conceptualised as disliking and devaluing him or herself, to varying degrees, and in general perceiving him or herself as not competent to deal effectively with his or her environment (Hobfoll, 1989; Thoits, 1985.) According to Stanwyck (1983) self-esteem in adulthood is primarily a reflection of social relationships and career development. Consequently if career development is encumbered by stressful events at work, self-esteem may be impaired.

Hobfoll, Nadler and Lieberman (1986), note that those with lower self-esteem have lower stress resistance. In turn, Weiner (1983) showed that the way in which an individual deals with stressors in terms of perceived success or perceived failure can have repercussions for the individuals self-esteem particularly when an individual’s locus is internal. In the event of success, if attributed internally, this could serve to boost self-esteem. However, in the event of failure, if attributed internally, this could serve to erode self-esteem. For those with low self-esteem to begin with, the

implications would be even more deleterious as failure could erode an already fragile sense of esteem even further.

Thus, the level of one's self-esteem can fluctuate depending on life's circumstances and perceived control over these circumstances, though the consensus is that those with high self-esteem have greater capacity to deal with stress and more in reserve to adapt to any failures. In accordance with the Transactional Model, those exposed to a situation perceived to be stressful, if unable to cope with it, may have their self-esteem eroded. Conversely those who can successfully cope with the stressor situation may have their self-esteem enhanced.

According to Thoits (1985) self-esteem (and the competency cluster of traits) are intimately tied to psychological wellbeing. Reflective positive self-evaluations generate satisfaction, contentment and other positively-toned affective states. Conversely, reflected negative self-evaluations are a primary source of anxiety and depression. Perceived inability to cope with perceived stress can be conceived of as a reflected negative self-evaluation which can serve to erode self-esteem and in turn lead to poor psychological wellbeing, evidenced in the experience of anxiety and depression (Abramson, Seligman & Teasdale, 1978; Brown & Harris, 1978; Kaplan, 1980). Thoits (1985) thus defines psychological wellbeing as the extent to which individuals are free of symptoms such as anxiety, depression, distress and demoralisation.

According to Bandura (1982) perceived self-efficacy is concerned with one's belief that one does have the capacity to execute courses of action to deal with prospective demand situations. Bandura (1982, p.122) refers to self-efficacy as a "mechanism of human agency" in which cognitive, social and behavioural skills are organised into an integrated course of action in order to deal with external environmental demands. Bandura (1982) notes that self-efficacy is not an inert estimate of future action. Rather it is a stable set of one's self appraisal of one's operative capabilities that "function as a set of proximal determinants" of how an individual will think, behave and emotionally respond in situations of demand (Bandura, 1982, p.123). Furthermore, he notes that "people's judgments of their capabilities influence their thought patterns and emotional reactions during anticipatory and actual transactions with the environment [with] those who judge themselves as inefficacious in coping [being] beleaguered by self-doubt, [dwelling on their] personal

deficiencies, [and perceiving] potential difficulties to be more formidable than they really are” (Bandura, 1982, p.123).

Applied to the transactional model, it becomes clear how self-efficacy plays a major role in one’s perception of the actual demand and in one’s perceived capability to deal with the demand. Individuals high on self-efficacy may perceive less of a threat at the commencement of the stress process than those low on this trait, and in fact depending on the degree of self-efficacy; high self-efficacy individuals may not even perceive the demand to be taxing and therefore the stress process may not be triggered at all. If however threat is perceived, those high on self-efficacy will be able to respond to stressor situations with greater ease than those low on self-efficacy.

Many definitions have been proposed for assertiveness, but the most suitable explanation for the context of this study is that assertiveness refers to “the free expression of emotions without experiencing anxiety”, while remaining considerate to the feelings of others (Scamell & Stead, 1984, p. 175). Individuals high on assertiveness are therefore comfortable with the public expression of personal rights and feelings, are particularly low on neuroticism and anxiety and are “highly aware of and sensitive to the feelings of [other] individuals around them” (Scamell & Stead, 1984, p. 175). In the face of external demands such individuals are inclined to perceive the situation as less threatening than individuals lacking in or low on this trait. Such individuals are more likely to stand up for themselves and take control when faced with a demand that they perceive to be excessive (Strumpfer et.al., 1998). Once again, the element of control appears to be inextricably bound to this trait which overlaps with the competency cluster traits of hardiness, locus of control, sense of coherence, self-esteem and self-efficacy.

In contrast to the competency traits there are personality traits that are associated with poor wellbeing. In particular these pertain to Neuroticism, Negative Affectivity, ‘Type A’ personality and Aggressiveness. Agreeableness or rather being overly agreeable can also be problematic as such individuals defer to the needs of others to the detriment of their own needs (Costa & McCrae, 1992; DiDonota & Berenbaum, 2004; Korabik & McCleary, 2001; Musson, Sandal, & Helmrich, 2004).

Watson and Clark (1984) refer to negative affectivity as the dispositional tendency to experience a variety of negative mood states. Individuals high on negative affectivity tend to perceive their external world as threatening and ambiguous, are more prone to experience negative feelings of guilt, anger, anxiety, fear, rejection, distress and sadness, and are particularly sensitive to minor frustrations (Penney & Spector, 2005). In the face of stressful situations, including incidences where intent to harm is salient, high negative affectivity individuals tend to perceive more stress in an actual demand situation which may result in “increased emotional arousal” (Penney & Spector, 2005, p.781). Thus, with regard to stress it has been proposed that individuals who are high on negative affectivity are more prone to interpreting situations in a negative light than individuals who are low on the same trait (Djurkovic, McCormack & Casimir, 2004). Such individuals would be more adversely affected by a demand situation and would be likely to reflect greater negative emotionality such as anxiety, nervousness, stress, anger and distress in response to perceived demands.

In contrast, positive affectivity embodies concepts opposite to those related to negative affectivity (Strumpfer et al., 1998). Positive affectivity has been found to be strongly correlated with constructs such as extraversion, and is “characterized by pleasurable feelings such as cheerfulness, joy, delight, excitement and enthusiasm” as well as by “high energy, determination, ambition, mental alertness and interest (Strumpfer et al., 1998, p. 460). Individuals high on this trait are thus inclined to perceive the world in a positive light and are consequently less likely to perceive threat in external environmental demands or may perceive threat to a lesser extent than those characterised by negative affectivity. These individuals will confront demand situations proactively and are less likely to experience emotional or physical harm in the face of such demands (Aquino & Bradfield, 2000). Strumpfer and colleagues (1998) highlight that positive affectivity may be closely associated with the competency cluster of traits described above, namely hardiness, internal locus of control, sense of coherence, resilience, self-esteem, mastery and self-efficacy.

With regard to aggression, Buss and Durkee (1957) delineate that hostile behaviour is multifaceted and embodies elements such as assault, irritability, negativism, suspicion and aggression. Aquino and Bradfield (2000, p.527) define aggressiveness as an “underlying trait that predisposes some persons to aggress or attack more readily than others in response to environmental stimuli”. Aquino

and Bradfield (2000), note that individuals who are high on aggressiveness perceive higher levels of threat from external demands than those who are low on this trait. According to Buss (1961), the behavioural and cognitive inclinations of an aggressive individual make them susceptible to react aggressively to threatening stimuli. Furthermore, individuals in possession of aggression as a “dominant response tendency” will be more likely to attribute “hostile intent” to another individual’s actions and thus will perceive escalated intimidation and threat arising from interpersonal interactions (Aquino & Bradfield, 2000, p. 527).

Type A and Type B behaviour proposed by Jenkins, Rosenman and Friedman (1967) typically describe those who are more or less likely to develop coronary heart disease, particularly in relation to external environmental stressors. According to Jenkins et al. (1967, p.371) the coronary prone Type A behaviour pattern is characterised by “excessive drive, aggressiveness, ambition, involvement in competitive activities, frequent vocational deadlines, pressure for vocational productivity, an enhanced sense of time urgency, restless motor mannerisms and a staccato style of verbal response”. Type A individuals are impatient with slowness in others, set a rapid time pace in everything that they do and can be hostile in their behaviour (Matthews, Glass, Rosenman & Bortner, 1977). Conversely, the low coronary risk Type B behaviour pattern is “characterized by the relative absence of this interplay of psychological traits and situational pressures” (Jenkins et al., 1967, p. 371). The Type B individual is far more relaxed, takes time out to enjoy leisurely pursuits, is less impatient and is calm, steady and less preoccupied with achievement and competitiveness. While there are degrees to which an individual will exhibit these behaviours, research has indicated that Type A’s behaviour pattern places them at a much higher risk for developing coronary heart disease than Type B’s. In addition, the degree to which Type A’s perceive and react to stress in the external environment is far in excess to the perceptions and responses of their Type B counterparts. Thus, within the transactional process, Type A’s will perceive threat more readily and may respond more aggressively and with more hostility, such outcomes boding ill for their long term health and wellbeing.

Neuroticism is operationally defined in terms of irritability, anger, sadness, anxiety, worry, hostility, self-consciousness and vulnerability (Costa & McCrae, 1992; Lahey, 2009). Research on neuroticism indicates that females score higher on this trait than do males (Costa, Terraciano &

McCrae, 2001). Furthermore, there is considerable overlap between the measure and experience of neuroticism, negative affectivity, anxiety and depression indicating that this trait is co-morbid with and falls within the ‘negative affect cluster’ of traits (Jylha & Isometsa, 2006). For individuals who are high on neuroticism, their emotional response to challenges is usually negative and out of proportion to the circumstances. Such individuals are usually self-critical, sensitive to the criticism of others and tend to feel personally inadequate (Costa & McCrae 1992; Watson, Clark & Harkness, 1994). Thus, in relation to the Transactional Model of stress, neurotic individuals are likely to perceive greater threat in external environmental demands and are further, likely to experience ‘imbalance’, in terms of their perceived personal inadequacy to cope with such demands.

With regard to being overly agreeable, while agreeableness within the context of being accommodating and prepared to compromise is desirable in certain social situations, being overly agreeable, in which one compromises one’s own needs and thereby one’s own wellbeing totally for the sake of others, in the long term, has a negative impact on health (Didonato & Berenbaum, 2004; Korabik & McCleary, 2001).

In summary then, in terms of inter-organismic variables personality variables, it can be argued that there are a cluster of personality traits that are associated with lesser perceptions of threat in the event of external environmental demands, enhanced ability to cope with such demands and thereby lesser impact in terms of negative stress outcomes. These traits tend to have a fair degree of overlap between them and all fall under the general umbrella of ‘competency cluster traits’. In contrast, as described above, there are also a constellation of personality traits that are associated with increased threat perceptions and poor coping and health outcomes in the event of exposure to stressful environmental demands. These traits tend to fall under the ‘negative affect cluster’. A later review of the literature will indicate that, to a certain extent, many of these above-described traits are more stereotypically associated with males or masculine individuals and females or feminine individuals and consequently, by their association, they have differential implications for the health and wellbeing of the different sexes. However, this discussion will be explored in greater detail in the following chapters.

1.3.1.2.2 Demographic variables

Demographic variables such as cultural and racial differences, differences in socio-economic status, educational level and gender are also inter-organismic variables that can impact upon the stress process in terms of variations in stress perception and coping.

With regard to culture, certain so-called stressful situations may be regarded as more or less stressful, dependant on the culture in which they occur. Likewise what is considered to be a stressor in one cultural grouping may be regarded as normatively non-stressful in another (Kaplan, 1983; House, Umberson & Landis, 1988). Similarly, with differences in race and socio-economic status, there may be variations in perceptions of stressful events. Research on race, stress and life events have, in fact, indicated that different race groups are subject to differential exposure with some groups being subject to more or less stress and/or different types of stressors as compared to other groups. According to Turner and Avison (2003) there are variations in stress exposure which are related to socio-economic status and race. They note that these variations have been consistently observed with significant stress and health disparities evidenced across various social status and racial categories (Turner, Wheaton & Lloyd, 1995). In a study conducted by Van den Berg and Van Zyl (2008) on a sample of high-level South African career women, significant differences between White, Black, Coloured and Asian women were reported on both exposure to number of stressors and perceptions of these stressors.

Educational differences can also have an impact on the way in which stress is perceived with research indicating that the greater one's level of education the greater one's problem solving skills and thereby, the greater one's capacity to resolve stressful situations. Therefore, in the event of stress perception, those that are more educated may have better problem solving and coping strategies to enable them to master and manage external environmental stressor situations (George, 1980). Research on women in particular has indicated that more educated women have a higher degree of self-efficacy, mastery and sense of control in the event of being faced with stressful situations (Salguero, Martinez & Monteoliva, 2008; Stake & Hoffman, 2001). In their study on Asian women, Kanwar and Taplin (2001) specifically noted that women who receive education are more confident and consequently feel they are better equipped to make decisions, express themselves and take leadership roles.

While much of this research on race, socio-economic status and education has been carried out internationally, the implications of these research findings remain acutely pertinent to South Africa where a history of disadvantage and discrimination under apartheid has inextricably interlinked race, education and socio-economic status (Albertyn 2007). However, the fundamental proposition is that social status defines the conditions of life to which individuals are subjected with stressful events and circumstances arising out of the structural contexts and inequalities of peoples lives (Pearlin, 1989; Van den Berg & Van Zyl, 2008).

Gender differences are also of substantial import with regard to stress perception and stress management with a vast body of research indicating that males and females perceive stress differently in that they accord ‘different weightings’ to different stressors in terms of what is more or less stressful to them. In this regard research has indicated that women and men are in fact exposed to ‘different types’ of stressors and, moreover, women may be exposed to *more* stress than men (McDonough & Walters, 2001; Narayanan, Menon & Spector, 1999; Turner & Avison, 2003). Furthermore, there are differences between males and females with regard to how they cope with stress and the health outcomes that they experience as a result of stress exposure (Fielden & Cooper, 2001).

As the central focus of the present study is to examine gender and its relationship to stress and health, an extensive and detailed discussion of sex, gender and stress will be undertaken in Chapter 3. What is critical to note here is that there are gender differences with regard to the behavioural and personality traits that each gender displays. Investigations of behavioural gender role disparities have been extensively explored within the literature and by and large the literature has referred to a constellation of personality traits and interpersonal behaviours that are both socially acceptable and stereotypical of males and females (Ganong & Coleman, 2002; Herman & Betz, 2006; Lengue & Stromshak, 2000; Moskowitz, Suh & Desaulniers, 2004; Reevy & Maslach, 2001; Roothman, Kirsten & Wissing 2003). An examination of these gender-typical personality traits or interpersonal behaviours, which are measured by sex role inventories, reveal that they are often aligned to or correlated with the above described traits of personality (both competency and negative affect clusters); with many of the items within the personality inventories used to measure

these traits being highly similar, in terms of content, to those assessed by sex role inventories designed to measure stereotypically masculine or feminine behaviours and traits.

Thus, given the relationship between sex role identity and specific personality traits and given the relationship between these traits and psychopathology or specific socio-emotional correlates; it is proposed that those with specific sex role identities will be more or less likely to display pathological or poor states of wellbeing or conversely those with specific sex role identities and therefore specific traits of personality will be more or less likely to display good wellbeing (Meyer, Blissett & Oldfield, 2001; Wilhelm, Wedgwood, Parker, Geerlings & Hadzi-Pavlovic, 2010). However, as previously mentioned, more in depth discussion of gender-typical behavioural traits and the extent to which they align with or are correlated with the above described personality traits, which are shown to have bearing on the stress process in terms of perception, coping and thereby health outcomes, will be undertaken in the following chapters.

1.3.1.3 Extra-organismic variables

Extra-organismic variables refer to those variables operating external to the individual that can also serve to alter individual perception of a demand situation and the extent to which the individual copes with the perceived demand. Past experience, circumstantial differences and the coping resource of social support are all extra-organismic variables that can impact upon stress perception and responses to stressors (Antonucci, Fuhrer & Jackson, 1990; Dohrenwend & Dohrenwend, 1978; George, 1980; Kaplan, 1983; Kessler & Cleary, 1978; Menaghan, 1983).

With regard to past experience, the ability to cope successfully with a stressor in the past enhances one's belief that one can deal with the self-same stressor or a similar stressor when it reoccurs in the present. Successful past coping shores up one's capacity to deal with stress in the same way as unsuccessful past coping may serve to undermine one's belief that one has the capacity to deal with the stressor currently or if and when it reoccurs in the future. Past experience is thus tied into the Transactional Model's feedback loop as it serves to inform one's perceptions of stress in terms of perceived demand and one's perception of capability to deal with that demand when stress is either on-going or when new stress processes are triggered in the future (Cox & Mackay, 1981).

Circumstantial differences can also serve to reduce or increase the extent to which a potential stressor is perceived of as stressful (Cutrona, 1990; Cutrona & Russel, 1989; Kaplan, 1983). More specifically, circumstantial differences refer to the *predictability and controllability* of the circumstances within which a stressful event is experienced. To the extent that stressors are predictable in terms of *when* they will occur so does this enable the individual to exert some control over their responses to the stressor, thereby reducing impact. Thus, to the extent that there is some kind of predictable signal that indicates, due to timing or periodicity, that a stressor is going to occur, so will the individual be able to prepare or gird him or herself towards managing the occurrence. Predictability links to controllability in that it allows the individual a measure of control in managing the response to the stressor. Control also refers to the extent to which the individual feels he or she can modify the stressor in terms of reducing intensity or duration and thereby alleviating impact. The ability to attribute causality to controllable events, to infer predictability and/or to find one-self in circumstances that confer predictability and/or controllability can thus determine the amount of stress experienced (Cutrona, 1990; Cutrona & Russel, 1989; Singer & Davidson, 1986).

Social support has also been identified as an extra-organismic variable that can affect stress perception and the ability to cope with stress. A vast amount of research has been carried out across a breadth of disciplines indicating that social support plays an extensive role in reducing or eliminating the impact of stress on individuals exposed to stressors (AbuAlrub, 2004; Brough & Pear, 2005; Burleson, 2003; Cohen, Gottlieb & Underwood, 2000; Cropley & Steptoe, 2005; Gencoz & Ozlale, 2004; Giliotti, 2004; House, 1981; Reevy & Maslach, 2001; Schirey, 2004; Schwarzer & Guiererez-Dona, 2005; Winnubst, Buunk & Marcellissen, 1988). As the present study explores the impact of social support in relation to gender as an extra-organismic variable within the stress process, this variable and the way in which it operates and intervenes in the stress process will be discussed in great depth within Chapter 4.

To conclude on inter- and extra-organismic variables, the Transactional Model does not specifically outline the possible inter- and extra-organismic variables that may be operating within the stress process, nor does it explicate the mode of operation of these variables. In order to address this limitation the present study will explicitly account for and include a stage within the transactional

model for inter- and extra-organismic variables. More specifically, the present study will examine the variation in sex-based personality traits as contained within the various sex role identities and social support and how these variables relate to the stress-wellbeing process. By so doing, the present study will explicitly explore the relationship of these variables to stress perception and stress outcomes. The specific inclusion of this stage in the model is discussed in further detail within Chapter 2. The proposed analyses of the variables within this model and the way in which these variables will be operationalised will be discussed in detail within Chapter 7. However, before moving on to Chapter 2 one further limitation of the Transactional Model remains to be discussed. This third limitation refers to the specific point at which the model describes psycho-physiological reactions.

1.3.2 The Revised Transactional Model (RTM)

According to Goh et al., (2010) stress outcomes can occur at a number of junctures within the stress process and cognitive appraisals can influence both psycho-physiological reactions *and* coping options. In this regard they note that stress outcomes in the form of psycho-physiological distress may *precede* coping behaviours. Intense emotions may even influence the choice of coping strategies (Boekaerts, 2002). Goh and colleagues (2010) outline a five-phase Revised Transactional Model (RTM) of occupational stress and coping (See Figure 3, p. 37). Within this model it is proposed that an appraised stressor will elicit an immediate psycho-physiological stress reaction and that there is not necessarily that ‘time period delay’ between appraisal one and appraisal two or primary appraisal and secondary appraisal before a stress reaction is experienced, as implied by Cox and Mackay’s (1981) and Lazarus and Folkman’s (1984) models.

Goh et al. (2010), note that the process is far more dynamic and interactive, with the experience of perceived stress being felt almost instantaneously after initial perception. According to this model at stage one - primary appraisal (PA1); an event that is perceived of as threatening will trigger a secondary appraisal process (SA) to determine if there are adequate coping resources to enable the individual to control or manage the stressor. The outcome of this appraisal will affect psycho-physiological responses at Stress Time 1. As with the previous model outlined by Cox and Mackay (1981) if inadequate resources are perceived, the experience of imbalance or stress will trigger some form of coping response/s. At this point imbalance may even serve to elevate stress

perception. If the stressful experience is deemed to be low or non-existent then coping may not be activated. Goh and colleagues (2010), note that the stress at Time 1 (S1) needs to be of a sufficiently distressing level in order to trigger and initiate coping behaviour. If coping behaviours are activated, the consequences of these coping behaviours (COP) if effective can lead to an alleviation of the stress process/cycle. However, as with the previous model, if unsuccessful will lead to an elevation and exacerbation of stress experienced at Time 2 (S2) and physiological and psychological outcomes in the form of illnesses may then manifest.

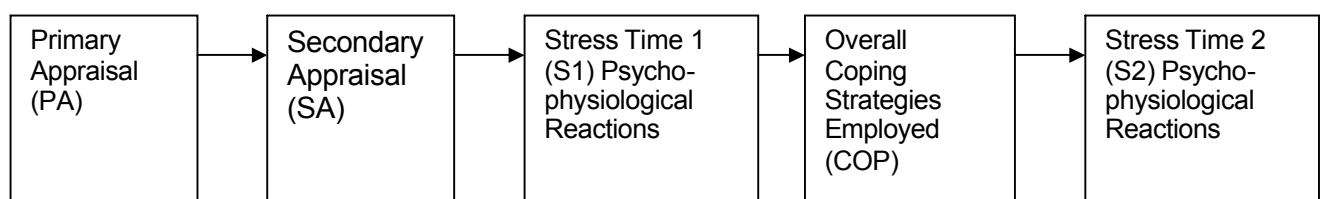


Figure 3
The Revised Transactional Model (RTM) (Taken from Goh, Sawang & Oie, 2010).

1.3.3 The Conservation of Resources Model

A further model of stress proposed is that of Hobfoll's (1989; 2001) Conservation of Resources Model (see Figure 4, p. 38). According to this model individuals have a *reservoir of (external) coping or social resources* and they have *(internal) personal resources*; both of which they wish to protect and conserve. In terms of coping or social resources this model focuses on the limitations of the coping reservoir noting the implications of the impact of stress on individuals, particularly when this impact leads to a complete depletion of the reservoir. This model also focuses on protection of resources in terms of defining which personal resources an individual may have that he/she wishes to protect from harm (Hobfoll, 1989).

Thus, individuals have coping or social resources and they have personal resources that are important to them that they wish to protect and conserve. To the extent that psychological stress is experienced so can an individual perceive that his or her personal resources are being threatened. In response to this threat, individuals will mobilise personal and/or social coping resources as a protective and conservation measure (Hobfoll, 1989); as represented by the 'laager-like' closure of the resource spheres which occurs with the ever-increasing pressure of external demands (seen in the lower left-hand of corner of Figure 4). In such intense stressor situations social and personal

resources may deplete as the individual fails to resist the stressor/s over time, and if a net loss of social and personal resources is perceived to have been experienced by the individual, so may they experience exhaustion and burnout may result (Hobfoll, 1989).

However, while this model focuses on conservation of resources and depletion thereof, as with the Transactional Model, the underlying process of this model rests on psychological appraisal and evaluation of stressful events perceived to exist in the external environment and thus the model remains transactional in nature.

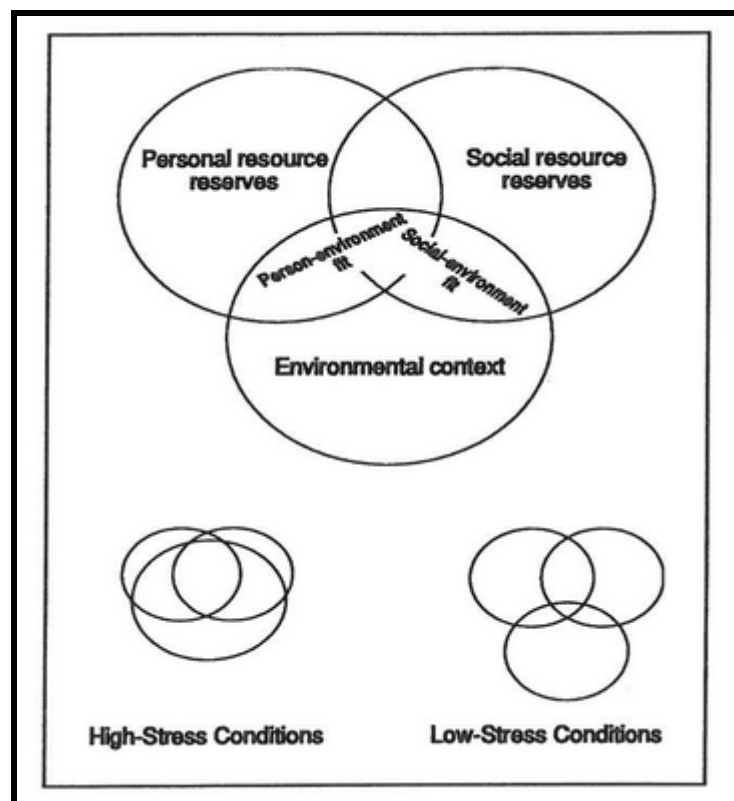


Figure 4 *The Conservation of Resources Model (Adapted from Hobfoll, 1989).*

1.3.4 The Allostatic Load (AL) Model – Explicitly acknowledging both psychological and physiological traditions

More recently Ganster and Rosen (2013) proposed a model that addresses both the Psychological and Physiological traditions. Referred to as the Allostatic Load Model (AL) this model is

extremely useful in that it *explicitly* describes the various physiological processes that are activated by cognitive appraisal, that is, the psychological appraisal of environmental demands or stressors.

Utilising a physiological lens, Ganster and Rosen (2013) note that outcomes, consistently described in the stress literature as that which has bearing on individuals physiological and psychological wellbeing; are initiated through three stages in response to the cognitive appraisal of environmental demands. In this regard they describe Primary Allostatic Load Processes, Secondary Allostatic Load Processes and Tertiary Allostatic Load Processes. Ganster and colleagues (2013) note that these three stages occur in a “cascading sequence”, with continued over-stimulation of primary mediators leading to dysregulation in secondary mediators which then lead to long term tertiary outcomes (p. 1091); these tertiary outcomes being those dependent variables that are specifically highlighted in the Transactional Model and which are measured within the present study. Thus the AL model indicates that when exposure to stressors are ongoing, the individual is pushed beyond their normal ranges in coping with real, imagined or anticipated challenges and thus all three stages are triggered. The AL model describes a process of adjustment through various effector systems, which operate around various set points in Allostatic systems and which can be “reset after exposure to chronic demands” (pg. 1090). These processes are critically mediated by the central nervous system (CNS) which controls physiological systems. The role of the CNS is to use “prior knowledge and experience in conjunction with environmental events to anticipate the need for adaptation” and this role of the CNS firmly places the AL model in *both* the physiological and psychological/cognitive stress traditions (pg. 1090).

Primary Allostatic Load Processes involve stimulation of primary mediators such as stress hormones, e.g. epinephrine, nor-epinephrine and cortisol and pro- and anti-inflammatory cytokines that are triggered by the CNS in response to perceived stressors and which serve an adaptive role in helping the individual cope with demands that are threatening to disrupt their homeostatic system. Thus, these primary mediators act in the event of the onset of a stressor which may or may not be acute. In terms of outcomes, at this stage the individual may experience the onset of fear, tension and anxiety and may also experience the onset of headaches, sleep disturbances and fatigue. If the stressor/s are chronic, that is, ongoing, and the system cannot be relieved and reset itself, then secondary mediators are activated in terms of the secondary allostatic processes.

Secondary Allostatic Load Processes are triggered when primary mediators are repeatedly or chronically activated and thus serve to adjust normal operating ranges or set points within the individuals' homeostatic system in response to over- (or under-) production of primary mediators. At this point metabolic indicators such as insulin, glucose, cholesterol and triglycerides and cardiovascular indicators such as blood pressure and immune systems such as fibrinogen, and C-reactive proteins may show "sub-clinical perturbations"(Ganster & Rosen, p. 1091). When these secondary mediators are "consistently out of normal ranges" as a result of the perceived stressors continuing unabated, so is the individual likely to move onto the tertiary stage of AL processes where they are at key risk for mental and physical diseases. Tertiary Allostatic Load Processes are referred to by Ganster and colleagues (2013) as "disease endpoints" manifested in cardiovascular disease, diabetes, clinically diagnosed mental disorders, such as depression and possibly death.

While the AL Model appears to closely resemble Selye's GAS Model it is far more comprehensive and multivariate in that it explores a wider range of mediators at different stages of the stress process enabling it to predict with greater accuracy disease endpoints, cognitive and physiological functioning and ultimately mortality (Ganster and Rosen, 2013). However, as the focus of the present study was to measure psychological outcomes in terms of poor or lowered self-esteem and lowered indicators of wellbeing or increased ill-being in relation to high/er levels of perceived stress and as the present study was not designed or intended to measure the *mediating* physiological responses for such outcomes, the AL model was not adopted within the present research. Though the researcher does propose that one remains mindful that there are a series of primary, secondary physiological responses that are occurring within the framework of the transactional model, which are implicitly referred to but are not explicitly measured which do impact upon outcomes at the stage of tertiary processes as described in the AL Model.

1.4 CONCLUSION

An historical review of the literature and models of stress indicate that while the stimulus-response based biological models have some validity in that they do serve to explain physiological stress reactions, their description of stress responses occurring in a unitary all-or none fashion do not adequately explain the stress process. The psychological models, which take cognisance of cognitive processes and the variation that these processes imply when individuals are exposed to and respond to stressors provide a far more complex understanding of the stress process. However, these models are also not without their limitations, all of which have been outlined above. The Allostatic Load Model does incorporate *both* biological and psychological traditions however its focus is specifically on measuring physiological indicators.

Thus, in the light of the above discussion of existing stress models, the present study adopted a Transactional Approach. However, the present study did attempt to address shortcomings in relation to inter- and extra-organismic variables. Shortcomings were addressed by including the specific assessment of gender and social support, that is, an inter-organismic and an extra-organismic variable; both of which were central to the research questions posed in relation to stress and wellbeing. The present research also anchored itself by identifying work stress as a ‘normatively’ stressful, possibly ‘chronic’, ‘actual’ demand; examining variations in perceptions of and responses to this demand as affected by variations in gender identity (an inter-organismic variable) and social support (an extra-organismic variable). The present study also remained cognisant that various physiological mediators were occurring implicitly and at various points for individuals responding to stress and that this did impact on the extent to which individuals experienced ill health outcomes.

It is also important to note with regard to the inter-organismic variable of gender or gender role identity, that within the literature the terms sex role identity and gender role identity are used interchangeably. However, henceforward, the term ‘sex role identity’ will be used in the present study. The present study, in its examination of sex role identity also remains cognisant of the extent to which the behaviours described in sex role inventories used to measure sex role identity are correlated with or aligned to many of the above-mentioned personality traits in Section 1.4.1.1 and

their specific socio-emotional correlates and thus does not ignore the possible role that these interpersonal variables may play in the stress-strain transactional process.

However, before going on to examine the research literature on the relationships between stress, sex, gender, wellbeing and sex role identity the following chapter, Chapter 2, will undertake to examine stress within the context of an occupational setting. In addition, Chapter 2 will outline work stress models within the literature and the extent to which these work stress models are incorporated into the Transactional Model utilised in the present research.

CHAPTER 2: OCCUPATIONAL STRESS

2.1 INTRODUCTION

As discussed in Chapter 1, a vast body of research has been conducted in the area of work stress over the last five decades and interest in this topic shows no signs of waning (Ganster & Rosen, 2013; Johnson, Cooper, Cartwright & Donald, 2005; Siegrist, Lunaa, Wahrendorf & Dragano (2012); Vaananen, Antila, Turtainen & Varje, 2012). This research has indicated that there are an extensive range of job demands, characteristics and resources that can have a profound impact on employee wellbeing (Bakker & Demerouti, 2006). For example, research has indicated that job demands such as high work pressure, emotional demands and role ambiguity are linked to sleep disorders, exhaustion and overall impaired health (Doi, 2005; Hallbesleben & Buckley, 2004). Alternatively, job resources such as social support, autonomy and control and constructive performance feedback are shown to enhance wellbeing, manifesting in increased job-related learning, work engagement and organisational commitment (Demerouti, Bakker, Nachreiner & Schaeffli, 2001; Salanova, Agut, & Peiro, 2005).

With costs to industry estimated to be conservatively in excess of twenty billion euros annually, job related demands and stress are increasingly recognized as a huge expenditure impacting upon organisations through manifest absenteeism, turnover, lowered productivity, poor morale and employee dissatisfaction. It is these exorbitant costs, along with a concern for improving individual wellbeing that has driven the research on occupational stress and which has specifically sought to identify job demands and characteristics that negatively impact on wellbeing and job resources that enhance wellbeing (Bakker & Demerouti, 2006; Bakker, et al., 2010 Gianakos, 2002; Mackay et al., 2004). On the basis of the general stress literature, organisational researchers have conducted an extensive number of studies designed to demonstrate the relationship between aspects of the work environment considered to be potentially stressful and specific ill-health outcomes. Based on the findings of these studies it is now empirically acknowledged that exposure to work stress may have a deleterious impact on an individual's mental and physical health (Ganster & Rosen, 2013; Johnson et al., 2005; Siegrist et al., 2012, Vaananen et al, 2012).

This research has been driven to identify what specific inter- and extra-organismic factors serve to exacerbate, ameliorate or eliminate stress. In order for any organisation to address stress-related issues and implement effective interventions, it is critical to diagnose these specific demands and characteristics within the work environment (extra-organismic) that employees perceive to be stressful; the actual outcomes or strains of these perceived and experienced stressors on employees and the organisation and whether there are any factors idiosyncratic to the employees themselves (inter-organismic) that place them at a greater or lesser risk for experiencing stress (Coetzee & Rothmann, 2005; Kinman, 2001). Adverse aspects of the work environment that have been most widely studied are those of role stressors such as role ambiguity, role overload and role underload, role clarity, role conflict, job control and autonomy, poor working conditions and poor relationships at work (Coetzee & Rothmann, 2005).

2.2 ROLE THEORY

The seminal work on role theory was undertaken by Kahn, Wolfe, Quinn, Snoek and Rosenthal, (1964) and was elaborated upon in their or the Theory of Role Dynamics. This theory has been used extensively to explain the stressors or job demands associated with work. According to this theory, role concepts are “the major means for linking the individual and organisational levels of research and theory; [they are] at once the building blocks of social systems and the summation of the requirements with which social systems confront their members as individuals” (Kahn et al., 1964, p. 197).

Within an organisational setting the term ‘role’ is defined as a set of expectations applied to the incumbent of a particular position by the role senders within and beyond an organisation’s boundaries (Van Sell, Brief & Schuler, 1981). In turn, role stress is defined as any aspect of this set of expectations that has adverse consequences for the individual role incumbent. According to Kahn et al. (1964) in order for an individual to adequately perform his or her role, he or she must know (a) what the expectations are of the role set in terms of rights, duties and responsibilities, (b) what activities are required to fulfil the role responsibilities and (c) what the consequences of role performance (or lack thereof) are to the self and the organisation. Roles can have an adverse impact on an individual when they are characterised by ambiguity, conflict, overload and/or underload.

Role Ambiguity may arise when three types of information with regard to one's role do not exist or when such information is inadequately communicated (Sawyer, 1992). That is, role ambiguity may arise when an individual has inadequate information about his or her work role, where there is a lack of clarity about work objectives associated with the role, about work supervisors and colleagues' expectations of the work role and about the scope and responsibilities of the job (Cooper & Marshall, 1978). Further, role ambiguity as a construct refers to both the unpredictability and information deficiency regarding role behaviours (Mackay et al., 2004). Experienced role ambiguity reflects the way an individual internalises, perceives and interprets objective ambiguity in the role context, that is, the individual's appraisal of actual demand in the form of role ambiguity (Bloisi et al., 2007; Daft, Kendrick & Verishinina, 2010).

Role conflict arises when an individual in a particular work role is torn by conflicting job demands or is doing things he or she really does not want to do or does not think is part of the job specification (Cooper & Marshall, 1978). As such, role conflict reflects incompatible demands placed upon the individual (O'Driscoll & Beehr, 1994; Mackay et al., 2004). Conflict can arise when a person receives a contradictory set of instructions from a role sender with this conflict being referred to as intra-sender conflict. When the individual receives incompatible information from more than one role sender this is referred to as inter-sender conflict. Furthermore, when the expectations of one role are in conflict with another role played by the same person, the conflict is experienced as inter-role conflict. If the role that an individual has to enact is in conflict with his or her own morals and values, that is, if the role violates the personal needs, morals and values of the individual this is referred to as person-role conflict (Bloisi et al., 2007; Daft et al., 2010).

Role overload refers to nature of the demands placed upon the individual and can be of two types, that is quantitative overload and qualitative overload. Quantitative overload is experienced when an individual feels that he or she has too much work to do in a given time period. As such, quantitative overload refers to volume. Qualitative overload is experienced when the person feels that the work requires knowledge, skills and/or abilities that are beyond the scope of what the person feels he or she possesses. In this instance the overload experienced is in terms of the level of complexity required by the roles (Bloisi et al., 2007; Daft et al., 2010). According to Van den berg and Van Zyl

(2008) South African women, particularly African women, are subject to this experience as they are placed in positions with inadequate resources, training and support.

Role underload may also be a stressor. In this instance role underload can be quantitative in that the individual has too little to do in a given time period. Having too much spare capacity, the individual may experience boredom. Having to do work that is also of a level far lower than the individual's knowledge, skills and abilities can also be stressful and may also leads to the individual experiencing boredom and monotony. This type of underload is referred to as qualitative underload (Bloisi et al., 2007; Daft et al., 2010).

2.3. WORK STRESS MODELS

A number of stress models have been proposed in relation to work stress, some specifically in relation to role stress. The most influential models of work stress proposed have been the Person-Environment Fit Model (Caplan et al., 1979; Caplan et al., 1975; French 1973), the Karasek (1979) Job Demand Control Model (JDC), The Effort-reward-Imbalance Model (EFI) (Siegest 1996); the Michigan Occupational Stress Model (Caplan et. al., 1975; Edwards, Caplan & Van Harrison, 1998) and the Job Demands Resources Model (JD-R) (Bakker & Demouriti, 2006; Bakker, et al., 2010). While these five models were designed specifically to examine occupational stress *it is important to note that the cognitive processes underpinning all of these models are transactional* in that all three incorporate the processes of cognitive evaluation described within the transactional models of Lazarus and Folkman (1984), Cox and Mackay (1981) and the Revised Transactional Model as proposed by Goh et al., (2010). In fact, the literature reports general consensus that they key features of most stress models that explicate the stress process are underpinned by those outlined in the transactional model (Cooper, Dewe & O'Driscoll, 2001). Within all these models there is the implicit notion that stress entails a sequence of events that includes the presence of demands and a series of individual evaluative processes which determine the extent to which these demands are perceived of as threatening and requiring of a response or set of responses to ameliorate or circumvent the impact of threat on the individual's wellbeing (Mackay et al., 2004). These models also all address, either implicitly or explicitly, the consequences of failure to adequately respond to the demands which manifest in the form of impaired psychological and physiological wellbeing and/or negative behavioural outcomes.

2.3.1 The Person-Environment Fit Model

The Person-Environment Fit Model proposed by French (1973) and Caplan et al., (1975) specifically considers the interaction between aspects of the work environment and the individual within this environment (O'Driscoll & Brough, 2003). Person-Environment Fit is broadly defined as the compatibility between an individual and the work environment, that is, when the characteristics of the two are well matched. Alternatively, according to this model, when there is a mismatch between an individual and the environment this will result in strain.

Numerous types of fit have been described in the literature, namely a fit between the Person-Vocation, between Person-Job, between Person-Organisation, Person-Group and Person-Supervisor (Kristof-Brown, Zimmerman & Johnson, 2005). Inherent in many of these various descriptions of fit are the inter-organismic variables of the person, that is, personality or demographic variation which could serve to alter the extent to which the person fits the demands of the environment in the form of the characteristics of the vocation, job, organisation, group and/or supervisor. In the event of a perceived match or mismatch between fit, this will determine whether the individual does or does not experience strain.

2.3.2 The Job Demands Control Model

Another prominent theory is Karasek's (1979) Job Demand Control (JDC) model. Here it is suggested that excessive work demands are associated with higher levels of psychological strain and that the impact of these demands is affected by an individual's perception of *control* over important aspects of the work environment. The model postulates that psychological strain is a result of the joint effects of the demands of a work situation and the extent to which the individual has decision-making latitude, that is, discretion or control to deal with these demands. This interactionist model can be regarded to be a "stress management model of strain which is environmentally based" (Karasek, 1979, p. 287). Though, once again, as with the transactional models, the perception of demand is key. As previously mentioned in Chapter 1, control is a circumstantial difference that moderates the impact of demands on wellbeing. The extent to which the individual has both actual and perceived control, that is, decision-making latitude to respond to perceived demand in the external environment will determine the degree of stress and resultant strain experienced. This decision-making latitude that an individual possesses, which is an inherent part of his or her job, can either serve to constrain or empower the individual to

engage in action that will ameliorate any perceived environmental demands. Within this model, demands or stressors specifically relate to work load. According to Karasek (1985) the extent to which an individual can exercise control over the roles assigned to him or her is thus of consequence.

Workers who have jobs characterized by high demand (which may be in the form of high role conflict, ambiguity or overload) combined with low control over these demands will experience a higher level of stress as compared to workers with high control (See Figure 5 below).

Such jobs are referred to as ‘high strain’ jobs (Pelfrene, Vlerick, Kittel, Mak, Kornitzer & De Backer, 2002). In such an instance, the individual finds him or herself constrained in terms of his or her ability to deal with the demand/s and stressors remain unresolved, leading to strain or poor health outcomes. Workers who have low demands combined with high control are considered to have ‘low strain’ jobs.

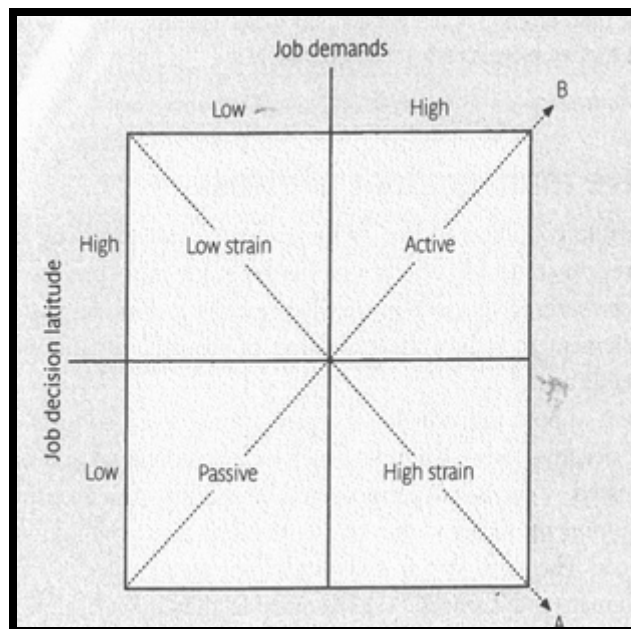


Figure 5

The Job Strain Model (Adapted from Karasek, 1985).

High demands combined with high control are referred to as 'active jobs'. Within active jobs it is proposed that there is maximum learning potential with such jobs favouring motivation and the development of skills. In contrast, as noted by Pelfrene and colleagues (2002), jobs with low demands and low control are referred to as 'passive' and are ones in which workers are likely to be discouraged and demotivated. Typically within this kind of job the experience would be one of role underload.

2.3.4 The Job Demands Support Control Model

The JDC model was expanded to include a third characteristic, namely that of social support. Referred to as the Demand Support Control Model (DCS) this model splits the strain and demand characteristics of the workplace into isolated and collective conditions (See Figure 6, p. 49).

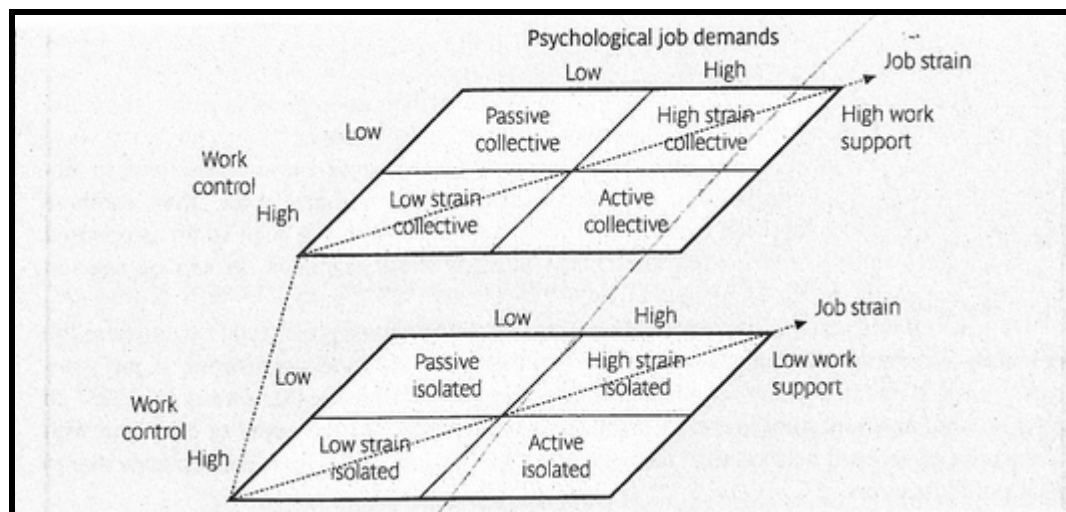


Figure 6

The Demand Control Support Model (Adapted from Karasek & Theorell, 1990).

According to Karasek and Theorell (1990) when there are high job demands and low social support there will be higher job strain. Jones, Bright, Searll and Cooper (1998) refer to this as iso-strain. In the event of high demand and low control, social support within the workplace can serve to reduce the impact of these conditions on stress outcomes. This proposal is in line with the stress buffering model of social support which proposes that social support protects the individual against the

deleterious effects of stress by helping the person redefine the problem, thereby seeing it as less threatening and/or by helping the person resolve it (Sargent & Terry, 2000).

2.3.5 The Effort Reward Imbalance Model (ERI)

Siegrist (1996) proposed the alternative ERI model which emphasised that it is reward rather than degree of control that impacts upon wellbeing at work. Within this model the extent to which there is an imbalance between effort (extrinsic job demands and intrinsic motivation to meet these demands) and reward, in terms of salary, recognition, promotional opportunities, job security and status accorded; so will there be a deleterious impact upon wellbeing (Bakker & Demerouti, 2006).

2.3.6 The Michigan Model

The Michigan Model, developed by members of the Institute for Social Research of the University of Michigan (Caplan et al., 1975) has been widely validated and elaborated upon in research taking place both internationally and within South Africa (Veldhoven, Jonge, Broersen, Kompier & Meijman, 2002). While this model is transactional in terms of its process, it specifically includes inter- and extra-organismic variables as moderators within the stress process. Inter-organismic variables are those of personality while extra-organismic variables are social environment variables, specifically social support (Bloisi et al., 2007; Daft et al., 2010; Winnubst, Marcelissen & Buunk 1988).

Within this model stress is seen as the relationship between the individual and the environment and is understood to occur when the individual feels that there is an imbalance between the demands of the environment and his or her resources to meet these demands. This view of stress thus parallels the Transactional Model in which stress is defined as an interaction between the individual and the environment and in which stress is only perceived to exist if the individual believes that the stressor or demand *exceeds* his or her capabilities to deal with it. The Michigan Model also focuses more specifically on work stress, defining stressors as those aspects within the work environment that are perceived to be problematic, namely stressors, such as role conflict, ambiguity, role overload and/or underload and lack of perceived control over role characteristics. Thus this model focuses on chronic events rather than acute events such as those typically characterized by the Life Events Stress models which focus on events such as bereavement, job loss, divorce and retirement (Bloisi

et al., 2007). Within this model, stressors also lead to the self-same strains as described in previous models, namely, the psycho-physiological and behavioural reactions that occur in response to excessive demands and that indicate a disturbance of normal healthy functioning (Bloisi et al., 2007; Winnubst et al., 1988). Several strains that manifest initially such as alcohol and substance abuse, eating and sleeping disorders, high blood pressure and high cholesterol are all possible precursors for more serious manifestations of disease such as mental disorders and coronary heart disease.

2.3.7 The Job Demands Resources Model

Bakker and Demerouti (2006) and Bakker and colleagues (2010) note that “at the heart of the” JDR model is its greater complexity (as compared to all the other work stress models as described above) (p. 312). This model notes that “every occupation may have its own specific risk factors associated with job stress” classified into two general categories, that is job demands *and* resources, and as such this model provides an “overarching” framework that can be used to apply to “various occupational settings irrespective of the particular demands and resources involved” (p. 312).

Job demands refer to physical, psychological, social and or organisational characteristics of the job that require sustained physical and psychological effort or skills and are thereby associated with physical and psychological costs (Bakker & Demerouti, 2006; Bakker, et al., 2010). Rephrased, these characteristics can become chronic stressors that may result in decrements in both physical and psychological wellbeing.

Resources refer to physical, psychological, social and or organisational characteristics of the job that are functional in achieving work goals, serve to reduce job demands and their associated costs and stimulate personal growth, learning and development. As such, these resources are aspects that an individual will wish to conserve and in fact build upon as opposed to deplete, as outlined in Hobfoll’s Conservation of Resources Model (1989; 2001). To the extent that resources are present or absent so will this serve to increase or reduce an individual’s ability to attain work goals, reduce demands and stimulate growth and development.

To sum up on the work stress models: As with the literature and models on general stress and life events stress, studies on occupational stress models have shown that stress in the form of job demands and characteristics and/or lack of job resources may result in longer term psychological, physiological and behavioural stress reactions such as burnout, depression, substance abuse and a wide range of psychosomatic diseases (Bakker & Demerouti, 2006; Bakker, et al., 2010; Cartwright & Cooper, 2002; De Jonge, Dormann, Janssen, Dollard, Landeweerd & Nijhuis, 2001). Winfield, Gillespie, Stough, Dua and Hapuararchi (2002), indicate that the link between chronic work stress and wellbeing may be so severe that the consequences of such stressors can be fatal. Further, Winfield and colleagues (2002) also note that there is a substantial body of evidence that indicates that unmitigated levels of work stress are also linked to job related outcomes of increased job dissatisfaction, absenteeism, lowered productivity, morale, motivation, increased turnover and/or intention to leave. In addition, unchecked work stressors are significantly correlated to poor health symptoms of headaches, colds and other viral infections, sleeping difficulties, eating disorders, hypertension and coronary heart disease.

2.4 AN ECLECTIC REVISION OF THE TRANSACTIONAL MODEL

A number of specific work stress models have been described. Each of these models delineates a process in which perceptions of the demand situation, as described in the Transactional Model, play a key role. Furthermore, each of these models describes the same or similar sets of individual and organisational outcomes as the Transactional Model, in response to organisational demands and stress. The importance of examining these work stress models is that they include aspects within their described process that can enhance our understanding of occupational stress. By combining aspects of these work stress models within the Transactional Model, many of the limitations of the Transactional Model described in Chapter 1 may be addressed. The incorporation of aspects of the above mentioned models thus provides the present research with an eclectic revision of the Transactional Model; positioning this model clearly within the occupational stress context.

More specifically, by including the intervention points for inter- and extra-organismic variables, proposed within the Michigan Model and by defining a specific set of demands and resources as proposed within the JDR model, the present study was able to account for and analyse the point of

intervention of specific variables of interest, namely gender, that is, sex role identity and social support in the relationship between the job demands of role stress and the strains or outcomes of lowered or increased wellbeing and self esteem. In addition, by conceiving work stress in terms of job/role demands and by including social support as a resource; aspects of the Job Demands Model; the Demand Control Support Model and the Job Demands Resources Model are effectively incorporated into an eclectically revised form of the transactional model; thereby enhancing the present study's observation and examination of the stress process and firmly positioning it within an occupational setting.

This revised model is outlined in Figure 7. There are three points at which inter- and extra-organismic variables can intervene in the stress process. These are at the point of perception and cognitive appraisal, at the point after perception and cognitive appraisal, that is, at the point of coping behaviours, and lastly at the point of outcomes, that is, health and wellbeing. By selecting role stressors as the independent variable to be measured, the present study also attempted to anchor the research with the selection of variables that are considered to be normatively stressful, though the study remained cognisant at all times that the extent to which role stress is perceived to be stressful is a function of the individual's cognitive appraisal of the demand situation and his or her appraisal of his or her capacity to cope with the demand. The present study also remained cognisant that psycho-physiological reactions to stress can occur at a number of junctures within the stress process and that cognitive appraisals can influence both psycho-physiological reactions and coping options as proposed by Goh and colleagues (2010) in their revised transactional Model (RTM).

Assessment instruments used to assess the independent variable of stress included items that measured the perceived control that one has over one's work roles and thus aligns with the JDC control model proposed by Karasek (1979). Furthermore, the inclusion of role demands and the resource of social support aligns with Karasek and Theorell's (1990) DCS Model and Bakker and Demerouti's JD-R Model (2006) and is therefore useful in predicting what types of jobs would lead to the most strain. This model thus provides a framework within which the present research can shape the hypotheses on occupational stress, social support and wellbeing.

While not specifically including mechanisms that measure P-E fit, the present study remained mindful that the experience of stress and poor health outcomes evidenced within the present research may well reflect the overall lack of fit between individuals in the sample under study and the environmental demands of their jobs. The implications of such findings could thus be used to suggest methods whereby job and environmental characteristics can be improved so as to reduce demand/s on individuals within these jobs.

This modified and eclectic model thus allowed for the full incorporation of the present study's selected variables. This incorporation of variables as depicted in Figure 7 is outlined on the following page.

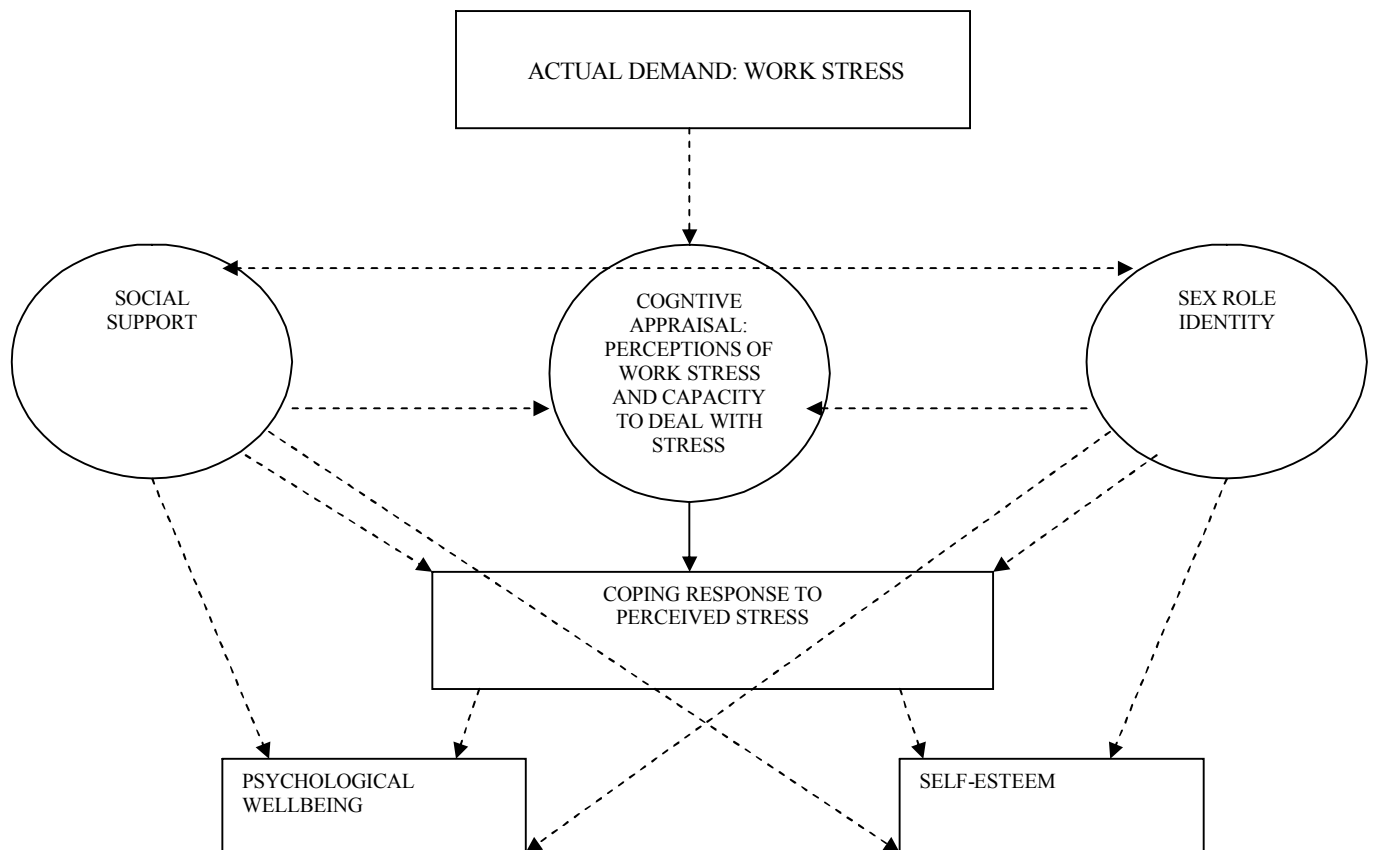


Figure 7

The Modified Transactional Model (Adapted from Cox & Mackay, 1981; Caplan, Cobb, French, Harrison and Pinneau, 1975; Karasek, 1985; Karasek & Theorell, 1990).

At the stage of *actual demand* the present study examined role demands and perceived control thereof. Based on the literature, these are normatively stressful events which if existent in an individual's work environment could be appraised of as stressful in terms of *perceived demand* by the individual exposed to them. Depending on the individual's appraisal, this will determine the extent to which the individual believes them to be threatening and the extent to which the individual believes that he or she is capable of dealing with the threat perceived to be posed (*perceived capability*). It is important to note that this appraisal process is implicit as the study did not include

assessment instruments that measured actual demand and actual capability and perceived demand and perceived capability. By virtue of the individual's responses to the work stress scale, perceived demand and perceived capability was implied by the way in which the individual assessed and responded to items assessing levels of existent, actual demand. Consequences in the form of psycho-physiological reactions were measured at a final stage in the form of impact upon psychological wellbeing and self-esteem.

The proposed study also examined the relationship between inter- and extra-organismic variables to perceived stress and wellbeing indicators. The relationship of these inter- and extra-organismic variables to perceptions of stress and wellbeing was the central focus of the study. At the level of inter-organismic variables, gender was examined as a construct that may produce possible variations in perceptions of stress and wellbeing. More specifically gender was examined in terms of sex role identity (SRI). Sex role identity reflects the behavioural repertoire of the individual in terms of degree of masculinity or instrumentality or agency behaviours that are part of the individual's behavioural style and/or in terms of degree of femininity or communion or expressiveness that are part of the individual's style. Sex role identity within this study, was considered to be an aspect of the individual's personality, that is, a reflection of sex-based personality traits and would therefore constitute a personality variable as described within the Michigan Model.

At the level of extra-organismic or social environmental variables, as proposed by the Michigan Model and the Demand Control Support Model, social support was examined. Social support from five sources, namely supervisor, colleagues, family and friends and partner/spouse were examined to determine the extent to which these sources had a main effect on stress and wellbeing and moderated the relationship between stress and wellbeing. Consequently, three points of intervention and effect were examined, at the stage of actual and perceived demand; at the juncture between perception and outcomes and at the stage of outcomes or health consequences (see Figure 7 above). In modifying the model, the present research took into account that the sequence of events as described in the stages of the model do not necessarily follow the sequence as proposed initially by Cox and Mackay (1981) and Lazarus and Folkman (1984) (as discussed in Chapter 1)

and that there may be various points at which psycho-physiological reactions could be experienced (Goh et al., 2010).

However, before discussing the operationalisation of the model (See Chapter 7 Methodology), an in depth discussion of the variables that constituted the present research's model is outlined. The following chapters will therefore explore the literature on sex and gender in relation to work stress and wellbeing (Chapter 3: Sex, Gender, Work Stress & Wellbeing) and on social support (Chapter 4: Social support).

Limitations of previous research within these areas will also be discussed and the means by which the present study intends to address these limitations will be outlined in Exploring Sex, Gender and Health: Toward a Broader Conceptualisation of Gender (Chapters 5) and Research on Sex Role Identity and Androgyny: A Literature Review and Limitations (Chapter 6).

CHAPTER 3: SEX, GENDER, WORK STRESS & WELLBEING

3.1 INTRODUCTION

The increasing number of women in the labour market is a global phenomenon, with South Africa being no exception in this regard (Casale, 2004). Within South African, this feminization of the labour market is evidenced by the fact that as of 2011, 44.8% of females, compared to 55.2% males of all races were reported to be economically active in the workforce. Figures supplied by the Commission of Employment Equity (CEE) 11th Annual Report (See Figure 8) indicate that women are also entering into management and professional roles at an ever-increasing rate.

Top Management 2003	Top Management 2005	Top Management 2007	Top Management 2010
14.1%	16.5%	17.8%	19%
Senior Management 2003	Senior Management 2005	Senior Management 2007	Senior Management 2010
22.3%	23.6%	24.9%	29.3%
Professional 2003	Professional 2005	Professional 2007	Professional 2010
36.4%	38.4%	33.4%*	39.9%

The decrease in percentages for professional women in 2007 may be attributed to increasing numbers of these women being promoted into management positions.

Figure 8

Women in top and senior management and professional positions 2003 – 2010 (Adapted from 11th CEE Annual Report 2010 – 2011).

This shift in women's increasing representation in spheres of power and influence in both corporate and government sectors within South Africa can be attributed to the dramatic shift in South Africa's political and social landscape post-1994. South African society has made vast strides socially, politically, and economically since 1994. The Constitution, the Bill of Rights, redress legislation (Black Economic Empowerment, Affirmative Action and Employment Equity) and equal access to education have granted all citizens, particularly those that were previously disadvantaged, greater access to spheres of power and influence. A further national imperative has been gender equity.

South African women, specifically black women, have suffered the “double oppression” of both race and gender (Albertyn, 2003), necessitating that it be ensured that women benefit equally from change aimed at redressing previous disadvantage. Strides that women have made are evidenced in spheres of education, government and the corporate sector. To date the ratio of females to males in secondary schooling and tertiary institutions is slightly higher (Chisolm & September, 2004). Furthermore, this increased educational access and attainment is reflected in an associated increase in women’s representation in politics and (to a lesser extent) in the corporate sector. In government, representation in Cabinet has increased from 27% in 1994 to 47% to date. Representation in provincial legislatures has increased from 24% in 1994 to 50% to date. In the corporate sector moderate gains have been made (as can be seen in Figure 8), however, representation at higher levels lags significantly behind those reported in government (Commission for Employment Equity 2010 – 2011; Commission for Gender Equality, 2011).

Yet, although women are entering the labour force, government and professional and management positions in ever-increasing numbers, insufficient attention has been focused on women’s work stress and health experiences. More specifically, within South Africa it is maintained that while workplace demographic diversity has changed due to large proportions of females entering the workplace in the past two decades, less than sufficient studies have been conducted on females and work, particularly those in management in South Africa (Albertyn, 2003). Most of the research conducted has focused on male respondents and there is thus a dearth of knowledge concerning working women’s wellbeing (Baaitjies-Brown et al., 2006).

3.2 DEFINING WELLBEING

Numerous definitions have been proposed for psychological wellbeing (Roothman, Kirsten & Wissing, 2003). Several perspectives, models and constructs have been proposed, all of which attempt to “grasp the essence and characteristics” of wellbeing (Wissing and Van Eeden, 1997). A closer examination of these different perspectives and models reveal that some view wellbeing from a more salutogenic/fortigenic orientation while others tend to focus on the pathogenic perspective (Seligman & Csikszentmihalyi, 2000). Wissing and colleagues (1997) reviewed numerous measures of psychological wellbeing which were based on several models and constructs from diverse theoretical traditions. More specifically, Wissing and colleagues (1997) examined

measures that assessed general happiness or sense of wellbeing; positive affect, negative affect and affect balance using the Affectometer 2 or AFM (Kammann & Flett, 1983); satisfaction with life using the Satisfaction With Life Scale (SWL), (Diener, Emmons, Larson & Griffen, 1985); sense of coherence, that is comprehensibility, manageability and meaningfulness with regard to the way one experiences the world using the Sense of Coherence Scale (SOC) (Antonovsky, 1987); attitudes about reality using the Attitude About Reality Scale (AAR) (Jackson & Jeffers, 1989) and the degree to which one perceives of and uses social support and the degree to which one uses problem solving strategies and/or avoidance to cope with problems using the Perceived Social Support Scale (PSI) (Procidano & Heller, 1983) and the Coping Strategy Indicator (CSI) (Amirkan, 1990). In addition, they examined measures that assess one's generalized sense of self efficacy which, in turn, determines the activities that one will engage in, how much effort one will expend and how long one will persevere in the face of adversity using the Generalized Self Efficacy Scale (GSE) (Tipton & Worthington, 1984) and they assessed one's personal orientation, that is, the extent to which one is prepossessed of values and behaviours typical of the self-actualising, optimally functioning individual using the Personal Orientation Inventory (POI) (Shostrom, 1974). Finally, they included in their battery of assessments, the PAL (Profile of Adaption to Life – Holistic) which measures the extent to which one experiences an interrelationship between body, mind and spirit and the General Health Questionnaire (GHQ) which detects common symptoms which are encountered in various syndromes of mental disorders and which will thus differentiate between those individuals who are experiencing psychopathology as opposed to those who are not (Ellsworth, 1981; Goldberg, 1972).

The purpose of assessing individuals on this large battery of instruments was to determine if there were core underlying aspects to psychological wellbeing as represented by the wide variety of models, constructs and traditions underpinning these measures. What emerged from the statistical analyses of the data was that psychological wellbeing consisted of a combination of core specific qualities, namely sense of coherence, satisfaction with life, affect balance, and a general attitude of optimism or positive life orientation. In addition the analyses indicated that individuals with a high level of wellbeing are characterised by having a high degree of interest in the world, the desire and motivation to carry out behavioural activities within their daily lives and the ability to consider difficulties in life as challenges rather than insurmountable problems. Such individuals are also

possessed of a high degree of self-worth and perceive others to be supportive and affirming. Furthermore, the analyses suggest that those high on wellbeing are characterised by an absence of symptoms of pathology, both physiological and psychological (Wissing and Van Eeden, 1997).

It thus seems from the discussion of inter-organismic variables undertaken in Chapter 1 of the present research that those with a high degree of hardiness, self efficacy, positive affect, self esteem, mastery and control would be those that are most likely to be able to weather life's difficulties and to experience greater wellbeing and thereby less pathology as opposed to those low on these characteristics; when exposed to the difficulties inherent in day-to-day living. Wilhelm, Wedgewood, Parker, Geerligs and Hadzi-Pavlovic (2010) in fact define poor psychological wellbeing as "ill-being" and further note that good psychological wellbeing could also be referred to as a "lack of DSM caseness" or a "lack of depressogenic effects". Alternatively expressed, they note that good psychological wellbeing reflects a high degree of 'dispositional optimism' (Wilhelm et al., 2010, p.85).

Within the present study the more pathogenic orientation was utilised to examine wellbeing, alternatively expressed as ill-being or presence of DSM caseness or depressogenic effects, with the present research utilising Goldberg's General Health Questionnaire (GHQ) (1972) to assess level of wellbeing or lack thereof (ill-being). The choice of this orientation was based on the vast body of research literature which has, over the last five decades, clearly demonstrated that stressors at work have a deleterious impact on wellbeing and are related to the development of pathological symptoms. Thus, this orientation framed the research objectives of the current study within the context of pathogenic demands leading to pathogenic outcomes. More specifically, the objectives were framed within a body of literature which defines work stress as an occupational hazard with individuals being exposed to such stress experiencing decrements in wellbeing and the development of pathological symptoms at both a psychological and physiological level. Within this framework work stress was conceived of as a job demand, (in alignment with the JD-R model), which would lead to pathogenic effects with regard to an individual's level of wellbeing. As discussed in Chapter 1, exposure to stress can lead to numerous outcomes mediated through a number of processes, that is primary, secondary and tertiary processes all of which can manifest in various

degrees of ill-being and disease endpoints which can ultimately manifest in “all-cause mortality” (Ganster & Rosen, 2013, p. 1087)

Thus, within the present research while continual reference is made to wellbeing, particularly in the later Chapters of Method and Results (Chapters 7 and 8) and the Discussion Chapter (Chapter 9), the findings of this study represent the extent to which the job demand of work stress incurs costs for individuals exposed to such stress, as represented by lower levels of psychological wellbeing, or alternatively expressed, higher levels of “ill-being”. In addition, it is to be noted that a high score on the assessment instrument utilised in the present study, that is the GHQ reflects ‘ill-being’ or poor mental health, while a low score on the GHQ reflects wellbeing or good mental health.

Furthermore, within the context of the research and in relation to the JD-R model, the beneficial job resource of social support was also examined to determine whether this resource could buffer the impact of stress on ill-being, in other words whether this resource would serve to buffer against the experience of depressogenic symptoms and lead to wellbeing, that is, more optimal dispositional characteristics.

However, before going on to examine the construct of social support, the literature on differences between sex and stress exposure and stress perception, sex and coping, sex and social support utilisation and sex and wellbeing outcomes will be outlined.

3.3 SEX AND STRESS DIFFERENCES

The research that has been done has tended to focus on the differences between males and females with regard to perceptions of and responses to stress. What this research has indicated is that women, particularly working women, are exposed to a greater amount of stress than men and that men and women may have different perceptions of the extent to which a particular stressor poses a threat. In addition this research body has suggested that men and women tend to cope differently in terms of how they respond to stress and that men and women may experience different health outcomes as a result of the stress process. These differences along with the increasing feminisation of the work force and a dearth of studies on women’s wellbeing have emphasised the crucial need to specifically examine the occupational stress experience and wellbeing of South African working women (Fielden & Cooper, 2001; Patel, Govender, Paruk & Ramgoon, 2006; McDonough &

Walters, 2001; Misra, McKean, West, & Russo, 2000; Roxburgh, 1996; Van den Berg & Van Zyl, 2008).

3.3.1 Differential exposure

With regard to greater exposure to stressor load, that is, differential exposure, research that has been conducted has indicated that women enter the labour force in ever-increasing numbers for a variety of reasons, such as, in order to pursue a career or because they are driven to do so by economic needs. Nonetheless, as working women enter into the labour force, irrespective of the reason why, they do find themselves subject to ever-increasing demands, that is, demands from work *and* family (Patel et al., 2006; Van den Berg & Van Zyl, 2008); though it is argued that distinctions need to be made between women within higher and lower level positions. Baaitjies-Brown and colleagues (2006) note that women who occupy higher level professional positions tend to do so more to pursue careers while women who work in lower level positions may do so more for economic need. That is not to say that women at higher levels are not motivated by economic factors but, within the workplace, they may be able to satisfy needs other than financial imperatives, as opposed to women confined to lower positions who may be less able to do so (Patel et al., 2006).

Thus at a professional level, women in the workplace seek to and are often able to satisfy needs for self-actualisation, opportunities for role expansion, the attainment of positive self-worth and expanded social networks, *along with* financial rewards. This research also indicates that women in managerial positions fare better than women in non-managerial positions in terms of wellbeing outcomes as although they do not necessarily experience *fewer stressors* than their non-managerial counterparts, they have greater resources available to them, for example, financial resources to afford domestic help, which enable them to cope more effectively with stress particularly stress pertaining to work/family balance (Fielden & Cooper 2001).

However, irrespective of level, and more or less resources, women at work *are* subjected to increasing stressor loads as they attempt to manage *both* family and occupational roles. Compared to their male counterparts, research suggests that women at professional and managerial levels report greater levels of stress as they often work longer hours than their male counterparts. This is due to their having a greater *unpaid* workload, which is their load as primary home and caretaker of family needs *along with* their paid working hours. These longer working hours pose a serious threat

to working women's mental and physical wellbeing and place women in an increasingly poorer position compared to males with regard to health implications of their life style (Fielden & Cooper, 2001; Sparks & Cooper, 1999; Van den Berg & Van Zyl, 2008).

Women in professional and managerial positions also encounter greater stress as they operate in work contexts where, by and large, male-dominated cultures still prevail (Van den Berg & Van Zyl, 2008). Although women are entering into management positions at an increasing rate they still remain largely underrepresented in senior to top management positions. Within South Africa, studies have shown that females in the labour market are still better represented in management positions, as compared to many other parts of the world. For instance, the South African Commission for Employment Equity (CEE) Annual Report for 2010 -2011 reveals that females only represent 29.3% of all employees at senior management level; while Wood and Lindorff (2001), show that in the United States, only 5% of females are in senior management, in the United Kingdom females only represent 4%, and in Australia only 3% are in senior management positions. However at Top Management level only 19 % of South African females occupy such positions.

Thus, despite the fact that South African legislation such as the Employment Equity Act; Affirmative Action and gender equality imperatives have driven the advancement of women and has seen more and more women promoted into management positions within South Africa; male domination within organisational and government contexts and civic society still prevails. Within these environments where male hegemony is maintained, women who are 'allowed' to enter into these male domains, typically need to take on male traits, attitudes and values in order to succeed and become increasingly more masculine in their sex role orientation (Sachs, Chrisler & Devlin, 1992). For those women who are not prepared to make this compromise and "cross over to the other side" (Fielden & Cooper, 2001, p.5), they may find themselves marginalised and increasingly frustrated by lack of opportunities for advancement (Gottlieb, Kelloway & Barham, 1998).

This experience is even noted within female-dominated organisational cultures. Hochwater, Perrewe and Dawkins (1995) note that men perceive greater levels of control in both male and female-dominated organisations and that this may indicate the influence of societal norms that allows men, legitimately or illegitimately, to assume positions of power irrespective of whether the

organisation's culture is male- or female-dominated. The power and control that men are thus imbued with simply for 'being male' is not tempered by the nature of the organisation and even within female organisational cultures males' sense of power still prevails.

When women do 'cross over to the other side' and take on or demonstrate masculine behaviours there may be repercussions as they experience what the literature refers to as "agentic backlash" – as both their male and female counterparts resent them for behaving in a manner that breaks the bounds of female 'niceness' (Korabik, 1990; Rudman & Glick, 1999; 2001; Rudman & Phelan, 2007). Caught in a 'double bind' to take on male roles in order to succeed, such women may find themselves compounding their work-family stressor overload, as they experience isolation and alienation and impaired relations with both their male and female colleagues (Fielden & Cooper, 2001; Gottlieb et al., 1998). Thus women may find themselves exposed to greater role stress demands as they try to balance the demands of work, home and family *and* the possible agentic backlash encountered by colleagues in the work place as they make their way within inimical male-dominated organisational cultures.

According to McDonough and Walters (2001) this increased exposure to stress experienced by women can be explained under the "Differential Exposure Hypothesis". The Differential Exposure Hypothesis purports that women perceive a greater degree of stress because there are more demands placed upon them. That is, they are exposed to more stress due to the fact that they tend to or are required to take on more roles relating to work *and* family. As a consequence they could be more exposed to role overload and/or greater cumulative stress (McDonough & Walters, 2001; Roxburgh, 1996).

3.3.2 Differences in stressor perception

With regard to differences in stressor perception, research on sex, stress and wellbeing has indicated the role that sex plays in terms of differing perceptions of stress and thereby the differing impact on wellbeing. This research has suggested that men and women vary in their perceptions of stressors, with women perceiving a greater degree of stress in a given situation or set of situations as compared to men (Misra et al., 2000; Roxburgh, 1996). These differences have been explained in terms of the "Differential Vulnerability Hypothesis". This hypothesis suggests that women perceive

greater stress simply by virtue of their sex which makes them more vulnerable to stressors (McDonough & Walters, 2001; Roxburgh, 1996). Although research has proposed and found support for this hypothesis, further examination suggests that this hypothesis may reflect *stressor specificity*, that is, that women perceive *certain stressors* as more stressful due to the stressor being of a particular type as opposed to women perceiving *all* stressors as more stressful than men. Research has, in fact, suggested that there are some stressors to which men may be more vulnerable. For example, while an argument with a friend or partner was perceived as a greater source of stress amongst women than amongst men (Narayanan et al., 1999); in a study conducted by McDonough and Walters (2001) it was shown that men reported a higher degree of stress than women when the stressor was related to financial problems. Exploration of this finding indicated that men placed more emphasis and value on financial success, stability and power and therefore, when problems arose in these spheres, they experienced them more negatively and were consequently more distressed. Thus, this research does seem to indicate that there is indeed a differential vulnerability with regard to which *types* of stressors are more or less stressful for each gender, but that this differential vulnerability may apply to both men and women, dependent on the nature of the stressor.

Furthermore, the research has suggested that the two hypotheses of, Differential Exposure and Differential Vulnerability may not be mutually exclusive and that the two, particularly with regard to working women, may be operating simultaneously. This is so as although men may experience differential vulnerability, differential exposure is largely the preserve of women who report having a greater number of stressful events in their lives related to their social life, relationships, child, family health and their jobs (McDonough & Walters; 2001; Wohlgemuth & Betz, 1991). In fact, Misra and colleagues (2000) in exploring work stress within an academic setting (initially from a Differential Vulnerability perspective), found clear support for Differential Exposure. They noted that although women reported that they experienced a greater number of academic stressors than did men, further investigation indicated they tended to incorporate more activities into their schedules, such as academic, employment, and family responsibilities. Women were therefore more overloaded. They had less spare capacity in terms of their ability to deal with a single stressor or set of stressors and thus their response to this single set of stressors (that is, academic stressors) was more negative. Misra and colleagues (2000) concluded that men perceived these stressors less

negatively as they had less to deal with overall, and therefore, were better able to cope. Thus men's lesser stress experience was a function not necessarily of Differential Vulnerability but rather a function of Differential Exposure. In terms of the Conservation of Resources Model and coping with additional demands, women were more likely to deplete their personal and social resources while men were more able to conserve these resources (Hobfoll, 1989).

Similarly, studies conducted by Gardiner and Tiggermann (1999), Lundberg and Frankenhaeuser (1999) and Weekes, Maclean and Berger (2005), found that women reported more levels of work stress than men. In the Gardiner et al. study (1999,) they found that women reported higher perceived levels of job stressors such as lack of power in the organisation, discrimination, and tokenism than did men in both male-dominated and female-dominated occupations. In the Lundberg et al. study (1999) they found that women reported higher levels of perceived work stressors than did men in terms of increased expectations, lack of communication, and lack of supervisor social support. However, in both of the above studies it was noted that the impact of additional stressors in terms of family responsibilities were not assessed and therefore this may have accounted for the fact (in terms of differential exposure) that women reported more perceived stress whether in male or female-dominated professions. These findings are also in line with Hochwater and colleagues (1995) who suggest that societal male power allows men to assume greater control and they thereby experience less stress in occupations, whether they are situated in male or female-dominated industries.

3.3.3 Differences in coping styles

With regard to differences in coping styles in response to stress, research on stress and sex has also indicated differences between the sexes and coping styles and differences between the sexes and stress outcomes. It appears that differences do exist between the sexes and that these differences may be attributable to the differences in stereotypical modes of behaviour and/or differences in personality attributes (Fielden & Cooper, 2000; Vingerhoets & Van Heck, 1990). However before examining these differences, a definition of coping is required.

3.4 TOWARDS A DEFINITION OF COPING

Research on coping has gathered strength in recent years (Edwards & Holden, 2003; Gellis, Kim & Hwang, 2004; Shimazu & Kosugi, 2003). It is defined as “ongoing cognitive and behavioural efforts to manage specific external and/or internal demands that are considered as taxing or exceeding the resources of the person” (Lazarus, 1993, p. 237). Lazarus (1993) explains that coping research has moved from the traditional thinking where coping was viewed as a trait or style, to one where coping is considered as a process that changes over time, and in accordance with the situational context in which it occurs. The changes over time allow an individual to adapt so as to cope with changing situations and/or threats. As a person perceives whether their coping ability is successful or unsuccessful it stands to reason that they will not persevere and will attempt to change their coping behaviours if they are perceived to be inefficacious. Therefore, coping can best be considered as a form of problem solving in which there are risks as the person may choose a coping response or problem solving technique that ultimately does not succeed in adequately reducing the stressor/demand situation. As a result, the response chosen may tax the person’s resources by virtue of its failure to reduce or eliminate demand (Lazarus, 1976).

While there is no correct coping process some processes are more effective than others (Lazarus, 1993). Furthermore, while coping may lessen the effects of an unfavourable situation experienced by a person, the situation may still need to be addressed (Cox, 1978). Folkman, Dunkel-Schetter, Lazarus, Gruen, and DeLongis, (1986), note that the process of coping includes two types: problem-focused coping and emotion-focused coping.

Problem-focused coping is described as a change in the distressed person-environment relationship by the individual acting on the environment, that is, dealing with the problem that is causing the distress. Emotion-focused coping is proposed to change either a) the way the stressful relationship with the environment is dealt with (as in awareness or avoidance), or b) the relational meaning of what is happening, which simplifies the stress even though the actual conditions of the relationship have not changed (Folkman & Lazarus, 1991). Thus, emotion-focused coping is considered as a more soothing form of coping, whereby, for instance, changing the relational meaning of what is happening can be described as an emotional boundary through which the individual chooses to restrain their emotions in order to regulate stress and emotion.

Further, Lazarus (1966; 1976) suggests that coping can involve two processes: direct action and palliation. Direct action refers to the change process in problem-focused coping whereby the behaviour is aimed at changing the person's relationship with his or her environment. Direct action can take three forms: preparation against harm, aggression/assertiveness and avoidance (or escaping the situation). Preparation against harm is considered anticipatory avoidance behaviour whereby the person foresees danger and takes the necessary action to correct it. Aggression/assertiveness takes the form of active coping where the individual will attempt to confront their source of stress. Depending on the degree of aggression and/or assertiveness, it may not always be an appropriate and thus effective form of coping, as if the coping moves from being strongly assertive to overly aggressive it could become excessively confrontational and thereby destructive (Cox, 1978). Avoidance (also known as escape) is the third form of direct active coping and is not anticipatory but is rather engaged with after the event. Aggression and avoidance are considered the 'fight or flight' response to stress (Selye, 1976). Avoidance, although part of direct active coping, can be considered as an inactive behaviour as it does not resolve the problem and in the longer term can possibly lead to depression and feelings of helplessness (Cox, 1978). This may be due to certain situations which produce stress and do not allow for a person to take action against the stressor. Avoidance thus does not allow for action which will enhance the possibility that stress may be relieved (Cox, 1978). As a result, the person may lose any desire to cope and lose the actual ability to do so (Lazarus, 1976).

Lazarus (1993) also notes that a person may engage in denial during the coping process. This may be considered as part of a person's coping trait or style and may be useful under certain circumstances. According to Cox (1978) denial has favourable consequences when an individual is attempting to adapt to an unfavourable situation, e.g. rate of healing. A person is thus able to cope with threat or danger simply by denying that it exists (Cox, 1978). However, an individual should be cautioned against denial when it causes a delay in seeking help, specifically if the unfavourable situation is medically related.

According to Lazarus (1976) palliation is a further coping method in which the psycho-physiological effects of stress are reduced through symptom-directed modes and intra-psychic modes. These include, respectively, body-centred techniques through the use of tranquillisers,

sedatives, meditation and exercise such as yoga and cognitive defence mechanisms, such as denial, repression, projection and displacement.

Lazarus (1993) notes, that while there may be no universally successful or unsuccessful coping processes, some might be better or worse than others, dependent on the individual and/or the situation. What is important about this examination of coping processes or styles is that with regard to sex differences and work stress, research has indicated that women do utilise different coping strategies to men and that this may be a function of their gender-typical behavioural styles. Furthermore, research has shown that this may render their coping strategies to be less effective than those utilised by men (Fielden & Cooper, 2001).

According to Latack, Kinicki and Prussia (1995) the process of coping with occupational work stressors is a complex and highly dynamic one developed specifically to moderate the impact of such stressors on an individual's physical, social and emotional wellbeing. It has been proposed that the reason that men may be able to cope more successfully with these stressors than women is that men rely on and utilise problem- focused coping strategies which are better able to alter the stressor situation, whilst women rely on emotion-focused coping which simply soothes one's emotions in relation to the stressful event without actually resolving the problem (Vingerhoets & Van Heck, 1990). Vingerhoets and Van Heck (1990) suggest that men, by virtue of their stereotypically inculcated gender traits, tend to plan, organise and rationalise their actions, utilising positive thinking, perseverance and self-adaptation, accompanied by a belief in personal growth, in order to manage their stressors. Such a problem-oriented style is found to decrease emotional distress and is inversely related to depression and anxiety. In contrast, women who have been socialised to be kind and caring and helpful towards others, often tend to engage in self-blame and wishful thinking, seeking a forum to express their emotional distress by utilising social support networks. This style of coping is considered to be far more emotion-focused and while social support can ameliorate the experience of stress through altered perceptions and/or enhanced belief in ability to cope it may not necessarily alter the stressor situation (Fielden & Cooper, 2001). Certainly self-blame and wishful thinking lacks efficacy and this style has often been associated with increased emotional distress and negative psychological symptoms such as lowered self- esteem and self-confidence and increased depression and anxiety (Holohan & Moos, 1987; Oakland & Ostell, 1996).

Fielden and Cooper (2001) note that the coping strategies adopted are indeed determined by many of the self-same inter-organismic variables and extra-organismic variables outlined in Chapter 1, namely sex, locus of control, personal control, Type A behaviour style patterns, personality hardiness, sense of coherence, resilience, self-esteem, self-efficacy, assertiveness, aggression, neuroticism, negative affectivity or positive affectivity, education, past experience, and the availability of external coping resources (Gist & Mitchell, 1992; Holohan & Moos, 1987). They further note that personal control is particularly important, as the way in which individuals perceive stressful situations and the causes that they attribute these events to are dependent on an individual's degree of personal control that they possess (Fielden & Cooper, 2001). Linked to locus of control, which is itself associated with hardiness, sense of coherence and resilience; personal control impacts on the extent to which an individual believes that events, albeit positive or negative events, are a consequence of one's own actions and thereby potentially under one's control. High personal control is, in turn, associated with a number of personality traits such as assertiveness, independence, dominance, need for achievement and the desire to assume personal responsibility for one's life and the events within it (Cherrington, 1991; Kapalka & Lachenmeyer, 1988).

While locus of control is an inherent personality trait, the extent to which one can exercise personal control may be circumstantially based. As discussed in Chapter 2, Karasek's (1979) JDC Model specifically emphasises that jobs vary according to the amount of decision-latitude afforded to job incumbents and that this is directly related to the amount of strain experienced when individuals find themselves unable to exert personal control over stressful circumstances. In this regard Fielden and colleagues (2001) suggest that while women in managerial positions have more control than women in non-managerial positions, the extent of their personal control is still far less than their male counterparts. In addition, women generally perceive that they have less control over relationships and life events than men which may explain why men consistently perceive more control in their jobs even when they find themselves in female-dominated professions (Hochwater et al., 1995; Long, 1998; Sherman, Higgs & Williams, 1997).

Riipen (1994) proposes that the reason women may report lower personal control may be due to a real lack of opportunity for advancement within organisations while Fielden and Cooper (2002)

argue that this lesser extent of personal control for women as opposed to men may result from differences in the self-concept between men and women. They note that there are four main aspects of the self-concept that an individual uses to evaluate him or herself in relation to his or her situation. These are *the perceived self* which refers to what they person thinks they are; *the ideal self* which refers to what the person would like to be; *the real self* which relates to what the person actually is and *the social self* which reflects how the person thinks others perceive them (Fielden & Cooper, 2001). Within the occupational context these perceptions of the self for women may be negatively impacted upon as the working world, particularly at managerial level, is still dominated by the male model, that is 'think manager- think male' as proposed by Schein (2001) and Schein and Mueller (1992). In fact Fielden and colleagues (2001; 2002) note that this male model is reflected within broader society, that is, in the world within which female managers live and work. Consequently, females report far less support and recognition for the work that they do and far less recognition for their occupational achievements and the role of work in their lives, from both family and work spheres, as opposed to their male counterparts.

A difference in Type A behaviour is also noted between the sexes. Type A behaviour is typically exhibited in the form of being overly competitive, aggressive, time-pressured, ambitious and hard-driven as opposed to Type B individuals who exhibit behaviour that is more relaxed, easy going and calm in the face of work demands. Extensive research done on Type A behaviour has shown that in the long term it is a high predictor of coronary heart disease and mortality (Rosenman & Friedman, 1964). Whilst this behaviour can be exhibited by both males and females, a number of studies have noted that the *nature* of women's Type A behaviour tends to differ to that of men's Type A behaviour (Davidson & Cooper, 1987; Rees & Cooper, 1990). The differences in the patterns of behaviour in men versus women on this particular personality construct may arise out of different causes. According to Fielden et al. (2001) high levels of Type A behaviour in working women may be in part attributable to the fact that they suffer from increasing time pressures in terms of having to manage both work and family spheres (i.e. differential exposure). The inter-role conflict, more specifically, work-family balance conflict produced by the discordant demands of having to manage one's roles at work while still being a homemaker, wife and mother suggests that married women with children are, in fact, more at risk than men for the deleterious health impacts associated with Type A behaviour (Devana, 1987; Elliot, 1995; Greenglass, 1993).

Although it appears that women may differ and be somewhat disadvantaged in terms of their coping styles, as a function of socialised behaviours and expectancies and differential exposure to demands, one coping resource that women seem better able to mobilise and utilise is that of social support. Social support, although an emotion-focused form of coping, is extensively described in the literature as an oft critical coping resource that enhances one's ability to manage both life and occupational stressors.

3.5 SEX, SOCIAL SUPPORT AND WELLBEING DIFFERENCES

A vast amount of research done on stress, social support and wellbeing has indicated that specific relationship patterns exist between the sexes and social support (Lindorff, 2000; Taylor, 2007; Taylor, Klein, Lewis, Grunewald, Gurung & Upgedaff, 2000; Taylor, Sherman, Kim, Jarcho, Takagi & Dunagan, 2004; Taylor Welch, Kim & Sherman, 2007). In this regard, research has demonstrated that in the event of stress, women tend to mobilise and utilise the social support available to them within their social networks more often than men (Belle, 1982; Neff & Karney, 2005; Ptacek, Smith & Dodge, 1994; Reeve & Maslach, 2001).

In addition, research has indicated that men and women have different preferences when it comes to sources of support. Men indicate a higher preference for support from their bosses than women. In line with Hochwater and colleagues (1995) research this may be so as men perceive greater levels of control and support within the work environment. Welsh (1980) also notes that women are more reticent to access formal or informal work networks and in times of stress may be even more reticent to expose themselves to others as being unable to cope with work demands. Marshall (1995) indicates that women working within male-dominated environments may often feel isolated and alone and not only feel excluded from interacting with their male colleagues but may also feel alienated from their female colleagues. In such a climate, women would likely be discouraged from utilising work sources of support. However, women, in times of stress, do tend to turn more to friends and family than men (Greenglass, 1993; Greenglass, Burke & Ondrack, 1990; Narayanan et al., 1999).

In addition, women tend to *provide* support more often than men (Belle, 1982; Ptacek, Smith, & Zanas, 1992; Wohlgemuth & Betz, 1991). Within the context of intimate relationships there is a noted “support gap” between women and men with women providing more support, men receiving more support and women providing more ‘helpful’ support to their partners than do men (Neff & Karney, 2005, p. 79). Women that are married appear to be particularly vulnerable as research indicates that they are more likely than their partner to provide support when their partner is undergoing stress while receiving less in return (Bolger, De Longis, Kessler & Wethington, 1989). In this regard, wives are more likely to take over chores and assist their husbands at home, thereby further increasing their work load at home in order to alleviate their partners stress. Bolger and colleagues (1989) note that husbands reciprocate to a far lesser degree when their wives were stressed. Neff and Karney (2005), in fact, report that wives perceive an increase in negative behaviours from the partners at times when they feel most under duress. Thus, this ‘extra’ provision can be seen as an increased demand placed upon women. In times of stress, women who tend to experience differential exposure as a result of increased social and cultural demands placed upon them in terms of work and family may also suffer the increased demand of being support providers to others.

Further, for women burdened by this extra provision, asking for or needing support from others when they themselves are stressed entails the added obligation with regard to reciprocity. The reciprocation that is implied when one draws on social networks for support may discourage an individual’s utilisation of support, as the long-term reciprocity demands may make the individual feel that to use the support now may be too taxing in the long-term because of the implied future extra load in terms of reciprocity that current utilisation carries (Seidman, Shrout & Bolger, 2006; Shrout, Herman & Bolger, 2006; Smith, Loving, Crockett & Campbell, 2009).

All of the above described differences between the sexes and social support in terms of both utilisation and provision may be a result of evolutionary responses to stress that may have developed in differing ways for men and women, and following on these evolutionary responses, may have led to differing socialisation experiences for women in modern times.

3.5.1 “Fight or flight” or “tend and befriend” responses to stress

With regard to bio-behavioural evolutionary responses to stress, Taylor and colleagues (2000; 2004; 2007) have noted that while the classic response to stress has been that of “fight or flight” as described by Cannon (1932) and Selye (1936); women may have evolved to adopt a “tend and befriend” response as a precursor to engaging in fight or flight behaviour, with the latter type of behaviour only being adopted as a last resort (p. 411, Taylor, Klein, Lewis, Grunewald, Gurung & Upgedaff, 2000). They suggest that female responses to stress may be based on attachment-caregiving processes that down-regulate sympathetic and hypothalamic pituitary-adrenocortical responses to stress and that the ‘tend and befriend’ behaviour that emerges is mediated by oxytocin and moderated by sex hormones, more particularly oestrogen and endogenous opioid peptide mechanisms (Taylor et al., 2000). Male responses tend to entail far more androgens, more especially testosterone, which explains why males tend to respond to stress with a far more aggressive-fight response, or if they perceive the predator-stressor to be too great to contend with, an avoidance-flight response.

Basing their theory on conservative evolutionary assumptions, Taylor and colleagues (2000, 2007) propose that women’s ‘tend and befriend’ response evolved as women’s primary roles were pregnancy and nursing and ensuring that their offspring reached maturity. In the event of being confronted by predators, more particularly predators that they lacked the capacity to fight off, their instincts would lead to them ‘tending’, that is, quietening their infants and attempting to quietly blend into the environment so as to hide from the danger which may then withdraw. In addition, women would also be likely to ‘befriend’ in order to protect themselves and their offspring from danger. In this regard they would ensure that they remain, as far as is possible, within the context of the social group, which would provide safety in numbers if and when confronted by jeopardy. Such behaviour would maximise the likelihood that they would be able to raise their offspring to maturity at which time such offspring would begin to fend for themselves. Accordingly, Taylor and colleagues (2000, 2007) suggest that the female response of tending to offspring and affiliating with the social group through a process of befriending commenced the evolution of the ‘female’ stress response, which was to create networks of association that provide resources and protection for the female in the event of danger. Such responses have, since primitive times, developed and become embedded within females’ social behaviour. As females in modern times continue with their

biological responsibility to bear children and be the primary caregivers within the context of raising offspring and taking care of the family, these responses have remained although they have progressed to take on more modern forms as evidenced in females greater propensity to act as providers and carers with regard to the ‘giving’ of social support and their greater propensity to establish larger support networks. Thus, in essence Taylor et al. (2000, 2004, 2007) propose that this primitive bio-behavioural response to stress has evolved and is manifest today in the far greater extent to which women adopt the roles of tending to family and significant others in their network in times of stress through the provision of what is called ‘social support’ and that women also, to a far greater extent, befriend and seek out such social support when they themselves need tending to assist themselves in times of stress.

Thus, in terms of socialisation experiences in modern times, women are primed to socialise and to confide in others, to express their emotions more and to be more caring and supportive, whereas men may be socialised to be more independent and to refrain from expressing emotions (Pleck & Sawyer, 1974).

As Taylor and colleagues (2000) note “across the entire life cycle females are more likely to mobilise social support, especially from other females, in times of stress” (P. 418). They tend to maintain far more same-sex close relationships than do men, and in fact rely more on their female friends or family than they do on their spouses in times of stress. In addition, they tend to reap more benefits in terms of support from these same-sex networks. However, they are more vulnerable, as they tend to provide *far more* support to their networks and spouses than do men and therefore in the long term they may deplete their resources and thereby the ability to deal with their own stressors. Such differences between men and women have been so consistent across the literature that there has been an argument that there are basic gender differences with regard to orientation towards others with it being proposed that women have a more ‘collectivist orientation’ while men have a more ‘individualistic orientation’ (Dollinger & Clancy, 1997; Cross & Madison, 1997; Kashima, Yagamuchi, Choi, Gelfand & Yuki, 1995; Niedenthal & Bieke, 1997). Taylor and colleagues (2000) note that such findings even have cross-cultural applicability citing Whiting and Whiting’s (1975) and Edwards (1993) research which found that women and girls seek and help others more than men and boys across six cultures and twelve cultures respectively.

Thus, it appears that there are clear differences between the sexes regard social support mobilisation, provision and utilisation and that these differences may have their basis in evolutionary bio-behavioural responses that have evolved into socially learnt behaviors in contemporary times.

3.5.2 Sex and stressor outcomes

With regard to differences in stress responses or outcomes, research on stress and gender has also demonstrated that responses to stress vary between the sexes with these varied outcomes in turn impacting upon and leading to variations in health and wellbeing. Weekes and colleagues (2005) note that women show greater psychological reactivity and a greater propensity for depression while men show a greater physiological reactivity. Furthermore, research has demonstrated that men show greater engagement in negative behavioural responses such as smoking, alcohol usage and aggressive behaviours while women report greater morbidity in terms of psychological health stress outcomes (Aneshensel, Rutter & Lachenbruch, 1991). Additionally, men suffer higher mortality rates in the event of stress exposure over a protracted period of time than do women (Benyamini, Leventhal & Leventhal, 2000).

In summary, it seems that there are differences between the sexes regarding stress perception and stress exposure, in terms of the Differential Vulnerability and the Differential Exposure hypotheses. Furthermore, there are differences between the sexes in terms of coping styles, utilisation and provision of social support and health and wellbeing outcomes. These differences may be attributable to early socialisation experiences which prescribe the stereotypical roles and role behaviours that are assigned to the different sexes and the value that the sexes attach to these roles. For example, in the Narayanan et al. (1999) and McDonough et al. (2001) studies, the differences in perception of particular stressors could be explained by early socialisation experiences where men as young boys are encouraged to be the powerful protectors and breadwinners within the family circle and they would therefore perceive financial problems more negatively than women; while women, socialised through their early developmental years to place more emphasis on social relationships, harmony therein and nurturance in general, could thus perceive an argument with a friend or partner more negatively than men (Gerdes, Moore, Ochse & van Ede, 1980). This

socialisation process thus prescribes both roles and behaviours for males and females and therefore impacts upon the beliefs that men and women have regarding what their roles are, what is expected of them within these roles, that is, how they should or should not behave as they enact their prescribed roles within society and how they should or should not behave when confronted by and coping with adverse events. However, as previously mentioned, differential exposure would tend to be more the experience of women as due to culture and lifestyle women are simply exposed to a greater amount of stressors in their daily lives arising from their dual responsibilities in both work and family spheres. Exposure to greater demand overall thus serves to erode one's global coping capacity which is now spread more thinly, and women may therefore *appear*, in response to a single stressor or set of stressors, to be coping more negatively, simply because their coping capacities are stretched by virtue of their greater stress load.

3.6 CONCLUSION

A vast body of literature has indicated that there are differences between the sexes with regard to stress exposure, perception, coping, usage and provision of social support and stress outcomes. Given these differences and the dearth of studies on female managers, it is therefore critical that we look at female managers unique work stress experience as it appears that their exposure may be greater and they may suffer greater negative health impacts. However, although a vast body of literature has indicated that there are differences between the sexes with regard to stress exposure, perception, coping, usage and provision of social support and stress outcomes, the findings in the literature are not always consistent. As mentioned *not all men and not all women* respond to stressors in terms of perception and coping and outcomes *in the same way*. Similar inconsistencies between the sexes are reported in social support literature. A closer inspection of these research inconsistencies and their relevance to the aims of this study is required. However, before examining these inconsistencies (in Chapter 5) the present study will provide a review of the literature on social support in Chapter 4. As social support is a focus of the present research, a more in-depth review of the social support literature in terms of its import in the relationship between stress and wellbeing needs to be undertaken.

CHAPTER 4: SOCIAL SUPPORT

4.1 INTRODUCTION

A vast amount of research has been conducted on social support, as reflected in over 33,000 entries in PsycINFO and over 45,000 in Medline (Lakey & Orehek, 2011). This research is spread amongst a wide range of disciplines including psychology, psychiatry, medicine, nursing, social work, sociology, anthropology and communication studies (Lakey & Orehek, 2011). As a concept, social support has been both explicitly and implicitly central in much of the early literary, religious, sociological, psychological and medical thought and writing (House, 1981). The earliest indication of the importance of the social context for health was found by sociologists carrying out studies at the University of Chicago during the 1920s. They found that social problems resulted when socially cohesive communities were disrupted by industrial relocation (House, 1981). Further evidence of the negative effects of disruption on social networks was found by Emile Durkheim in his seminal study of suicide (Durkheim, 1951). Durkheim (1951) proposed that the loss of social integration or anomie was antithetical to psychological wellbeing. He attributed this loss of social integration to the emergence of highly technical industrialised societies with their subsequent urban migration and dissolution of family ties, support and social constraints. He demonstrated that a lack of religious affiliation or not being married contributed to increased suicide rates and proposed that those with religious ties and/or those that were married enjoyed a greater degree of social integration and attachment.

During the 1970s contemporary and social epidemiologists reconfirmed Durkheim's (1951) tenets by linking the absence of social ties to family and friends and lack of involvement with the community and religious organisations to premature death, independent of one's lifestyle and initial health (Bloom, 1990). However, specific interest in the study of social support was largely stimulated by the work of two physician epidemiologists, John Cassel and Sidney Cobb. Both Cassel (1976) and Cobb (1976) emphasized the centrality of social relationships and support to the maintenance of health as well as their ability to moderate or buffer the potentially deleterious health effects of psychosocial stress (House et al., 1988). Their observations were clearly related, theoretically and empirically, to the longstanding sociological literature on social integration and social isolation (House et al., 1988). Since then there has been a virtual explosion of research on

social support as a concept as well as an increase in the number of treatment and intervention programmes that use social support for therapeutic interventions. As with the research on stress and wellbeing, this research interest has shown no signs of waning (AbuAlrub, 2004; Antonucci et al., 1990; Bloom 1990; Brough & Pear, 2005; Burleson, 2003; Coyne & Bolger, 1990, Coyne & Downey, 1991; Cropley & Steptoe, 2005; Gencoz & Ozlale, 2004; Giliotti, 2004; Harrison, Loiselle, Duquette & Semenik, 2001; Holt-Lunstad, Smith & Layton, 2010; Lakey & Orehek, 2011; Ismail, Mohamed, Sulaiman, Ismail & Mahmood, 2010; Kitamura et al., 2002; Monnier, Schroevers, Helgeson, Sanderman & Ranchor, 2009; Monnier, Stone, Hobfoll & Johnson, 1998; Reevy & Maslach, 2001; Schirey, 2004; Schwarzer & Guiererez- Dona, 2005; Zachariah, 2009).

This research has been carried out across a vast breadth of disciplines including anthropology, architecture, environmental design, epidemiology, gerontology, health education and planning, medicine, psychology, sociology and social work (AbuAlrub, 2004; Cassel, 1976; Chou, Stewart, Wild & Bloom, 2012; Cobb, 1976; Cohen & Syme, 1985; Cohen et al., 2000; Cropley & Steptoe, 2005; Gigliotti, 2005; House, 1981; Kumar, Calvo, Avendano, Sivramakrishnan & Berkman, 2012). The principal interest in social support was motivated by its purported relationship to health and wellbeing. A main theme in the literature has been that social support can protect or buffer individuals against the negative consequences of stressful circumstances upon mental and physical health, including depression, psychosomatic symptoms and physical disease as well as have a general positive effect on health and wellbeing (AbuAlrub, 2004; Brough & Pear, 2005; Burleson, 2003; Cohen et al., 2000; Cropley & Steptoe, 2005; Gencoz & Ozlale, 2004; Giliotti, 2004; Harrison, et al., 2001; Lakey & Orehek, 2011; House, 1981, Monnier et al., 1998; Reevy & Maslach, 2001; Schirey, 2004; Schwarzer & Guiererez- Dona, 2005; Winnubst et al., 1988).

According to Hobfoll, Freedy, Lane and Geller (1990) it is proposed that those endowed with greater, or in some way, richer support are better able to preserve psychological and physiological health when confronted with stressful situations. Frequently cited stressful situations are those of stress arising from work as well as physical impairment, ageing and difficult life events (AbuAlrub, 2004; Brough & Pears, 2005; Glaser, Tatum, Nebeker, Sorenson & Aiello, 1999; Harrison et al., 2001; Holt-Lunstad et al., 2010; McIntosh, 1991; Shirey, 2004).

An examination of the early research evidence on social support suggested that the construct consists of different types, sources and patterns of effect (Cassel, 1976; Cobb, 1976; House, 1981). According to House (1981) social support can have either a main effect on stress and health or a moderating effect on the relationship between stress and health. In some instances both effects can occur. Topics under study in this early research were also highly diverse, the most pertinent being those studies that examined the relationship of social support to mortality and those that looked at the role that social support could play in the relationship between life event stress and organisational stress and mental and physical wellbeing (Brough & Pears, 2005; Burlleson, 2003; Cassel, 1976; Cobb, 1976; Cropley & Steptoe, 2005; Gencoz & Ozlale, 2004; Glaser et al., 1999; Giliotti, 2004; Harrison et al., 2001; Holt-Lunstad, et al., 2010; House, 1981; Kitamura et al., 2002; Monnier et al., 1998; Schirey, 2004; Schwarzer & Guiererez-Dona, 2005; Zachariah, 2009).

As the focus of the present study is on social support within an occupational context the following review will focus specifically on findings within the work stress and social support literature.

4.2 SOCIAL SUPPORT AND WORK STRESS

In reviewing organisational sociology and psychology over the past century, a slight conceptual shift reveals that social support had been a basic idea and prevalent underlying theme in both management education and practice for much of the previous century. The 'Human Relations' tradition of organisational research (Likert, 1961; 1967; Mayo, 1933) was founded on the assumption that happy, satisfied, psychologically well people will make the most effective workers. In addition, it was assumed that supportive behaviour by work supervisors could improve both the morale and productivity of workers and reduce many forms of occupational stress. It was also found that social support from co-workers could have stress reducing effects (Katz & Kahn, 1978). Seashore (1954) found similar results, demonstrating that as group cohesiveness increased, anxiety over work-related matters decreased. Kahn and colleagues, (1964) in their pioneering work on role conflict and role ambiguity, also suggested that the quality of interpersonal relations or 'social climate', an important situational variable in the workplace, could have a moderating effect on the individual's responses to these role stressors.

Research that has focused more specifically on social support as it is currently conceptualised and its effects on organisational stress and strain has been a more recent phenomenon; from the 1970s onwards. Researchers have examined the effects of social support within a wide variety of occupational stress-strain relationships, including the relationships between job stressors such as role conflict, role ambiguity, role overload and role underload and strains such as job dissatisfaction, job related tension, anxiety, increased intention to leave one's job, depression, anger, cognitive disturbances and depersonalisation (Abdel-Halim, 1982; AbuAlrub, 2004; Bliese & Castro, 2000; Caplan et al., 1975; Cohen et al., 2000; Harrison et al., 2002; House & Rizzo, 1972; Jayartayne & Chess, 1984; Kahn et al., 1964; Karasek, Triantis & Chaudry, 1981; La Rocco, House & French, 1980, Macintosh, 1991; Marcelissen, Winnubst, Buunk & Wolff, 1988; Peeters & Le Blanc, 2001; Rizzo, House & Lirtzman, 1970; Schirmer & Lopez, 2001; Snow, Swan, Raghavan, Connel & Klein, 2003; Viswesvran, Sanchez & Fisher, 1999; Winnubst, Marcelissen & Kleber, 1982).

For example, in 1975 Caplan and colleagues analysed a sample of 2010 men in 23 occupations and studied the relationships between stressors such as work overload, role ambiguity, role conflict, lack of participation, underutilisation and psychological strains. The results showed perceived support from supervisors, subordinates and co-workers to be negatively correlated with these stressors and strains. In the study carried out by Abdel-Halim (1982), consistent moderating effects were reported in the relationship between role conflict and role ambiguity, social support from supervisors and job satisfaction and job involvement.

In 1984, Jayartayne and Chess found that high levels of social support from supervisors was significantly related to high job satisfaction and low anxiety, depression, exhaustion and depersonalization and low levels of role ambiguity and role conflict, corroborating the main effect of social support on stress and health. La Rocco and colleagues (1980) found that social support had a main effect on both job satisfaction and self-esteem and that social support moderated the relationship between work stress and anxiety, depression, irritation and somatic symptoms. Karasek and colleagues (1981) reported evidence of both main and moderating social support effects in the relationship between job demands and job dissatisfaction, depressed mood and absenteeism.

Winnubst and colleagues (1982) measured the relationship between a number of work stressors, social support and physiological, psychological and behavioural strains. Stressors that were examined were role conflict, role ambiguity, role overload, future uncertainty about the job and responsibility for persons. Sources of social support were the supervisor and co-worker. Strains that were examined were psychological strains of irritation, depression, anxiety and threat, behavioural strains of smoking and drinking and physiological strains of heart complaints, general somatic complaints, systolic blood pressure, diastolic blood pressure, level of cholesterol and the degree to which individuals were overweight. Results showed strong main effects of supervisor social support on role conflict, role overload, role ambiguity and future job uncertainty. A slightly weaker pattern of main effects was reported between coworker support and the same stressors and supervisor support and responsibility for persons. Supervisor and co-worker support also had a main effect on psychological strains of irritation, depression and anxiety. In terms of moderating effects, supervisor social support moderated the relationships between role conflict and threat and irritation and role overload and anxiety and threat. Co-worker support moderated the relationship between future job uncertainty and depression, anxiety and excessive smoking.

In the study carried out by Marcellissen and colleagues (1988) work-related sources of social support were shown to reduce role ambiguity, overload, conflict and future job uncertainty. Macintosh (1991), in a study of nurses, demonstrated that support reduced perceptions of workload, negative physical symptoms of stress and emotional exhaustion. In addition, support moderated the relationship between workload and exhaustion.

Snow and colleagues (2003) in a study of 239 secretarial, female employees indicated that work-related social support had a direct effect on reducing perception of work stressors such as role stress. Peeters and Le Blanc (2001) in a study of oncology care providers indicated that social support from family moderated the relationship between quantitative work demands and depersonalization while social support from co-workers moderated the relationship between emotional job demands and depersonalisation.

In AbuAlrub's (2004) study on work stress, performance and social support amongst 303 nurses within United States' hospitals it was shown that social support from co-workers decreased the

level of reported stress and enhanced the level of job performance. Similarly in the study by Harrison and colleagues (2001) on 171 Canadian nurses, social support was shown to be related to lesser reports of psychological distress and less dissatisfaction with workload. In the study carried out by Schirmer and Lopez (2001) on occupational stress within 250 university employees, results indicated that perception of support from supervisors significantly reduced reported levels of psychological strain.

Bliese and Castro's (2000) study of 1538 US army soldiers indicated that job control was only beneficial in buffering the effects of psychological strain in conditions where soldiers reported high level of support from their immediate commanders, thus aligning with Karasek and Theorell's (1990) DCS Model of occupational stress.

It can thus be seen that social support has a vast empirical base demonstrating both main and moderating effects in a variety of occupational sectors with regard to stress and strain. The question arises as to what aspects of this construct actually 'helps' individuals exposed to stressors and benefits health even in the absence of stressors. By examining how the construct is conceptualised, an answer to this question may be offered.

4.3 TOWARDS A DEFINITION OF SOCIAL SUPPORT

Over the last five decades a wide variety of conceptualisations on social support have abounded. The earliest works were conceived of in the 1970s and 1980s. Below follows a discussion of these seminal works and seminal researchers in the field who have referred to social support using a plethora of different terms. According to House (1981), Cutrona and Russel (1989) and Winnubst and colleagues (1988) there is some consensus amongst these definitions as to the range of aspects and relationships that are within the general domain of social support. Yet at the same time, there is considerable diversity within these definitions as to what specific aspects of these definitions are the most important (House, 1981).

For example, Caplan and Killilea (1976) emphasise emotional and cognitive support as well as tangible support in their classification scheme and, furthermore, they highlight mutual obligation and reciprocity of need satisfaction as characteristics of such a system. Cobb (1976) defines social

support in terms of 'informational feedback'. He proposes that this feedback meets the individual's basic social and psychological needs through the provision of information, which in turn leads the individual to believe that he is cared for and loved (emotional support), esteemed and valued (esteem support) and that he belongs to a network of communication and mutual obligation (network support). Cobb (1979) later distinguished between instrumental support or counselling, active support or mothering, and material support, goods and services.

Pinneau (1975) distinguishes between tangible, appraisal and emotional support. Tangible support refers to assistance through an intervention in the person's objective environment circumstances, e.g. providing a loan of money or other resources. Appraisal support or informational support refers to a psychological form of help which adds to individuals' knowledge with regard to giving them feedback as to how they are managing their circumstances (appraisal) or providing a method for solving a problem (informational). Emotional support refers to the communication of information which directly meets basic social-emotional needs, e.g. a statement of esteem for the person, attentive listening to the person, etc. Caplan and Killilea (1976), in turn, define social support as attachments among individuals and between groups that serve to produce adaptive competence in dealing with short-term crises and life transitions as well as long-term challenges, stresses and privations. This is achieved through promoting emotional mastery, offering guidance regarding the field of relevant forces involved in expectable problems and methods of dealing with them, and providing feedback about an individual's behaviour that validates his or her conception of his or her own identity and fosters improved performance based on adequate self-evaluation. Kahn and Antonucci (1980) go on to define social support as interpersonal transactions that include one or more of the following key elements: affect; affirmation and aid. Henderson (1977) went a step further, hypothesizing that humans are, in fact, biologically programmed to prefer to be members of groups and to display emotional distress when the presence of important others are lost. Henderson (1977) suggests that people need others because of what others supply, namely, opportunities for attachment, social integration, nurturing, reassurances of worth, a sense of reliable alliance and the obtaining of guidance.

House (1981) began a process of clarification of these diverse yet linked definitions, suggesting that if one wanted to move towards a more adequate conception of social support the question that

needs to be asked is, '*Who gives what to whom regarding which problems?*' He proposed a broad yet nevertheless precise definition which took into account the different types of social support that may be available to a recipient of support, the different sources from which such support could be forthcoming and the different mechanisms through which such support could operate. He referred to four types of social support, namely, emotional support, instrumental support, informational support and appraisal support. These were derived from the numerous conceptions outlined above, all of which included one or more, though not all of House's (1981) four types.

Emotional support is defined as that which entails the provision of empathy, caring, love and trust. Instrumental support is defined as that which involves behaviours which directly help the person in need, e.g. helping others do their work or lending them money. Informational support is defined as that which involves providing a person with information which they can use in coping with personal and environmental problems. Appraisal support is defined as support that involves the transmission of information which is relevant to self-evaluation or social comparison, allowing the individual to compare him or herself to others in order to bolster the individual's sense of self by conveying how well he or she is coping or performing (House, 1981).

Cutrona and Russel (1989) refer to a fifth type of support which they called network support or social integration. Although House (1981) did not refer to this as a 'type' of support, he did consider this aspect when he went on to propose that the various types of social support he describes could be made available to the recipient through a number of providers or sources of social support. These sources of support could be friends, family, spouse/partner, neighbours, community and health-care professionals, work supervisors/bosses and/or co-workers/colleagues. These sources would thus serve to make up the network of support within which a recipient would be socially integrated or embedded (House, 1981).

More recently, despite the plethora of support definitions, it has been noted that these different types to some degree can be subsumed under one dimension. According to Burleson (2003) the core component of all types of support is that they are underpinned by an overriding emotional component. Burleson (2003, p.2) defines social support as "expressions of care, concern, love and interest specifically during times of stress". He notes that while distinctions can be made between

emotional, instrumental, informational and appraisal support the underlying feature of *all* of these types is an emotional component. In this regard he defines emotional support as involving behaviours such as listening and empathising with an individual in distress along with legitimising and allowing the distressed individual to actively explore his or her feelings. Furthermore, he notes that as stress and emotional hurt often stem from an invalidation of the self, either through rejection by a significant other or by failing at something connected to one's self-concept; expressions of encouragement, reassurance and respect, often defined as appraisal support, are actually underpinned by an overriding emotional support component. Similarly, providing one with information and actually assisting them tangibly in times of stress implies the concern, care and interest of emotional support. Burleson (2003, p.2) proposes that "emotional support addresses matters residing at the core of one's being, one's sense of self, what one aspires to, one's hopes, fears and deepest feelings" and it is thus this type of support that is the *key component* in all the other types of support described.

The present researcher, in a study conducted in 1992 that explored the multi-dimensionality versus uni-dimensionality of the construct also found evidence that the greatest proportion of variance within a social support measure designed to assess all four types of support was attributable to emotional support, with other types, that is instrumental, informational and appraisal only contributing a small percentage to the total variance (Bernstein, 1992).

4.4 THE EFFECTS OF SOCIAL SUPPORT

According to House (1981) and Cohen and Wills (1985) social support operates through two different mechanisms, producing one or both of two possible effects. These effects are referred to as the Main/Direct Effect of Social Support and the Moderating Effect of Social Support. See Figure 9 below.

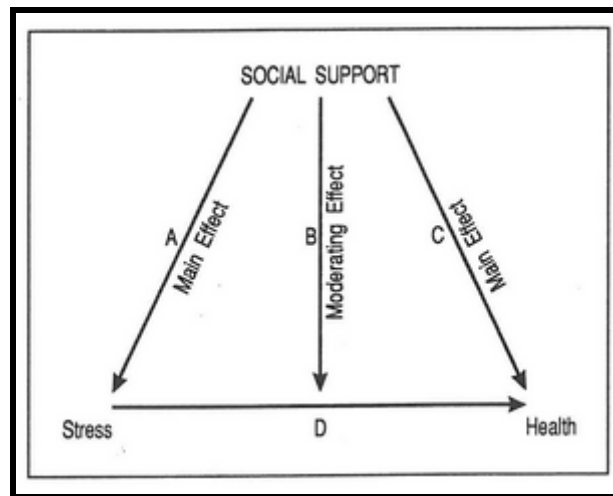


Figure 9 *The effects of social support (Adapted from House, 1981).*

Stress buffering occurs when social support protects individuals from the deleterious effects of stress. Evidence for buffering is considered to exist when the link between life/work stress and poor mental health is weaker for people with high social support and stronger for people with low social support. A key idea of the stress buffering hypothesis is that in the absence of stress social support is not linked to mental health. However, as mentioned there is considerable evidence of social support being linked to better mental health for those who have high perceived support versus low perceived support in the absence of stress, and in this regard social support is considered to have a main effect on wellbeing irrespective of stress or regardless of stress levels (Lakey & Orehek, 2011). More specifically:

4.4.1 The main effect of social support

The main effect of social support on stress and health is one that is said to occur because the regular social interaction implied by ‘social support’ could provide the individual with regular positive experiences and a set of stable, socially rewarding roles in the community (Cohen & Wills, 1985). Such regular, positive social interaction inspires confidence in individuals that others will meet their needs for support in the event of their being confronted with stressful events (Sarason, Pierce & Sarason, 1990).

It is proposed that main effects operate by changing the amount of stress that an individual perceives in a situation (therefore, having an indirect effect on wellbeing), or by directly affecting health (McIntosh, 1991).

Thus, in the event of the occurrence of a stressful event, social support can prevent or attenuate a stress appraisal response. The perception others can and will provide necessary resources to the individual experiencing the stressor/s may redefine the potential for harm posed by a situation and/or boost one's perceived capability to cope with the demands (Arrow A). Consequently, this may prevent the stressor situation/s from being appraised of as highly stressful or the perception of threat could be completely circumvented (Cohen & Wills, 1985; Cox & Mackay, 1981; Lazarus & Folkman, 1984). This main effect could thus, in turn, have an *indirect* positive effect on health (Arrow D).

In the absence of a stressful event social support can have a *direct* effect on health (Arrow C). This direct effect may occur because social support can meet important needs of the individual for security, social contact, approval, belonging and affection (Cohen & Wills, 1985, House, 1981). With regard to social support's direct effect on health in the work environment, support provided by supervisors and co-workers could satisfy work-related motivations for affiliation, approval and accurate appraisal of the self and the environment, generally leaving workers more satisfied with themselves and their jobs (Caplan et al., 1975; Cohen & Wills, 1985; House, 1981)

4.4.2 The moderating effect of social support

When social support acts as a stress moderator (Arrow E), it can operate in two different ways. It can result in either the secondary appraisal of the event/s appraised of as stressful initially or it could intervene between the experience of stress appraisal and the onset of symptomology by “providing a solution to the problem, reducing its perceived importance, by tranquillising the neuro-endocrine system so that people are less reactive to stress and/or by facilitating healthful behaviours” (Cohen & Wills, 1985, p. 313). Thus, the moderating effect may operate by a process of secondary appraisal, by interrupting damaging psychological and/or physiological perceptions of or responses to stressors, or by enhancing health-producing or inhibiting health-threatening behavioural responses to perceived stressors (House, 1981; Macintosh, 1991).

4.5 SOCIAL SUPPORT AND SOCIAL CAPITAL

The study of social support also accounts for the social capital contained within individual's social network (Bourdieu, 1972). It examines the type of supportive interactions offered by a variety of sources within this network and the protective effects that these interactions may have. Research clearly indicates that those with supportive social networks enjoy better health than those with unsupportive networks (Berkman, Glass, Brisette & Seeman, 2000) and that these protective effects occur because support can enhance individuals' resilience in the event of the stress experienced. Even in the absence of the stress experience, social support networks can have salutogenic effects. Lakey and Orehek (2011) refer to the network as containing "those providers which are nested within the recipient" (pg. 487). In this regard they note that each recipient has different important providers nested within their network and that it is important to assess the efficacy of the support provision of each of these providers in terms of what they actually enact whilst nested in the network.

4.6 PERCEIVED VERSUS ENACTED SUPPORT

However, there are a variety of distinctions that need to be elaborated upon with regard to the utilisation of this capital, as contained within the network. According to Cropley and Steptoe (2005), Kitamura and colleagues (2002) and Barrera (1986) one must distinguish between *perceived versus enacted social support and/or potential support versus actual support*. Actual support is that which has actually been received, that which is enacted; while potential support refers to that which is perceived to exist but may not as yet have been enacted and utilised.

Perceived support refers to the extent to which an individual believes that there are others available from whom they can access support when and if they need it. Thus, the potential for social support exists within one's social network but may not be currently utilised. Barrera (1986) notes that perceived support is predictive of coping effectiveness and psychological and physical wellbeing as the individual knows that in the event of stress, assistive resources are available. Perceived or potential support can consequently have a main effect on stress perception in that the individual by knowing that he or she has access to support resources may perceive he or she has the ability to cope and therefore, at the stage of primary appraisal a stressor event may be perceived to pose less of a threat.

Actual or received support would occur when one mobilises one's network and utilises the support available in the event of the actual stress being experienced. In this way actual or received support can either reduce the potential for harm initially perceived, in terms of secondary appraisal or it may moderate the relationship between stress already appraised and the stress outcome.

In this regard, according to Lakey and Orehek (2011) social support's effects, particularly the stress buffering effect, is an extension of the general health and coping theory of Lazarus (1966) and Lazarus and Folkman (1994) and Lakey and colleagues (2001) summarise this process in six succinct statements, namely:

- (1) That life events are stressful to the extent that they are perceived to be so by those exposed to them (primary appraisal) and to the extent that those exposed perceive that they do not have adequate resources to deal with these events (secondary appraisal);
- (2) That perceived stressful events increase the risk for poor mental health depending on the extent to which such individuals are able to cope, with coping involving a range of deliberate thoughts and actions such as problem solving, reappraisal, avoidance and/or support seeking;
- (3) That social support is a relatively stable resource that enables appraisal and/or reappraisal of stressful events, thereby facilitating coping;
- (4) That social support consists of what support providers (e.g. family and friends) say to and do for the person experiencing stress (the recipient) regarding the stressful situation (referred to as enacted support);
- (5) That social support consists of the recipients perception that quality support that is available (perceived support) and can be enacted and
- (6) That perceived support is based on the history that one has received quality enacted support in the past (Lakey & Orehek, 2011).

4.7 PRO-SOCIAL AND ANTISOCIAL SUPPORT

Monnier and colleagues (1998) in their discussion of social support as a coping mechanism also distinguish between *pro-social* and *antisocial* social support utilisation. Within their Dual-Axis Model of Coping they propose that social support utilisation can occur on both an active/passive and pro-social/antisocial dimension (See Figure 10 below).

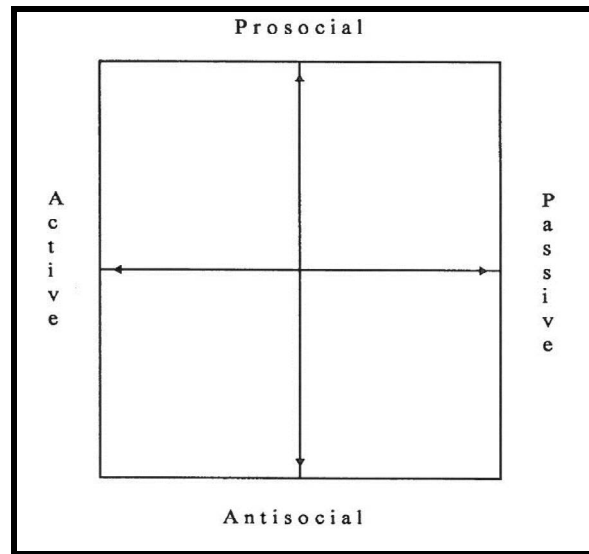


Figure 10

The Dual Axis Model of Coping adapted (Taken from Monnier, Stone, Hobfoll & Johnson, 1998).

This model defines the way in which coping behaviours are utilised for the reduction of strain in the event of stressors, by proposing that one can engage in active, problem-focused coping or passive, emotion-focused coping and that this active–passive dimension can occur in conjunction with pro-social or antisocial forms of social support mobilisation and utilisation.

Pro-social support utilisation is conceptualised as the positive use of social support resources. It is believed to bolster one’s network, build interpersonal relationships, and increase the availability of future potential support. Antisocial support utilisation occurs when one depletes or exhausts the resources available in one’s network to such an extent that one decreases or even eliminates the possibility of future potential support. Monnier et al. (1998), note that those that engage in antisocial support utilisation tend to alienate their supporters, to the point that their supporters disengage and withdraw from assisting the distressed individual while those that engage in pro-social support tend to preserve their relationships with supporters.

While the distinction between pro-social and antisocial social support may be useful in that it can serve to explain why some have “more sensitive emotional support” networks and more abundant networks than others (Burlson, 2003, p. 2); the extent to which one has more sensitive and abundant networks and the extent to which one is able to engage in pro-social coping may be a

function of early life experiences and gender (Kitamura et al., 2002). According to Blain, Thompson and Wiffen (1993) those who engage in pro-social support are more likely to have positive models of the self and others (secure attachment) as opposed to those who engage in antisocial support who are more likely to have negative models of the self and others (insecure attachment).

This degree of attachment derives from early life events and parental rearing and tends to shape one's personality, one's sense of self and one's sense of caring, as derived from others throughout one's life. In such a way perception of social support is not simply "an exogenous factor but it is an interpersonally stable [trait] derived from early childhood experience" (Kitamura et al., 2002, p. 170). Kitamura and colleagues (2002) also note that there is a degree of 'within gender' and 'between gender' specificity with regard to pro-social and antisocial support utilisation. In this regard they note that varied support effects have been reported with women who are high on extraversion and low on neuroticism. Such women report a greater number of supportive individuals in their network that they engage with pro-socially, as opposed to women low on extraversion and high on neuroticism. Kitamura and colleagues (2002) further report, that with regard to men, if they have experienced maternal childrearing that is high on caring while low on over-protectiveness this too seems to correlate with pro-social support utilisation in later life as opposed to anti-social support utilisation. In fact, Kitamura et al. (2002) note numerous early childhood experiences such as the extent to which young children are harshly disciplined, early life events, such as negative school experiences, e.g. being bullied, chronic or severe acute illness as a young child and disrupted family relationships, e.g. being fostered or orphaned, all of which can impact upon the extent to which an individual engages in and is able to establish pro-social or antisocial networks as he or she moves into adulthood. While the literature is not extensive on these relationships there is some suggestion that there are correlates between gender, early socialisation experiences, personality and pro-social and antisocial support utilisation in adulthood (Flaherty & Richman, 1989; Parker, 1983; Parker, Tupling & Brown, 1979; Pettit, Harrist, Bates & Dodge, 1991).

4.8 SOCIAL SUPPORT AND RELATIONAL REGULATION THEORY (RRT)

According to Lakey and colleagues (Barry, Lakey & Orehek, 2007; Lakey & Orehek, 2011; Lakey, Orehek, Hain & Van Vleet, 2010; Lakey and Scoboria, 2005), the effects of social support, that is, main or buffering effects, the distinction between enacted and perceived support, and whether social support is pro-social or antisocial can be explained in the context of Relational Regulation Theory (RRT). In this regard recipients of support regulate their affect, emotion and thought primarily through social interaction. Individuals thus *need* ongoing personal relationships to maintain their personal wellbeing and the link between perceived support and mental health reflects as a result of actual social interaction (enacted support) or thoughts about providers in one's interactional network who will help if needed (perceived support) (Lakey and Orehek, 2011). Lakey and colleagues (2007; 2010; 2011) also note that the provider who effectively regulates a specific recipient, that is, provides support that is pro-social and indeed effective, is a matter of 'personal taste'. Thus, the effective support provided by one provider to one individual may be ineffective when provided to another recipient. Phrased differently, a recipient may find one provider is less or more effective in terms of the support he or she provides as compared to another provider.

Based on this consideration, the present study sought to assess support from a number of sources for each respondent in the study, in order to determine which were best suited to buffer or have main effects on wellbeing in the event of exposure to work stress. However, Lakey and colleagues (2007; 2010; 2011) argue that such an approach within the context of a large quantitatively analysed sample is nomothetic in that it assumes that the correlation between social support and wellbeing can be assessed by objectively describing supportive actions for normatively defined stressful events (Lakey & Orehek, 2011). Instead Lakey et al. (2011) argue for a more ideographic approach in which researchers "map each recipient's profile of reactions across providers" (p.486). Such mapping, however, fell beyond the scope of the present study and further could not be examined within the context of the study's design and remains to be explored by future researchers that are focussing more specifically on the relational regulation provided by those providers 'nested' within individual recipients' networks.

Furthermore, in relation to RRT Lakey et al. (2007; 2010; 2011) note that relational regulation occurs primarily in ordinary yet affectively consequential social interaction. By this they mean that social interaction and the social support contained within such interaction can occur in the context of average day-to-day activities and not just in times of stress. In the former instance it would account for social support's main effect in the absence of stress and in the latter it would account for social support's buffering effect in times of stress, that is, when individual recipients engage in "trouble-talk" with providers regarding how to deal with a stressful matter (p.487).

Lakey and colleagues (2007; 2010; 2011) also note that day-to-day activities include aspects of life that are routine, that is "the non-stressful events of typical day" and can include discussion of positive events which enable one to enhance and build up their social support networks, referred to as 'capitalisation support' by Gable, Gonzaga and Strachman (2006). This type of interaction thus describes patterns of long-term engagement with significant others and serves to ensure that recipients 'know' that they have resources that they can call on in times of stress. This would manifest as perceived support and would lead to generalised feelings of wellbeing in the event of no stress being experienced and would therefore be considered to be a main effect. Only when stress is experienced and the interactions may consist of 'trouble talk' would support be enacted and to the extent that these interactions are positive so would the enacted support evidenced in buffering be effective. In this way perceived and/or enacted support may serve to 'tranquillise the neuro-endocrine system' by providing less negative appraisal or reappraisal that reduces the import of the stressor as described by Cohen and Wills (1985) above.

A further point of import with regard to RRT and mechanisms of social support are described by Lakey and colleagues (2007; 2010; 2011) in terms of the 'recall' of cognitive representations of relationships that recipients have in relation to providers nested in their network. Thus, to the extent that recipients recall their interactions with significant others, that is, providers to be positive so will they perceive themselves to have affectively positive networks of support. Thus, one's 'history' with providers in terms of what they have offered in the past in the way of supportive interactions does effect one's current perceptions of how supportive they would be in the present. Alternatively expressed, previous enacted support does effect current perceptions of perceived support.

Lahey et al. (2007; 2010; 2011) also note that recipients have personal tastes regarding the way in which their providers interact with them in times of their needing help to deal with stress. If the way in which a provider talks, thinks, feels and acts in response to the recipient does not ‘match’ the way in which the recipient would like the provider to talk, think feel and act, so then will the interaction not be positive. Alternatively, if the way the provider talks, thinks, feels and acts in response to the recipient does match then the interaction will be positive. Thus, if for example if a recipient wants ‘tea and sympathy’ and instead gets given cold rational advice this may lead to the experience of a negative interaction and thereby no positive effects on mental health in the event of stress, being experienced.

4.9 CONCLUSION:

As can be seen from the above review of the literature, there has been a tremendous amount of research conducted across a broad range of settings that have provided evidence that social support can indeed have a positive effect on both men’s and women’s health and wellbeing. Furthermore, those endowed with more support in terms of both the quantity and quality have been shown to be more resilient and better able to preserve psychological and physiological health in both the absence or presence of stressful situations (Hobfoll et al., 1990). Quantity refers to the number of providers of support in the individual’s network and the ‘amount’ they are prepared to offer in terms of time invested while quality refers to the extent to which the receiver perceives the support to be of value. However, as previously discussed there are some distinctions to be made in terms of how networks are mobilised and utilised, that is, in terms of pro-social or antisocial engagement, whether the support is perceived or enacted and the relational aspects that exist between providers and recipients and how well matched the two are in the provider-receiver dyad in terms of thoughts, feelings and actions.

Thus, while research findings such as those described above generally provide a strong case for the positive moderating and main effects of social support within particular stress-strain relationships, they do not comprise the full research picture. That is, not all of the findings in social support research have been consistent. Some studies have shown only main effects, others have shown only moderating effects (see Eaton, 1978; Gore, 1978; La Rocco & Jones, 1978;

Sandler, 1980; Wilcox, 1981) while others still, have illustrated neither of these two effects (see Andrews, Tennant, Hewson & Vaillant, 1978; Gad & Johnson, 1980; Lin, Ensel, Simeone & Kuo, 1979). In fact, in certain situations such as those of mismatch described by Lakey et al. (2007; 2010; 2011), social support can have the reverse effect, in that it is perceived in a negative way, exacerbating stress-strain relationships (Bolger, DeLongis, Kessler & Wethington, 1989; Croezen, Haveman-Nies, Picavet, Smid, de Groot, van Veer & Verschuren, 2010; Crockett. & Neff, 2012; Goldstein, 1980; Kappes & Shrout, 2011; Kaufmann & Beehr, 1989; Marcelissen et al., 1988; Shrout, Herman & Bolger, 2006; Winnubst et al., 1982). In addition studies have shown differential effects for men and women regarding social support. While women generally mobilise and utilise support more often, act more often as support providers, have larger support networks and prefer different types and sources of support as compared to men, *not all women and not all men follow these same behavioural patterns* (Burleson, 2003; Day & Livingstone, 2003; Kitamura et al., 2002; Monnier et al., 1998; Neff & Karney, 2005; Reevy & Maslach, 2001; Schwarzer & Gutierrez-Dona, 2005).

This inconsistency in the support literature, particularly as it pertains to the sexes, is similar to the inconsistencies reported in the stress and sex literature. As the review of the literature on Sex, Gender, Work Stress and Wellbeing in Chapter 3 demonstrated, stress does have a negative impact upon wellbeing and there is a difference in terms of the way in which the sexes perceive and cope with stress and the impact that stress has on their health outcomes. Women and men do generally perceive stress in a way that is idiosyncratic to or characteristic of their sex, and although this may be explained both in terms of differential vulnerability and/or differential exposure, as mentioned, *not all men and not all women adhere to the same or similar patterns of stress perception and responses to such stress*.

Consequently, due to these inconsistencies between the sexes regarding stress and social support; the following Chapter aims to offer an account as to why such findings are not always consistent and how this lack of consistency can be addressed.

CHAPTER 5: EXPLORING SEX, GENDER AND WELLBEING - TOWARD A BROADER CONCEPTUALISATION OF GENDER

5.1 INTRODUCTION

As discussed in Chapters 3 and 4, the research findings on stress, sex and gender, social support and wellbeing has yielded an inconsistent set of findings. It has been suggested that the lack of consistency or uniformity of these findings may be due to the way in which gender is conceptualised. In this regard, a common denominator in all the previously described studies on gender, sex and stress and gender, sex and social support is that within all of these studies gender is always dichotomously and biologically defined (Woodhill & Samuels, 2003; 2004).

5.2 SEX VERSUS GENDER

According to Phillips (2005) in order to better understand women's health and wellbeing and the sex-related factors that influence wellbeing one *must* distinguish between sex and gender, that is, between sex, as biologically defined and gender as a social construction. In making this distinction it becomes clear that while sex can be dichotomously defined, the range of behaviours that fall under the general rubric of gender are far more diverse and complex. Yet Borna and White (2003) note that there is still tremendous confusion surrounding these two concepts or a lack of clarity with regard to the way the two concepts are described and discussed. In terms of terminology, sex and gender are often used interchangeably with such interchangeable usage tending to blur or "cast a shadow" over research findings in the research area on women's health (Borna & White, 2003, p. 1).

Phillips (2005) provides a useful example for the distinction between sex and gender by noting that being able to bear a child is fundamentally a biological function while expectations about the imperative to bear children, prescriptions regarding parenting behaviour and the status and demands associated with being a mother are more closely linked to societally imposed gender roles and expectations. In this regard "the usefulness of distinguishing between sex and gender....has begun to percolate into the language of prevention, etiology and causation," and is crucial when examining the impact of sex and gender on women's wellbeing" (Phillips, 2005, p. 4).

Borna and White (2003) note that with regard to 'Sex', the term refers to the biological division of individuals into male or female groups. Sex denotes the biological context and refers to the anatomical and physiological differences between male and female and the implication of these differences in procreation (Best & Williams, 1997). Sex is the relatively unchanging biology of being male or female. It refers to the biological characteristics of one's genetic make-up, hormone profile and the external manifestations of specific sex organs; such characteristics and manifestations being consistently labelled across societies (Phillips, 2005).

Gender, is also used to distinguish the male and female members of the human species but with the emphasis upon social rather than upon biological factors (Best & Williams, 1997). Gender is regarded to be culturally and socially constructed. It is a schema for the social categorisation of individuals, that is, society's expectations of culturally appropriate (stereotypic) traits for each biological 'sex'. It refers to the roles and expectations attributed to men and women in a given society and these roles and expectations may be subject to change over time, place and life stage. Gender also refers to culturally or socially defined rights and privileges of males and females (Ridgeway, 2001). Gender roles are assumed through the process of socialisation whereby society assigns certain attitudes, behaviours, rights, and responsibilities which they associate with each sex to the specific sex in question (Agrawal & Singh, 2007; Holt & Ellis, 1998).

Gender can be further understood through an examination of gender or sex role identity. While gender or sex roles refer to the behaviour, attitudes, values and beliefs that a particular culture considers normative for one's biological sex (Sasso, 2010); sex role identity refers to the individual's understanding and acceptance of society's expectations with regard to gender-specific roles and the extent to which the individual adopts and endorses these traits. Sex role identity is the way in which the individual processes societal messages about sex roles and the degree to which the individual does or does not integrate this information with other aspects of his/her identity (Garnet & Pleck, 1979; Sasso, 2010).

Bem (1993) describes gender as a lens through which we view our world. She suggested that many of the choices we make about our own behaviour are, to varying degrees, guided by the socio-cultural expectations for our sex (Bem, 1993). Thus, while sex is a stable feature of an individual, gender is more a result of cultural experience (Burr, 1995). Furthermore, "gender is a

social construct that is culturally and historically specific [and is thus] constantly changing” (Johnson, Greaves & Repta, 2007, p.5).

In this regard, cross-culturally there are substantial variations in the roles considered appropriate for each sex. Consequently, roles must be defined in terms of place and time as roles may vary depending on the particular socioeconomic, political and cultural context and the extent to which women have access to equal rights, resources and opportunities as compared to men (Amaratunga, Bentley & Gahagan, 2002; Best & Williams, 1997).

However, although research has noted that there are cross-cultural variations in roles considered appropriate for each gender, more often than not the roles assigned to women are those that are *less valued* than those assigned to men, and furthermore, women bear the burden of having more roles assigned to them. Thus from a health perspective the deleterious impact of social constraints seems to burden women disproportionately (Phillips 2005). Social factors such as women’s lesser access to power and resources as compared to men, in both in family and work spheres, and women’s double burden of work and family roles all serve to impact upon women’s health and wellbeing. Some have gone so far as to argue that to the extent that society dichotomises sex roles so does this perpetuate patriarchal systems; sustaining male hegemony and the entrenchment of sexist attitudes and practices that ultimately perpetrate male dominance and devalue traditional female roles (Albertyn, 2003; 2007; Chodorow, 1978; Dinnerstein, 1976; Sasso, 2010). In this regard Bem (1981) refers to society’s “ubiquitous insistence on gender polarisation” while Davies (1989) refers to the “incurability” of male-female dualism (as cited in Warin 2000, pg. 209).

However, some theorists note that in spite of the necessity of making a distinction between sex and gender one cannot ignore the fact that there is an interaction between the two. Health is composite of biological makeup and socio-cultural and socio-economic circumstances and while one must be cognisant of the different meanings of sex and gender one also must take into account the extent to which biology and socio-economic and socio-cultural demands interact in order to determine the health status of males and females (Phillips, 2005). Although gender is a social rather than a biological construct, its prescription of roles, norms and values are based on the anatomical sex of one’s birth (Phillips, 2005). Thus, sex and gender do interact in that if one is

classified as being a woman (referring to one's biological sex) by one's culture, automatically, the cultural expectations are for the individual to behave as a female (referring to one's gender). In fact Butler (1990) argues that as much as gender is considered to be a social construction, sex as biology in the same way is a construction due to the prescribed expectations that societies attach to one's biological sex. In this regard, McCreary, Newcomb and Sadava (1998) note that while biological sex does not totally determine gender; gender is not entirely independent of biological sex. Furthermore, they note that, in terms of societal constraints which specify what is stereotypically appropriate for a specific biological type, males and females are 'aware' of these stereotypic sex role components for their biological sex.

This dichotomising of roles and expectations on the basis of biology reinforces the need to keep the terms of sex and gender separate, as it allows writers to acknowledge that while men and women are biologically distinct (denoting sex), the actual experience of being a man or being a woman may vary from man to man and from woman to woman due to the social and cultural significance attributed to that sex (denoting gender) (West & Zimmerman, 1998). Similarly Burr (1998) suggests that one should acknowledge that although there may be biological mechanisms that determine our psychological makeup and behaviour, these are likely to interact in complex ways with psychological and socio-cultural factors.

The real difference between biological males and females (that is, sex) lies in the extent to which they are prepared to endorse the prescribed socio-cultural stereotypical roles, expectations, rights and privileges (or lack thereof), into their self-concepts or sex role identity. To the extent that men and women do or do not endorse what societal and cultural expectations demand so will this determine whether or not they display those traits that are *only* characteristic to their stereotypic sex or those that are characteristic of the opposite sex too, that is, those that are *retrotypic* for their biological sex. In turn, this range of endorsement will have implications for their health and wellbeing (Norlander, Erixon & Archer, 2000). However, before discussing the extent to which individuals endorse stereotypical or retrotypical traits into the self-concept one needs to examine where this process of sex-typing and gender role or sex role identity begins, that is, the development of gender.

5.3 THEORETICAL EXPLANATIONS FOR THE DEVELOPMENT OF GENDER

The emotional, sexual and psychological stereotyping begin the minute the doctors says "It's a girl". Shirley Chisolm

This dichotomising of gender roles promoted to varying degrees within individual cultures begins a process of acculturation which is instilled and crystallised into the individual from birth onwards and into early adulthood. According to this approach, children from as early as three years of age begin to internalise a normative set of standards, through the socialisation process which designated their sex role identity (Schneider, 2005). A number of psychological theories have been put forward to explain the development of sex role identity, namely, cognitive development theories, social learning theories, psychoanalytic theory and gender schema theory.

5.3.1 Cognitive development and psychoanalytic theories

One of the earliest and most influential theories of gender development was that of cognitive gender role development proposed by Kohlberg (1966). According to Kohlberg's Cognitive Development Theory, the establishment of sex role identity begins in the early formative years of a child. Kohlberg's theory was built on the ideas of Jean Piaget's (1952) theory, and noted that constancy with regard to notions of gender occurs around the age of seven years in alignment with the classic principles of conservation as described by Piaget (1952). Kohlberg (1966) noted that cognitive development of an understanding with regard to gender was a protracted process that occurred through three sequential stages, that is, the basic labelling of the self and others as male or female (gender identification); the understanding that gender (or rather biological sex) is stable across time with boys becoming men and girls becoming women (gender stability) and the understanding that gender remains constant despite apparent changes such as changes in clothing, hairstyle etc. (gender constancy) (Fraleigh, 1997).

In alignment with Kohlberg (1966) Trautner, Ruble, Cyphers, Kirsten, Behrendt and Hartmann (2003) propose that the early learning of gender categories and associated stereotypical gender attributes takes place during three ordered developmental phases. During the toddler and preschool years the child first begins to understand and learn about gender-related characteristics,

this occurring once they understand which category they belong to. Thereafter, the child consolidates this information into rigid constellations of gender characteristics that belong to each of the genders only. Martin and Ruble (2004) refer to this assignment as being done in a rigid either-or fashion and note that this phase begins to crystallise between five to seven years of age. After this period of rigidity, there may be some degree of fluidity as children begin to realize that specific characteristics do not necessarily belong to one gender only in such a rigid all-or-none fashion.

According to cognitive development theories as soon as children are able to talk, they have in place perceptual categories that enable them to distinguish between male and female (Martin, Ruble & Szkrybalo, 2002). At this point in time they thus gain awareness as to which category they belong to (Martin & Ruble, 2004). Through language they learn what gender they belong to and they are also able to ascertain, by virtue of their anatomy and the meaning accorded to their anatomy, what gender they are assigned to.

Psychoanalytic theories also offer some explanation as to this recognition and gender orientation. According to Freud (1933), girls and boys follow separate and distinct paths towards the attainment of their gender identity, though both need to negotiate the Oedipal crisis which occurs in the phallic stage (ages 3 – 5/6 years) (Schneider, 2005). During this stage boys identify with the father out of a defensive need to separate from the mother while girls identify with the mother, at the same time simultaneously shifting sexual desires to the father (Tyson & Tyson, 1990). Furthermore, through this stage, as girls and boys become cognitively aware of their sex category, they discriminate amongst the different characteristics which belong to the two categories and determine which characteristics are appropriate to their own category. In this regard Martin and Ruble (2004) note that children play an active role in their own gender identification by searching for gender cues that enable them to interpret the world around them. Such cues serve as a guide in terms of their understanding as to what behaviours they should or should not be displaying, that is, what behaviours are deemed to be socially appropriate or inappropriate.

At this level of understanding of gender, young children use the knowledge they have obtained from their cognitive processes. They realise that a persons' sex is stable and hence adopt the

characteristics belonging to the category which they have identified with (Weinraub, Clemens, Stockloff, Ethridge, Gracely & Myers, 1984). Therefore, if the child classifies herself as belonging to the category of female, then the qualities associated with being female are identified and are viewed as being distinct to being female and, as an end result, those characteristics are adopted. Similarly, if a child classifies himself as belonging to the category of male, the qualities associated with this category are identified, endorsed and adopted. It is also noted that as soon as the child recognises that there are two genders and that he/she belongs to one of them there are immediate consequences for the child's behaviour, namely, evaluative consequences, motivational consequences and informational consequences (Martin & Ruble, 2004).

With regard to evaluative consequences, Ruble, Martin, and Berenbaum, (2006) suggest that children immediately show a preference for their own sex and seek to identify the behavioural cues that belong to their sex and to enact these wherever possible. This is particularly evident in the play of young children who not only enact the behaviours exhibited by the same-sex significant others in their immediate environment but is also evident in the preference that children show to play with other same-sexed children (Macoby, 1998). This behaviour is more evident to the extent that the differences between the two gender groups are more salient, that is, when these differences are made functionally significant by authority figures in the child's life (Bigler, Jones & Lobliner, 1997).

With regard to motivational and informational consequences, the child is encouraged to actively seek out cues about the appropriate behaviour for his or her own sex and to enact these. Furthermore, the child will begin to make general assumptions about others belonging to a particular sex, based on the stereotypical constellation of behaviours that he or she has gathered and that he or she believes belongs to that sex only. By the age of five years children have, in fact, developed a significant constellation of stereotyped gender behaviours that they apply to themselves and use to guide their own behaviour, to direct their attention and to formulate and organise their memories. They also apply this information and use it to form impressions of others (Martin & Ruble, 2004). The motivation to do this is encouraged by the reinforcement they get from significant others for behaving in a socially appropriate and (usually) stereotypical fashion.

As noted, in the final developmental stage of gender identity formulation, after the period of rigidity that occurs around the age of 5 to 7 years, there may be some degree of fluidity as children may begin to realise that specific characteristics do not necessarily belong to one gender in a unitary all-or-none fashion. The extent to which sex roles remain rigidly or more fluidly defined and assigned will depend on the salience accorded to the differentiation between the genders by significant other authority figures during the child's life and by the culture, era and times within which the child undergoes his or her development. Martin and Ruble (2004, p. 68) note that these variations or "waxing and waning" of rigid gender stereotyping is due to varying influences of socialisation, biological and cognitive developmental features.

5.3.2 Social learning theories

Aligned to some degree is the social-constructionist perspective (Mead, 1935; Eagly & Wood, 1999) which proposes that unlike sex, gender is culturally and socially constructed (Brannon, 2005). This theory suggests that sex-role traits are not innate, biological traits but rather are socially inculcated and adopted by the individual as a function of social and cultural external influences. Early research conducted by Mead (1935) on a variety of island cultures provided the foundation for this theoretical approach of the development of sex role identity. Mead (1935) studied three cultures, the Arapesh, the Mundagamor and the Tchambuli. She observed that amongst the Arapesh both sexes adopted the typically feminine traits of expressiveness, passivity and cooperativeness. Amongst the Mundagamor both sexes adopted typically masculine qualities whilst amongst the Tchambuli, the inverse of traditional roles was observed with males displaying more expressive traits while females displayed traits that were more instrumental. The adoption of these variations in sex-typed traits were a function of the societal roles designated to the sexes within these societies, suggesting that behaviours are not biologically based but rather may be a function of the socio cultural context within which one is raised. Recent research also argues that culture determines what roles are more or less acceptable for the sexes to display (Sugihara & Katsurada, 2002). Sugihara and Katsurada, (2002), specifically noted that although gender-role similarities have been found cross-culturally, differences do occur, nuanced by the specific culture that the developing individual is exposed to.

Social learning theories of gender role development emphasise the importance of modelling, imitation and vicarious learning and bare some alignment to children's search for social gender cues and their adoption thereof. The social learning theories propose that humans acquire their sex-role behaviour from their social environment, through the processes of reinforcement and modelling. Bandura's (1982) social learning theory posits that behaviour is learnt observationally from significant others who surround the child and 'model' certain behaviours. Female children are said to identify with their mothers as they are of the same sex while male children are said to identify with their fathers (Osofsky & Osofsky, 1972).

Therefore, children learn gendered behaviours and attitudes vicariously, by observing the behaviour which their same-sex parent portrays and thereafter imitating this behaviour. To the extent that the same-sex parent portrays gender stereotypical behaviours so will the child imitate these behaviours and consolidate them into his or her behavioural repertoire. However, the models which provide the expectation of how men and women should act do not necessarily need to be significant others in the child's life. Persons within media such as television, advertisements, films, and literature also serve as role models through which children learn gender appropriate behaviours (Hergenbahn, 1994; Prinsloo, 1992). Social learning theories also emphasize the explicit rewards and punishment that children receive for behaving in specifically gendered ways. Conformity to the gender appropriate roles encourages social approval and reward, while deviations are discouraged and reprimanded by parental and authority figures (Schneider, 2005). In this way the child is motivated to display those behaviours that bring about reward and discouraged to display those behaviours that bring about punishment.

According to Social Role Theory (Eagly, 1987 as cited in Fischer & Manstead, 2000), children also imbibe from role models the culture's sex-specific division of labour. Thus children learn that there are types of work associated with each sex, with domestic work being women's work and that certain professions are preferred for males whilst others are preferred for females. Razumnikova (2005, p.21) notes that "in spite of proclaimed equal opportunities for men and women, when it comes to acquiring a profession, stereotypical notions about men's or women's specialties, as they have been formed historically, still hold sway amongst a substantial portion of the population". Thus the typical masculine image of the 1960s in which men held senior

positions within specific professions such as commerce, law, management, science, technology, medicine and engineering while women were relegated to lower-order caring professions, such as teaching or nursing, still prevails (Razumnikova, 2005).

Gender stereotypes thus clearly influence perceptions of status. Status beliefs are defined as cultural beliefs that attribute greater social significance and competence to one group (that is males) compared to the *other* group (that is females) (Carli, 2001; Carli & Eagly, 2001; Eagly, 1987; Ridgeway, 2001). Stereotypical status beliefs that define male's and female's appropriate roles and behaviours have served for long periods of time to separate the sexes in all spheres of life by portraying males as more valued and more dominant and competent (Ridgeway, 2001). As gender and our experience of it is always linked to the social world it is also "intimately connected to social and economic status where maleness is almost universally preferred over femaleness" (Johnson et al., 2007, p. 5). The valuation of males over females is a stable form of structured inequality that dominates and prescribes gender roles and dictates the behaviours that men and women enact in terms of interests, role expectations and division of labour (Ettiore, 2004). These divisions are reinforced by practices and rules that affect gender identity at every level, that is, at the individual level, at an interpersonal or group level and at an institutional level within the social realm (Ettiore, 2004).

While in some cultures these divisions are sharply delineated, allowing or disallowing women and men from certain tasks, jobs, opportunities or spaces, in other cultures there is more egalitarianism and the lines between the sexes are a little more blurred (Johnson et al., 2007). However, whether or not there is more or less latitude between the sexes regarding sex roles, there is always *some degree* of differentiation with women being the sex that is cast in the lesser roles in terms of status and burdened with greater demands in terms of dealing with work and family domains. This division of the sexes manifests in the form of sex-typing and leads to the entrenchment of gender stereotypes with regard to what men and women can or cannot do or should or should not do in terms of "doing gender" (Prentice & Carranza, 2002; West & Zimmerman, 1998).

5.4 DOING GENDER: THE PROCESS OF SEX STEREOTYPING

This process of socialisation in terms of sex roles, which is based on biological sex, within both family or home and work spheres, has generally been referred to as sex-typing (Park, 1997). Sex-typing ultimately impacts on an individual's psychological development because it is through this process that the individual forms 'mental templates' of what he or she considers to be masculine or feminine. Highly sex-typed individuals have internalised society's standards and definitions of being male or female and hence act and process information accordingly. Thus the end result of sex-typing can be seen as the formation of an individual's psychological sex in itself, which is more commonly referred to as a person's sex role identity.

However, the sex role identity approach specifically argues, in accordance with the social-constructionist perspective, that there are other factors that influence the socialisation process, and these include culture, education, resources, attitudes and ethnic differences; thus factors other than biology (Park, 1996; 1997). This implies that while some people may assume roles through the sex-typing process, others may go through the same process but this process may be socially influenced to a lesser or greater extent by these aforementioned factors. As previously mentioned, the sex role identity approach does acknowledge that, to a great degree, one's biological sex does influence the type of roles that the person may come to assume later on in their life. For instance, if an individual is biologically male, society then teaches this individual throughout all of their developmental stages to learn and master roles and appropriate behaviours that are associated with males. However, this approach also asserts that, in addition to biology, people can assume retrotypic roles depending on what their culture teaches them, the level of education that they have and the amount of available resources they have to enable them to become anything else other than what their sex prescribes (Park, 1996).

Yet this process of sex-typing, acquired through the integrated process that encapsulates the progressional stages described in all the above mentioned development theories, by and large all seem to reinforce the biological stereotyping of gender traits. These theories which describe how girls and boys become sex-typed strongly delineate and polarize masculine and feminine characteristics, creating powerful stereotypes that continue to be reinforced throughout the individual's lifespan (Schneider, 2005; Steinberg, 1993). According to Connell (2000) these

stereotypes provide a form of security and predictability for individuals, guiding or rather prescribing their status and the appropriate relationship and career choices that they should make as they progress through adolescence into adulthood.

Park (1997) defines sex-role stereotypes as conceptions widely held by society that tend to associate certain sets of personality traits to one sex only, and notes that these stereotypes grant each sex-type specific skills and behaviour. Stereotypes are composed of diverse components, such as traits, role behaviours, occupations and physical appearance (Sczesny & Stahlberg, 2002). As previously discussed, they develop through the process of socialisation which is fundamentally set in motion at the basis of family life. They refer to the psychological traits and behaviours that are believed to occur with differential frequency in the two sex groups; for example, men are believed to be and expected to be more assertive and driven while women are believed to be and expected to be more emotional and expressive (Best & Williams, 1997). Thus, within the context of family life females are ‘taught’ to be nurturing, caring, emotional, sensitive, cooperative, intuitive, warm and passive while males, in opposition to this, are influenced to adopt traits of being independent, assertive, logical, objective, decisive and to take on leadership roles (Sasso, 2010).

Gender stereotypes are evident in all societies and can differ according to socio-economic and socio-cultural demands. However, within all societies to varying degrees, societal values and expectations still perpetuate gender role stereotypes in that they mandate males to be “masculine” and females to be “feminine” (Littrell & Nkomo, 2005). Masculinity, in most societies is associated with assertiveness, dominance, supremacy and control, while femininity is associated with nurturance, empathy, interpersonal orientation, expressiveness and emotional behaviour (Marsh & Byrne, 1991). There are many sources from which these mandatory ideas emanate, family being the one which is widely recognized as a fundamental source. This influence is pervasive until the early years of schooling when other sources of influence add to the construction of gender. During the early years of school the child’s network expands to include others outside of the confines of home and family, that is peers and educators (Razumnikova, 2005; Warin, 2000). A further source identified is that of the religious group to which one belongs in society. Simien (2005) identifies the church as a major influence in the socialisation of

individuals into gender roles. The church is in fact identified as a source of encouragement of gender inequality in society. The exclusion of women from clerical leadership and decision-making processes and the allocation of women to church activities such as child day-care and ‘cake and bake’ sales reinforces stereotypical gender roles (Simien, 2005). These beliefs and attitudes concerning the roles of males and females have been carried through generations of women and continue to exist in society today. With the course of time these beliefs have become so embedded in society’s manner of thinking that they are now widely accepted as templates with regard to how women and men should behave with little exception. These consistent ideas have produced the end result of stereotypical expectations from men and women. Men and women are considered to be possessing completely different attributes from one another and are stereotyped by what is socially expected of them as males or females. Males are expected to be masculine and females are expected to adhere to what has been labelled as feminine qualities (Sasso, 2010).

5.5 THE CONGRUENCY MODEL OF SEX ROLE DEVELOPMENT

All of the above theories and the gender stereotyping and sex-typing that these theories promulgate are aligned to the Congruency Model of Gender Role Development. According to this model, across all cultures, the distinctions between male and female in terms of gender roles represent basic organising principles (Moller-Leimkuhler et al., 2002). Though these distinctions may vary cross-culturally, the roles and behaviours assigned to adult males and females direct the socialisation of children throughout their development (Bem, 1981). This model proposes a purely traditionalist perspective in which a developing child should only choose “from the many possible dimensions of human behaviour those that [are] applicable for his or her own sex and thereby suitable for organisation into his or her self-concept” (Bem, 1976, p. 355). Bem (1981) suggests that the developing child thus becomes “highly [sex-typed and] adjusted to cultural definitions of sex-appropriate behaviour which are the standard” against which they must develop their self-concept or sense of identity (Bem, 1981, p. 354). This traditional perspective on sex role orientation thus holds that the successful identification of one’s sex role as consistent with one’s biological sex (i.e. males with masculinity and females with femininity) is a prerequisite for the achievement of mental health. To the extent that one adopts inconsistent roles, that is, those that are not socially prescribed and socially appropriate; so will this be to the detriment of future

wellbeing. Garnet and Pleck (1979) go so far as to claim that if the individual's traits, attitudes and interests are not congruent with his or her biological sex, then the individual's sex role identity is said to be inadequate, disturbed, or insecure.

Kohlberg (1966) specifically notes that children's movement through the prescribed stages of gender development, towards the achievement of gender constancy, that is, an understanding of the permanence of one's categorical sex; *must* motivate them to maintain behaviour consistent with their assigned sex role. Accordingly, Kohlberg (1966) endorsed the congruency model of sex role orientation, and asserted that children's maintenance of sex-typed behaviour predicted optimal psychological adjustment. Widely accepted as the developmental ideal, this congruency model of sex role orientation has served as a long-standing empirically-based theory of gender role behaviour. Its perspectives have dominated the psychological literature in the areas of cognitive development, social learning, and psychoanalysis by emphasising the importance of achieving a sex-typed behavioural and cognitive repertoire (Maccoby & Jacklin, 1974). This separation of the sexes was evidenced in the way in which masculinity and femininity has been traditionally measured, using bipolar continuums which noted that the more an individual aligns with the masculine continuum the less he can be the polar opposite, that is, feminine and vice versa (Marsh, 1987).

5.6 THE HISTORY OF MEASUREMENT APPROACHES OF SEX ROLE IDENTITY

5.6.1 Unifactorial theory: A bipolar approach

Prior to the 1970s, masculinity and femininity were conceived of and measured in terms of one unipolar, continuous dimension in which an individual could only be one or the other and not, in varying degrees, both. Based on the work of Terman and Miles (1936) a 'Unifactorial Theory' was proposed which assumed that masculinity and femininity existed on single bipolar continuum ranging from extreme masculinity on one end to extreme femininity on the other end. This view prevailed from the 1920s until the 1970s and was measured by instruments that assessed M-F, that is, instruments that contained items that distinguished between behaviours that were either more stereotypically likely of biological males or females. Thus, if the item was stereotypically a 'masculine' item it would be expected that those that were biological males would score high on

this item while those that were biological females would score low on the item and vice versa if the item was a 'feminine' item (Hoffman, 2001). Thus, the difference in an individual's report of masculinity or femininity on the items in the instruments would determine how they were categorised, with those reporting high scores on masculinity items and low scores on femininity items being categorised as masculine, while those reporting high on femininity items and low on masculinity items would be categorised as feminine. Scoring was rudimentary in that it entailed subtracting one's scores on femininity from masculinity or vice versa depending which was higher and if the difference was statistically significant you would be categorised to the higher scoring sex category (Hoffman, 2001; Johnson et al., 2005).

Constantinople (1973) critiqued this approach based on what she believed were untested assumptions, that is, that masculinity and femininity could be defined in terms of sex differences on item responses. She therefore argued that this method was not an adequate criterion for assessing what constitutes masculinity or femininity. Constantinople (1973) also critiqued the notion of bipolarity and uni-factorialism, that is, that masculinity and femininity were in fact opposite ends of one continuum and that sex role identity constituted a single dimension only. She noted that bipolarity should thus imply an inverse correlation between masculinity and femininity close to -1.0 but in fact most research did not indicate this and that by proposing that one could only be one or the other, research that indicated that the sexes could score high on items that were cross-typed of their biological sex was not taken into consideration. As such, this approach did not in any way cater for those who scored high on typically feminine items *and* high on typically masculine items *or* low on both. Other criticisms levelled at this unifactorial bipolar theory were those put forward by Lewin (1984a; 1984b). Lewin noted that the approach used by those assessing masculinity and femininity using M-F distinctions was problematic in that norms were unrelated to the economic, political and social conditions prevailing within society and were thus fixed as opposed to being subject to changes aligned with changes in environmental conditions.

To summarise, it has been argued that the unifactorial conceptions of measurement and the stereotypes associated with men and women that they reinforce often do not reflect the actual lived experiences of men and women, that is, that some males may display behaviours that are not considered to be very 'masculine' and that some females may display behaviours that are not very

‘feminine’ (Burr, 1998). These unifactorial measures and the stereotypes that they prescribe fail to account for the complexity and contradictory nature of gender experiences, not adequately engaging with the issue to why some people rigidly adhere to stereotypes while others do not (Segal, 1990). Consequently since the 1970s there has been a move away from this unifactorial approach to one that is multidimensional as evidenced in Bem’s gender schema theory.

5.6.2 Bem’s two-factor gender schema theory: A multidimensional approach

“Different though the sexes are, they inter-mix. In every human being a vacillation from one sex to the other takes place and often it is only the clothes that keep male or female likeness, while underneath the sex is the opposite of what is above”. Virginia Woolf

Gender schema theory was built on the foundations of prescribed stereotypes with the “schema becoming the prescriptive standard or guide and self-esteem becoming its hostage” (Bem, 1981, p.355). However, gender schema theory also served to explain the process that occurs when individuals do not ‘click to grid’, that is, when they do not totally conform to stereotypic norms of the prototype. In addition, the theory attempted to engage with the issue of why some adhere rigidly to stereotype while others do not.

According to Bem (1981) a schema is a cognitive structure or network of associations that serves as a guide in terms of the way in which individuals organise their perceptions. Schemas function in an anticipatory fashion in that the individual processes external stimuli with a prepared readiness to assimilate these stimuli into already pre-existing schemas to which they perceive these stimuli to belong. Schematic processing is considered to be a highly selective process which enables the individual to impose structure and meaning on the vast array of incoming stimuli within his or her world (Bem, 1981). Thus the way in which new information is assimilated is a function of the pre-existing schemas that an individual already has. To the extent that incoming information is ‘schema consistent’ so will it be readily assimilated into the schema that it is consistent with (Bem, 1981). If it is not entirely consistent, the individual will adjudge the incoming information along the lines of various schema-relevant categories to determine where the information would best fit. Obviously if it is not aligned in any way with any pre-existing schemas the individual could be compelled to formulate a new schema (Bem, 1981).

With regard to gender, as previously mentioned, at an early age children become aware of the differences between the sexes and they begin to create gender schemas. Throughout their formative years they continue to search for gender cues, to observe gender-related stimuli in their external environment and to constantly assimilate these cues and stimuli into their pre-existing gender schemas. This process is maintained until they have a considerable constellation of gender associated traits built up into a reasonably solidified set of gender associated categories (Martin & Ruble, 2004). The establishment and consolidation of these gender schemas that distinguish between the sexes then serves to guide and motivate future behaviours, roles and life and occupational choices as the child moves from early to late childhood, into adolescence and thereafter into early adulthood (Martin & Ruble, 2004).

Gender schema theory thus proposes that the phenomenon of sex-typing derives from a gender-based schematic process that facilitates a “generalised readiness to process information on the basis of sex-linked associations” which enables children to learn which attributes were associated with their sex. In this way sex-typed attributes are assimilated into the self-concept of the child (Bem, 1976, p. 355). Furthermore, in this way the child also learns to evaluate his or her own adequacy as a person through matching his or her preferences, attitudes, behaviours and personal attributes to the gender prototype as stored in the societally approved schema (Bem, 1976). Gender schema theory thus explains that children’s perceptions of their society’s conduct provides them with various sets of connections, in which all new information is evaluated and assimilated (Bem, 1981) with a schema being understood as a cognitive structure that organises knowledge about objects, situations or events that have been acquired from past experience (Cohen, 1996). These schemas lay the foundation for the way in which the child cognitively integrates gendered behaviour, which become a yardstick for the individual’s conduct and development (Prinsloo, 1992). Thus the schema forms an internal regulatory mechanism through which cultural definitions of masculinity and femininity are internalised (Burr, 1998). Through this mechanism the child assimilates all information from his or her environment and culture, makes sense of it, and then structures his or her world, and in turn his or her behaviour around it.

Traditionally, the two gender schemas that are formulated, that is, masculinity for males and femininity for females, prescribe masculinity with behaviours such as assertiveness, dominance, independence, objectivity, rationality, the ability to be analytical and decisiveness while femininity includes being emotional, sensitive, expressive, cooperative, intuitive, warm and of a tactful nature (Bem, 1974, p. 155). Best and Williams (1997) propose that masculine and feminine roles are thus defined as “the degree to which men and women have incorporated traits considered to be “womanlike” and “manlike” by their culture into their self-perception” (Best & Williams, 1997, p. 3). Bem (1981, p. 356) notes that as the schema becomes the prescriptive standard or guide, compelling the individual to conform to the cultures’ definition of maleness or femaleness so may “cultural myths become self fulfilling prophecies” as the “self-esteem becomes hostage” to the gender guide. In this regard the schemas shape, define *and limit* the individual’s developing personality and his or her future roles within society.

However, what is important regarding gender schema theory is that it describes *a process* and is not a content-based theory, in that the schema that are formulated are dependent on the culture that prescribes them. Bem (1981) notes that there are variations historically in terms of place and time and culture that determine the extent to which the behaviours, roles, attitudes and attributes that are prescribed for the sexes may deviate more or less from those that are “traditional”. Bem (1981, p.356) thus notes that gender schema theory acknowledges that at times the gender schemas prescribed and incorporated may include “fuzzy sets” of behaviours, roles, attitudes and attributes organised around traditional male and female prototypes. This implies that there are degrees of variation in the schemas that are culturally and socially constructed and that they are not *always* entirely stereotypic for each biological ‘sex’.

Variations in the broader socio-cultural environment: within the family structure, within the context of schooling and educators, within the school environment, within the context of one’s religious community and/or within the context of one’s extended family and/or peers could determine the schemas that are formed and the individuals’ psychological relationship to these schemas, that is, the individuals’ acceptance or rejection of them and/or the extent to which they integrate them into their personality. Thus, socio-cultural variations could finally determine the sex role identity that individuals endorse, and *the range* with which one’s sex role identity

becomes stereotypically masculine, stereotypically feminine or in any way retrotypic (Borna & White 2003).

In this regard Bem (1981) notes that if the traditional gender schemas are not fully prescribed and/or assimilated, less traditional sex-typing and thereby less traditional sex role identities could emerge. Bem (1981) identifies a number of sex role identities, namely the highly sex-typed masculine identity specifically prescribed for males (but which could be adopted to a lesser or greater extent by females), the highly sex-typed feminine identity specifically prescribed for females (but which could be adopted to a lesser or greater extent by males), and the androgynous sex role identity in which the individual (male or female) has incorporated within him or herself sets of traits from both sex-typed gender schemas. Bem (1981) also acknowledges that a person could have an undifferentiated sex role identity (be they male or female) in that their identity adheres neither to strongly masculine nor to strongly feminine schemas.

From this research, the era of androgyny arose, with researchers exploring a far wider range of gender identities than those stereotypically assigned to biological males and females. Bem's (1974, 1975) approach prompted revolutionary changes in the way in which masculinity and femininity were conceptualised. Ashmore (1990) notes that for the first time gender was defined from the outside in, thus indicating that formulation of the self-concept in relation to gender critically occurs at a societal level and not just at a biological level (Hoffman, 2001). In addition, this approach, in terms of measurement was a vast conceptual leap from the bipolar approach which defined masculinity and femininity on a single unipolar continuum in terms of sex differences, that is, M-F. The development of the Bem Sex Role Inventory (BSRI) (1974; 1975) took into account that sex role identity was not unidimensional, challenging the assumption of bipolarity and proposing that masculinity and femininity are in fact conceptually and empirically distinct.

Bem's (1974; 1975) proposals led to the Two-Factor Theory which acknowledged that sex role identity was multidimensional and that one could be masculine (high on M and low on F) or feminine (high on F and low on M), androgynous (high on both M and F) or undifferentiated (low on both M and F). In addition, items within the BSRI and assessment instruments following

Bem's approach (1974; 1975) were not defined in terms of differences between the sexes but rather in terms of being socially and culturally desirable for one or the other sex. Thus items that were stereotypically more likely of males and socially and culturally desirable for males were considered to be masculine items while those that were stereotypically more likely of females and socially and culturally desirable for females were considered to be feminine items. With regard to measurement, this approach thus incorporates both 'additive' and 'interactive' models in terms of the way in which relationships to health and wellbeing are predicted. The additive model presupposes that masculinity and femininity *independently* predict variance in wellbeing indicators (that is, independent M and F effects) while the interactive model presupposes that M and F *interact* to predict wellbeing (that is, an M X F effect). This interaction would describe a state of androgyny.

5.7 CONCLUSION

As can be seen, sex and gender are two distinct concepts which may still, nevertheless, interact within the socio-cultural realm. Studies that have used the terms interchangeably and only examined gender from a dichotomous biological sex perspective may consequently have failed to account for the range of different behaviours exhibited *within* each sex, that is the variations in gender role or sex role identity which could be evident within a single sex. These variations may well serve to explain, in part, the inconsistencies in research findings examining the relationship between stress, sex and gender, social support and wellbeing as some females (biologically) may be more male-like while some males (biologically) may be more female-like.

The research questions that thus arise here pertain to whether the hypotheses that the sexes differ with regard to perceptions of stressors, coping with stressors and responses to stressors, would still hold true if one explored gender and stress by examining gender beyond the constraints of simply defining the concept dichotomously and biologically, that is, if one examined 'within' gender differences.

Within gender differences refers to the wide range of masculinity or femininity within either biological sex, termed as 'sex role identity'. This approach proposes that an individual can be either more masculine, more feminine or a balance of both masculine and feminine, the latter

referred to as ‘androgyny’, *irrespective of their anatomical sex*. Alternatively posed, the questions would thus be:

‘If one explored sex role identities, examining *within* and not just *across* sex differences; would different patterns of perceptions of stress, coping and responding to stress, utilisation of social support and variations in wellbeing emerge, as compared to those evidenced within research that only examines biological sex?’

‘Could differing patterns of masculinity or femininity within a particular biological sex account for the inconsistent existent findings that suggests that *not all males* and *not all females* perceive and respond to stress and/or enact or utilise social support in the same way?’

The following Chapter 6: Sex Role Identity and Androgyny, intends to explore the literature on variations in sex role identities and androgyny and the implications of these variations in terms of their relationship to stress, social support and wellbeing.

CHAPTER 6: SEX ROLE IDENTITY AND ANDROGYNY

“Women are supposed to be very calm generally; but women feel just as men feel; they need to exercise their faculties, and have a field for their efforts as much as their brothers do; they suffer from too rigid a restraint, too absolute a stagnation precisely as men would suffer, and it is narrow -minded in their more privileged fellow creatures to say that they ought to confine themselves to making puddings and knitting stockings and playing the piano and embroidering bags”. Charlotte Bronte – Jane Eyre

6.1 INTRODUCTION

As discussed in the previous chapters, the exploration of sex differences has assumed a prominent role in the stress and wellbeing literature (Kashdan, Mishra, Breen & Froh, 2009). However, inconsistencies within the research findings and the failure of previous research to adequately distinguish between sex and gender has led to researchers examining the socio-cultural factors that shape sex into sex role identity; and the variety of identities that can arise; in spite of the tendency of cultures to prescribe sex role orientations that are traditional and that aim to maintain the rights, privileges, roles and traditions that are believed to appropriately divide males and females. The sex role identity approach revived the interest in and investigation of sex differences in relation to aspects of mental health and wellbeing. It has shifted the focus from an examination of biological distinctions only towards an emphasis on the variety of sex role, or gender role disparities between men and women (Ganong & Coleman, 2002; Lengua & Stormshak, 2000; Reevy & Maslach, 2001; Roothman et al., 2003). Thus while traditional perspectives on the relationship between gender-role orientation and wellbeing have focused on the conformity to dichotomous traditional male and female roles (Erikson, 1963), in 1974 Sandra Bem introduced a novel formulation of gender-role identity, that is, that of Psychological Androgyny (Wajsblat, 2011).

As discussed in Chapter 5, prior to 1974, the conceptualisation of gender within the psychological literature was limited to two separate and distinct components of human existence, that is, male or female. The attributes of these two components were referred to as agency and communion, each of which represented broad personality structures associated with traditional, universal, and culture-bound male and female standards of being a man or a woman (Bakan, 1966). Referenced interchangeably throughout the social psychological literature, agency and communion are also often referred to as instrumentality and expressiveness; both being a constellation of personality traits and interpersonal behaviours associated with masculinity (agency/instrumentality) and

femininity (communion/expressiveness) (Abele, 2003; Aube, 2008; Fritz, 2000; Helgeson & Fritz, 1998; Helgeson, 1994; Herman & Betz, 2006; Moskowitz et al., 2004; Saragovi, Koestner, Di Dio & Aube, 1997; Spence, 1993; Spence & Buckner, 1995; Ward, Clements, Dixon & Sanford, 2006).

Within these two broadly delineated constellations gender is defined as the socially acceptable and stereotype-based views of male and female behaviour, (Stake, 1997). Accordingly, agency focuses on individuality, reflecting a host of desires directed towards the self, including self-protection, assertion, expansion, control, and direction while simultaneously emphasising a separation from others; while communion refers to the focus on others, reflected in the motivation towards group goals and relationships, cooperation, connection, and attachment formation (Wajsblat, 2011). Although Bakan (1966) acknowledges that there may be the presence of agency and communion in both men and women, he asserts that these two broad dimensions of personality clearly distinguish the sexes from one another; noting that men and women are best suited to adopt those prescriptions for their biological sex, in order to ensure wellbeing (Wajsblat, 2011). Bakan (1966) however, did acknowledge the deleterious impact of unmitigated agency (or instrumentality) and unmitigated communion (or expressiveness). Also referred to as dysfunctional detachment (DD) and destructive overdependence (DO) by Bornstein, Geiselman, Gallagher, Ng, Hughes and Languirand (2004), this excessive focus on the self or excessive focus on others is believed to have negative health and social implications (Wajsblat, 2011). Bornstein and colleagues (2004) note that DD is stereotypically characteristic of (unmitigated) males while DO is stereotypically characteristic of (unmitigated) females. They further cite cognitive, emotional, motivational and behavioural components attached to each of these stereotypical unmitigated male or female constructs.

With regard to DO, cognitively, the DO individual would perceive herself as weak and ineffectual, would be emotionally fearful of negative evaluations by others and would have a fear of abandonment. Motivationally, the DO individual would be overly focused on maintaining close ties to significant others irrespective of the cost to the self. Behaviourally, the DO individual would be clingy, constantly seeking reassurance and affirmation and would appear to be helpless. Those that identify with DO traits would also see themselves as un-aggressive, unassertive and

unwilling to take risks (Bornstein et al., 2004). With regard to the DD individual, cognitively, the DD individual would perceive others as hurtful or untrustworthy. Emotionally, the DD individual would have a fear of being overwhelmed or hurt. Motivationally, the DO individual would desire to maintain a distance from others and remain in control and behaviourally would engage in social avoidance and would be rigidly autonomous. DD individuals would also see themselves as unempathic, unaffectionate and insensitive to the needs of others (Bornstein et al., 2004).

An examination of the typology offered by Bornstein and colleagues (2004) indicates that there is some conceptual overlap with the personality types that would engage in pro-social and antisocial support behaviours (discussed in Chapter 4). The DD individual who may have experienced negative early life experiences would be more likely to engage in destructive detachment which would in turn discourage pro-social help seeking behaviours. This behaviour, as discussed by Kitamura et al., (2002) and Blain et al., (1993) is regarded to be more descriptive of males. Similarly, the individual high on destructive overdependence and insecure attachment could likely display a degree of neuroticism which would also discourage pro-social help seeking. This overdependence could also encourage a manner of help-seeking that would exhaust one's network as the individual may be perceived of by others as overly demanding, clingy and needy. This behaviour is regarded to be more descriptive of females (Kitamura et al., 2002).

With regard to these constructs or conceptualisations be they unmitigated agency, instrumentality or masculinity and unmitigated expressiveness, communion or femininity or DO and DD, the literature is replete with hazardous health risks associated with these conceptualisations. For example, hostility, aggression, dominance and authoritarianism which are considered to be unmitigated agency traits are associated with cardiovascular disease (Smith, 1992), poor interpersonal relationships and even interpersonal violence and crime (Woodhill & Samuels, 2003). With regard to unmitigated communion or femininity, strong links between passivity and self-neglect and being overly concerned with the welfare of others have been shown to be related to a wide range of greater psychological distress manifestations such as depression, anxiety, interpersonal difficulties, over-involvement and intrusiveness (Helgeson & Fritz, 1998), and poor physical control over illness (Helgeson & Fritz, 1996).

Aside from these negative dependencies, Bornstein and colleagues (2004) also refer to healthy dependency (HD). The HD individual is perceived to be competent and perceives others as trustworthy, is emotionally secure in intimate relationships and feels confidently autonomous. Motivationally, the HD individual has a desire for closeness but this is balanced by a sense of autonomy and self-reliance. The HD individual is also able to engage in help-seeking behaviours when appropriate. Interestingly, and in alignment with the theory of psychological androgyny, the HD individual as described by Bornstein and colleagues (2004) is neither strongly masculine nor feminine; with those that are androgynous, perceiving themselves to be more characteristically HD. These individuals appear to have the best health outcomes in terms of their interrelationships with others as compared to DO and DD individuals whose interpersonal outcomes are poor. Bornstein and colleagues (2004, p.110) in fact note that the positive relationship between HD and androgyny indicates that HD individuals are “capable of systematically varying their self-presentation and social influence strategies across situation and setting, showing the flexibility that is central to HD”. Such behaviour is typically described in the literature of androgynous individuals who possess a ‘wider behavioural repertoire’ which enables them to respond appropriately to a broader range of situations than repertoires that are either strongly masculine or feminine (Bem, 1981; Woodhill & Samuels, 2003).

To summarise, agency (along with unmitigated agency) is prescribed for or is supposedly more typical of males while communion (along with unmitigated communion) is prescribed for or is supposedly more typical of females. The HD individual is more typically androgynous. Although unmitigated agency and unmitigated communion are predictive of poor outcomes, agency in a form that is not unmitigated and is balanced is predictive of positive health outcomes. In addition, such agency is still more valued than traits of (balanced) communion within society and is clearly prescribed to or is or more representative of males as opposed to females. Such prescription of agency for males only thus fosters discrimination between the sexes (Bem, 1981; Bornstein et al., 2004).

While the previous discussion has focused on prescriptive male and female roles prior to 1974; post-1974 Sandra Bem specifically notes that this traditional dissecting of gender role distinctions in terms of agency and communion is prescriptive. The constraining standards that this dissection implies, compels individuals to conform to societies’ definition of maleness or femaleness and

thereby perpetrates gender inequality. Bem (1974) refers to this “ubiquitous insistence on gender polarisation” or dualism as that which ensures that the higher status more powerful roles remain reserved for men, by virtue of their agentic nature, while those that are of lesser value are reserved for women (Ayman & Korabik, 2010; Korabik & Ayman, 1987; Park, 1997; Ridgeway, 2001).

In resistance to this imposition, Bem (1974) notes that not only do individuals of either sex not have to adopt traditional sex roles but that in fact, when they do not do so, this could enhance psychological wellbeing. Bem (1974) proposes that a mixed gender role identity, which she refers to as androgyny, is a psychological gender role identity or sex role identity which combines a balance of both masculine and feminine traits within an individual, irrespective of their biological sex, that is, irrespective of whether the individual is biologically male or female (Bem, 1974). Individuals can thus possess varying degrees of masculinity- femininity/agency-communion within a single sex, with Bem (1974) maintaining that such individuals will achieve optimal psychological functioning.

According to Bem’s (1974) androgyny proposal, there are thus four possible sex role identities:

1. The feminine individual who is high(er) on feminine traits and low(er) on masculine traits (and thus is traditionally sex-typed if the individual is biologically female, cross-typed if the individual is biologically male)
2. The masculine individual who is high(er) on masculine traits and low(er) on feminine traits (and is thus traditionally sex-typed if the individual is biologically male, cross-typed if the individual is biologically female)
3. The androgynous individual who is high on both masculinity and femininity (irrespective of biological sex) and
4. The undifferentiated individual who is low on both.

The extent to which these four sex roles develop within an individual is shaped, as mentioned, in terms of social constructionism, as a result of prevailing social conditions that embrace a particular individual in his or her environment and that prescribe what is appropriate with regard to the display of behaviour/s for each of the sexes. Thus, each society could assign different

groupings of masculine or feminine traits or behaviours to each sex in terms of whether the manifestation of such traits or behaviours is considered to be socially appropriate and/or desirable (Boswell, 1997).

6.2 THE MEASUREMENT OF PSYCHOLOGICAL ANDROGYNY

*“Androgyny is not trying to manage the relationship between opposites
it is simply a flowing between them”.* Dr June Singer

In terms of measurement, this approach re-conceptualised masculinity and femininity, that is, instrumentality/agency and expressiveness/communion, as no longer being bipolar points on a single or uni-dimensional continuum, as proposed by the likes of Bakan (1966), Kagan (1964) and Kohlberg (1966).

As discussed previously, according to the bipolar *single* continuum approach, masculinity would correlate inversely with femininity and vice versa and hence the higher an individual would score on masculinity the lower the individual would score on femininity (Marsh, 1987). In addition, this approach implied that biological males should score high on the masculinity end of the continuum whilst biological females should score high on the femininity end of the continuum in order for the sexes to be congruent and not have a ‘disturbed’, socially inappropriate sex role identity (Garnet & Pleck, 1979).

Alternatively, the multidimensional two-factor sex role identity approach viewed masculinity and femininity on two *separate* continuums. An individual could be measured on both continuums and thus the possibility of both masculine and feminine behaviours and attitudes residing in varying degrees in one individual was proposed (Hungerford & Sobelew-Shubin, 1987). Consequently, the behaviours and attitudes associated with either being masculine or feminine were not isolated to any one sex. This approach thus represented a major shift from the congruency, unipolar model that proposed that unless one’s sex role identity was congruent to one’s biological sex one’s sense of identity would be disturbed (Garnet & Pleck, 1979). The androgyny approach introduced a ‘sea

change' with regard to the measurement of sex role identity. No longer was one seen as being on either end of a single continuum. Rather a single individual, irrespective of his or her biological sex, could possess within him or herself a range of masculine and feminine behavioural traits, as scored across two continuums. The interest in androgyny theory quickly led to the development of inventories designed to assess this new approach with these measures attempting to demonstrate the positive effects of androgyny (Baldwin, Critelli, Stevens, & Russell, 1986). The primary goals of androgyny researchers emerged as twofold 1) establish the construct validity of measurement instruments, and 2) obtain empirical support for the theoretical formulation of these instruments (Taylor & Hall, 1982; Wajsblat, 2011).

Accordingly, Sandra Bem (1974) developed the Bem Sex Role Inventory (BSRI), a measurement of psychological masculinity, femininity, and androgyny. Proposing the view that narrowly defining masculine or feminine gender role identification may actually serve to inhibit one's behaviour and self-concept, Bem (1974) challenged the traditional assumption that sex-typed individuals exemplify mental health, noting that they were in fact inhibited by their rigid behavioural and cognitive repertoires (Bem, 1974). Therefore, the "androgyny hypothesis" proposed that individuals who possess instrumental and expressive or masculine and feminine traits would have a wider behavioural repertoire on which to draw in a wider range of situational contexts (Bem, 1974). As different social and interpersonal contexts could call for a combination or change in instrumental and expressive behaviours it would be the androgynous individual who would best be able to select and engage in behaviour that is most appropriate for the situation (Wajsblat, 2011; Woodhill & Samuels, 2003).

Utilising this new measurement approach over the ensuing decades, dubbed the 'androgyny era' a large body of research accumulated which indicated that androgynous individuals tend to cope better with stress in terms of the impact that such stress exposure has upon their health and wellbeing (Antill, 1983; Ashmore, 1990; Aylor & Dainton, 2004; Campbell, Steffen, & Langmeyer, 1981; Cheng, 1999; Gianakos, 2000; Green & Kendrick, 1994; Hinrichsen, Follansbee & Ganellen, 1981; Kirchmeyer, 1996; Rendely, Holmstrom & Karp, 1984; Rose & Montemayor, 1994; Sawrie, Watson, & Biderman, 1991; Shaver, Papalia, Clark, & Koski, 1996; Shimonaka, Nakazato, Kawaai, & Sato, 1997; Stake, 1997; Wubbenhorst, 1994).

Proponents of the androgyny hypothesis found numerous positive correlates of androgyny, including coping style. For example, Cheng (2005) and May and Spangenburg (1997) found that those that were more androgynous had significantly more flexible coping styles in dealing with the environmental demands than those with other sex-role orientations. Androgyny was also significantly correlated with greater creativity (Keller, Lavish, & Brown, 2007), emotional intelligence (Guastello & Guastello, 2003), self-esteem, achievement motivation, life satisfaction, marital satisfaction, subjective feelings of wellbeing (Norlander et al., 2000), improved self-concept (Flaherty & Dusek, 1980), and pro-social helping behaviour (Senneker & Hendrick, 1983). In addition, the androgyny model achieved support in a range of applied settings, such as management (Jurma & Powell, 1994; Lassk, Kennedy, Powell, & Lagace, 1992); sales performance and marketing (Goolsby, Lagace, & Goorom, 1992); psychotherapy (Cook, 1985; Petry & Thomas, 1986) and education (Hebert, 2000). It was noted within all this research that what made androgynous individuals healthier was that they had a fuller behavioural inventory due to their balance of masculine and feminine characteristics and they would therefore be able to engage in a fuller range of behaviours and responses to cues, such behaviours being dictated by the needs of the situation and context rather than by society (Woodhill & Samuels, 2003; 2004).

The research on androgyny in relation to wellbeing thus had a number of major implications for earlier research on sex (erroneously referred to as gender) and wellbeing. Firstly, it suggested that it was possible that in earlier studies that conceptualised gender in a dichotomous way only, that it was ‘within gender differences’ *that were accounting for the variations in health and wellbeing* and not necessarily biological conceptualised sex (or gender), as originally proposed. Secondly and alternatively, it suggested that it could well have been ‘within gender differences’ that accounted for *lack of findings* that were sometimes evidenced, when basing hypotheses strictly on biological sex.

6.3 ANDROGYNY AND THE FEMINIST MOVEMENT OF THE 1900s

“Women is my slave name, feminism will give me freedom to seek some other identity altogether”

Ann Snitow - A Gender Diary – Conflicts in Feminism

In exploring the rise of the androgyny era it is important to examine the social factors that precipitated this theory's development. The foundation of androgyny stemmed from feminist psychology perspectives which arose out of the desire to shift gender characteristics from end points of a single bipolar dimension (Marsh, 1987). This approach was foregrounded in the 'Feminist Movement'. Feminism in the early part of the 20th century was predominantly concerned with women's challenges to enter the public realm. The emphasis was on the struggle for political and educational inclusion and a resistance to women's domestic stagnation (Pounder & Coleman, 2003). During this period women were not even included in the definition of a 'person' and their sex was seen solely to service the purpose of bearing and raising children and maintaining the home due to their qualities of 'love and kindness' (Albertyn, 2007). Thus, it was believed that women were to be totally socialised into a role where they were subordinates to males (Pounder & Coleman, 2003).

The second wave of feminism began in the 1950s after World War II. While the war effort had defined a place for women in the labour force; after the war women were expected to return to their domestic duties. For women who wanted to remain in the labour force, they were consigned to positions that were subordinate to men, namely as secretaries, nurses and teachers. During this period the struggle was thus more focused on the subordination of women at work, the gender division of labour, the lack of female autonomy and inequality within the workplace and the continued struggle for further educational opportunities (Albertyn, 2007). Feminism flourished during this time with feminists proposing that there was no natural difference between men or women other than the legal constraints imposed by men in a world of patriarchy to suppress women. During this period feminists were focused on social and legal constraints and they encouraged women to resist and thereby deconstruct gender differences (Kiguwa, 2004).

Against this backdrop of resistance to female suppression, the development of psychological androgyny was borne. This new approach emerged at a social point in time when the zeitgeist regarding women's roles was rapidly evolving. The feminist movement was striving for further equality and empowerment and the move towards androgyny, which was perceived as a move towards liberating women from their traditional homemaker housebound stereotypical roles, was at its height. Thus, during this period an interest in examining the more complex relations of feminism, gender roles and psychological wellbeing, against the backdrop of a powerful and broad-ranging "patchwork quilt of patriarchies", increased (Bozzoli, p. 155, 1983; Smiler, 2006). Within the realm of gender studies, distinct branches of feminist research emerged to focus on issues unique to women. As the notion of eliminating gender inequality, through prohibiting the dissection of gender distinctions was proposed through Bem's ideology (1974; 1975), researchers began specifically focusing on the study of women, prescribed feminine roles and the extent to which these prescriptions undermined women's health and wellbeing (Wajsblat, 2011). Consequently, at the time that the feminist movement was directed towards the termination of the male-dominated social order, reflecting this zeitgeist, psychological androgyny was proposing a means whereby the social reality of men and women's sex-typed roles could be reconstructed in a fashion that was more egalitarian.

To conclude, research carried out in the 1970s and onwards, occurring within the times of the feminist movement, revealed that there was a critical need to distinguish between sex and gender. This research also indicated there was a critical need to move away from non-egalitarian traditionally prescribed gender roles which differentially exposed women to an unequal demand load, consigned them to roles of lesser status and power than men and impacted detrimentally on their health and wellbeing. Psychologically, the androgyny model was seen as one whose ideology could serve to break the constraints imposed on women, by allowing for the adoption of less traditional roles for women, which in the long-term would enhance their health and wellbeing.

6.4 LIMITATIONS OF THE ANDROGYNY MODEL

Despite the promise of the androgyny era it was not without its limitations. Although the androgyny model achieved a vast empirical base in support for its positive outcomes since its theoretical inception, even gaining distinction as the developmental ideal, it did not represent the only theory of gender role orientation nor was its findings, as with the research on gender (dichotomously defined in terms of sex), consistently evidenced (Mead & Ignico, 1992; Wajsblat, 2011).

Competing theoretical models to that of the androgyny model are the masculinity model and the differentiated model, the latter which considers *both* socially desirable and undesirable sex role behaviours. Other problems that have emerged are theoretical and pertain to the inter-relationships between sex role traits and personality constructs (Choi, Fuqua, & Newman, 2007; Holt & Ellis, 1998; Woodhill & Samuels, 2004). Additionally, the androgyny model has been critiqued as it may be based on stereotypes that may no longer be relevant in the light of social changes in the 21st century. Problems pertaining to measurement issues have also been raised such as the instability of factor structures within sex role inventories and problems pertaining to scoring. Furthermore, problems centred on sampling and cross-cultural issues have also been raised. Recent efforts to address these limitations have resulted in a second re-emergence or a second wave of interest in exploring gender role associations with wellbeing (Johnson et al., 2006; Wajsblat, 2011).

6.4.1 The masculinity model

With regard to competing theoretical models one model of note is that of the masculinity model. From the inception of androgyny as the proposed psychological ideal, opponents of the androgyny model have primarily cited the negligible impact of femininity on overall wellbeing (Whitley, 1983). These opponents have cited the value of traditional male-oriented behaviours and traits as more socially desirable than those associated with femininity and have proposed that it is these male-oriented traits that account for wellbeing (Orlofsky & O'Heron, 1987). Based on this premise, many researchers attempting to explore the relationship between sex role identity and wellbeing have consistently found support for masculinity as the more adaptive sex role identity (Antill & Cunningham, 1979; 1980; Cook, 1985; Kopper & Epperson, 1996; Markstrom-Adams,

1989; Whitley, 1983); while others have found negligible differences between androgyny and masculinity in predicting positive outcomes (May & Spangenberg, 1997; O'Heron & Orlofsky, 1990; Orlofsky & O'Heron, 1987; Skoe, 1995). These researchers have proposed that it is the masculinity component and not necessarily the combined balance of masculine and feminine traits that is the contributor to all the positive findings on health and wellbeing for androgyny (Dohi, Yamada & Asada, 2001; Smiler, 2006). Thus, in contrast to the interactive model proposed for androgyny; this model proposes an additive relationship of sex role identity to wellbeing, with it specifically being masculinity that contributes to health and wellbeing. The findings for the masculinity model thus provide the strongest empirical opposition to the adoption of androgyny as the most adaptive sex role identity (Wajsblat, 2011).

With regard to actual findings, overall, on subjective indicators of wellbeing, high masculinity has demonstrated consistent positive outcomes (Orlofsky & O'Heron, 1987). In a critical meta-analytic review of 35 studies examining the relation of sex role orientation to self-esteem Whitley (1983) proposed to be the most widely used indicator of psychological wellbeing, findings most strongly supported the masculinity model (Wajsblat, 2011). Additional meta-analyses exploring the relation of sex role orientation to depression and general adjustment found similar support for masculinity as having the strongest relationship with psychological wellbeing (Bassoff & Glass, 1982; Taylor & Hall, 1982; Whitley, 1985). Subsequent findings have identified a number of psychological health correlates of masculinity including work performance (Baril, Elbert, Mahar-Potter & Reavy, 1989; Jagacinski, 1987), personal flexibility (Anderson, 1986), achievement (Adams & Sherer, 1985) and improved psychological wellbeing (Castlebury & Durham, 1997).

6.4.2 Overlap of sex role traits with personality traits and specificity with regard to predictors

Despite the emergence of masculinity as the critical component to wellbeing, the masculinity model has in turn been subject to notable shortcomings and limitations (Forshaw & Shmukler, 1993). The first critique is the overlap of sex role identity traits and personality traits. Traits of masculinity often overlap with personality traits that are specifically and positively linked to wellbeing (the competency cluster) while traits of femininity often overlap and are linked to personality traits that have a lower association, if not a negative association, with wellbeing.

Linked to this first critique is a second critique, which refers to the actual content of health predictors or outcomes that masculinity supposedly predicts.

With regard to the overlap between masculinity and personality traits linked to wellbeing and the overlap between femininity and personality traits that are linked to lesser or poor wellbeing; in particular it has been argued that what makes masculinity the seemingly key component to contributions to health and wellbeing is its association with ‘competency cluster’ traits (Gerdes et al, 1980). As discussed in Chapter 1, traits that are seen as belonging to this competency cluster include hardiness, self-esteem, resilience, self-efficacy, internal locus of control, independence, assertiveness, initiative and pro-activeness. The designation of these ‘competency traits’ to males is evidenced in a review of the self-report measures of masculinity inventories and masculine subscales of sex role inventories where ‘masculine traits’ have been found to overlap considerably with personality inventories that measure these competency cluster traits, all of which have been shown to have positive health implications in the relationship between stress and wellbeing.

Considering this overlap and the vast empirical support base on the relationship between these abovementioned personality traits and health, it seems clear as to why the masculinity traits would be those that most contribute to wellbeing. These self-same traits are typically those that have been shown to enable individuals to perceive a sense of mastery and efficacy and a belief in their ability to deal with life’s demands when exposed to stressful events. Individuals possessed of these traits, according to transactional stress models, would have better coping resources and perceive less imbalance and less stress reactions in the event of being faced with stressful external environmental demands.

In contrast, ‘feminine’ traits of being gentle, soothing, warm, helpful, understanding, devoted, considerate, kind, forgiving, aware of others feelings and soft-hearted are all designed towards the taking care of others (as in terms of communion and expressiveness), as opposed to taking care of the self (as in agency). Consequently, individuals possessed of such traits may be less capacitated to focus on the self and therefore, manage their own problems or stressors in times of excessive demand. In addition, feminine traits particularly those that are unmitigated, have been associated

with the negative affect cluster of personality traits described in Chapter 1, possibly explaining why females fare less well, if not poorly, in relation to health and wellbeing indicators.

Aside from their capacity to enable individuals to cope better with external environmental stressors, agentic personality traits are generally considered to be far more desirable and more esteemed within society than the lesser valued communal traits of the ability to nurture and to be gentle. It is argued that it is for this reason that the inherent social and cultural value of agentic traits, that those possessed of them are more adaptive within society and more enabled to enjoy greater health and wellbeing (Cheng, 2005). Moreover, as agency and communion type traits are discriminately inculcated into the sexes it serves to explain why males as opposed to females would have a social, cultural, health and wellbeing advantage (Pei-hui & Ward, 1994; Taylor & Hall, 1982). Thus, a ‘double bind’ ensues with males being traditionally socialised into developing agentic traits, while females are traditionally socialised into developing traits of communion. As such, females higher on communion and its associated tasks of being loving, nurturing and helpful, suffer differential stress exposure due to the multitude of caring-type roles assigned to their sex. This may account for the fact that women, possibly prepossessing the less valued sex-based personality traits and whose lives are likely to be compounded by differential exposure in terms of the additional roles they must assume as women, tend to demonstrate poorer health outcomes (Pugliesi, 1995; Tesch-Romer, Motel-Klingbiel & Tomasik, 2008).

With regard to the overlap between masculinity traits and predictors of wellbeing, Marsh and Byrne (1991) note that the extent to which only masculinity will contribute uniquely and positively to wellbeing is in line with the specific aspects of wellbeing that are being assessed, that is, the specific wellbeing outcomes. Often the wellbeing aspects being assessed are in line with instrumental domains and this may well account for the large body of research findings that indicate that it is only those individuals who are masculine and/or androgynous that experience health benefits with, in the latter instance, it being the masculinity component of androgyny which is likely to be producing the variance in wellbeing (Flaherty & Dusek, 1980; Ward 2000). However, if one assesses wellbeing variables that tap into expressive domains it is likely that those that are feminine or androgynous that will be most likely to experience health-benefiting effects (Yarnold, 1990). It may thus be possible that there is a ‘Specificity Hypothesis’ operating

in that *certain* sex role identities will be associated with specific health benefits depending on the situational variables with which they are matched and contexts within which they are observed. Bearing this in mind the present study did propose that those who are more feminine would be advantaged with regard to perception and utilisation of social support as compared to their more masculine counterparts. (A discussion of this specificity hypothesis is elaborated upon in Chapters 7 and 9).

6.4.2.1 Desegregating or integrating sex-based traits and personality traits

As a result of the abovementioned overlap between masculine and feminine traits and specific personality constructs, the literature has begun to question the distinction between ‘sex role identities’ and ‘traits of personality’. The questions that arise are: ‘What exactly are we measuring?’ ‘Is it sex role identity traits or personality traits and does it make a difference?’

With regard to terminology, while the terms are not interchangeable it is acknowledged that certain traits of personality are considered to be more or less stereotypically appropriate based on one’s sex, although in terms of the androgyny model either sex could endorse traits that are stereotypic or retrotypic in terms of sex role identity. Thus Paver and Gammie’s comment (2005, p.428) that sex role identity is based on one’s endorsement of masculine or feminine “personality traits” and that one can be categorised as masculine, feminine or androgynous depending on the extent to which one (irrespective of biological sex) endorses “personality traits” or characteristics stereotypically specified for their biological sex (Paver and Gammie, 2005). Their comments imply that sex role identity merely constitutes an endorsement or adoption of ‘so- called’, ‘societally-labelled’ masculine or feminine personality traits. Thus, sex role identities constitute the adoption of sex-based personality traits to varying degrees. What is important to note about this argument is that if one re-evaluates theories of gender development, the way in which gender develops can be seen to be akin to or aligned to the development of personality traits, albeit ‘sex-based’ personality traits (Paver & Gammie, 2005). What the individual is developing and adopting, from early childhood into adulthood, are both personality traits and traits that are deemed to be more or less socially acceptable or socially appropriate according to one’s sex. Researchers in the field of sex role inventory development have been cognisant of this argument and have attempted to focus more on reducing the distinction between sex role identity and traits

of personality; rather seeing sex role identity as a composite of sex-based personality traits. This approach was particularly evidenced in the work of Janet Spence and her associates (1974). The development of the Personal Attributes Questionnaire (PAQ) by Spence, Helmrich and Holohan (1974) specifically focused on the development of an instrument that would measure the extent to which individuals had adopted 'personality traits' that were either more or less desirable for an individual of either one of the sexes.

Concurrent with the development of the BSRI, the line of research conducted by Spence and colleagues (1974) presented data obtained from the Personal Attributes Questionnaire (PAQ), an extended measure derived from items from the Sex Role Stereotype Questionnaire (SRSQ) (Rosenkrantz, Vogel, Bee & Broverman, 1968). Items from this measure presented a series of bipolar traits determined to represent typically male-valued, female-valued, and sex-specific attributes. Although the content of the PAQ closely resembles the BSRI, the PAQ may be distinguished based on the process of item selection. Specifically, the PAQ differs from the BSRI in that the latter is based on or only includes items that are significantly more desirable for one sex than the other, while the PAQ includes items that are desirable for both sexes but seen to be more typical of one sex than the other (Hoffman, 2001). The procedure used by Spence and colleagues (1974) has therefore focused on the *desirability of personality traits* independent of gender while still acknowledging the difference between social ideals and reality (Hoffman, 2001).

That these items measure sex-based personality traits is evidenced in the way in which Spence and colleagues (1979) refer to the items that their sex role identity inventory measures. According to Spence and associates (1979 as cited in Vinnicombe and Singh, 2002 p. 3) these items represent "characteristics, attitudes, values and behaviours that society specifies as appropriate for the particular biological sex-type". They state that their PAQ is a measure of personality traits, that is, the extent to which individuals of either biological sex display, more or less, the personality traits, characteristics, attitudes, values and behaviours that society specifies as appropriate or typical of the particular biological sex-type. Moreover, the authors of this scale specifically note that it is not intended to be a measure of masculinity, femininity and androgyny but rather that it is a personality inventory that measures traits typically and ideally associated with either one of the sexes.

6.4.3 Towards a differentiated model of positive and negative sex role identities

Subsequent to the development and widespread usage of the BSRI and the PAQ, a further theoretical issue arose more recently, which provides additional argument as to why an inconsistent pattern of effect has been seen for the four sex role identities described by Bem and Spence and colleagues (1974; 1979). This relates to the question of positive and negative sex role identities, that is, socially desirable and socially undesirable sex-based traits of personality.

Theoretically, Woodhill and Samuels (2003; 2004) have argued that the conceptualisation of masculinity and femininity and androgyny must be broadened to include negative or socially undesirable sex-based personality traits. With regard to conceptualisation, although there have been great advances in the study of sex role identity and androgyny, as discussed, not all research findings on androgyny have yielded positive health results for androgynous individuals (Burchardt & Serbin, 1982; Hanson & Rayman, 1976; Lubinski, Tellegen, & Butcher, 1981, 1983; O'Heron & Orlofsky, 1990; Skoe, 1995; Wulff & Steitz, 1999).

The mixed results of sex role identity and wellbeing research indicate a lack in the theoretical understanding of different sex-roles. A fundamental limitation of the majority of research on sex role identity is that it only examines the relationship between socially desirable sex role identities and wellbeing. Wajsblat (2011) argues that “the inability of prior research to differentiate between the positive and negative types of androgyny could have been responsible for masking the benefits of positive androgyny” (p.563). This proposition can be applied to all research on sex role identity that has failed to consider the presence of negative socially undesirable traits within individuals. These mixed findings have prompted a need for further examination of the construct, in terms of its conceptualisation, with recent researchers suggesting that the construct consists of *more* dimensions than originally proposed.

Researchers have increasingly begun to note the importance of distinguishing or differentiating socially desirable and undesirable gender role traits, proposing a Differentiated Model of sex role identity (Choi et al., 2007; McCreary, 1990; McCreary & Korabik, 1994; Ricciardelli & Williams, 1995; Woodhill & Samuels, 2003; 2004). According to Gill, Stockard, Johnson, and Williams (1987), gender researchers have continually used scales, the items of which represent a limited

range of stereotypic masculine and feminine traits which has raised questions regarding the power of these scales to draw on broader facets of personality and human functioning (Payne, 1987; Spence, 1983; Tellegen & Lubinski, 1983). Furthermore, these scales have only measured those aspects of masculinity and femininity that are seen as socially desirable and not those aspects that are seen as socially undesirable (Wajsblat, 2011).

But what is the advantage of distinguishing aspects of gender based on their social desirability? According to an ever increasing subgroup of personality researchers (Choi et al., 2007; McCreary, 1990; McCreary & Korabik, 1994; Ricciardelli & Williams, 1995; Spence, 1983; Woodhill & Samuels, 2003; 2004), there are a number of important questions to ask regarding the nature of desirable and undesirable masculinity and femininity. Based on the construction of the BSRI, (still one of the most widely used measures of gender role orientation to date), and the PAQ, most gender research has only focused on the behavioural and psychological correlates of desirable or ideal masculinity and femininity. Many studies exploring androgyny have not taken any cognisance of the fact that gender ranges do not only include desirable aspects of femininity and masculinity (Kelly & Worrell, 1977; Ricciardelli & Williams, 1995). In fact, Woodhill and Samuels (2003; 2004), suggest that psychological sex role identity can be constituted of both positive and negative masculine and feminine sex-based personality traits and that in the event of negative traits dominating, the impact of such negative androgyny, negative masculinity or negative femininity would *not* be expected to foster positive health outcomes. The presence of significant levels of negative feminine and negative masculine traits in androgynous individuals could, in fact, exert a detrimental effect to the extent that such negative behaviours may override any of the positive benefits proposed for the androgynous person (Woodhill & Samuels, 2003; 2004). These researchers thus note that previous research that has simply focused on traits of masculinity or femininity without considering whether these traits were positive or negative in terms of their behavioural and adaptational capacity is inherently flawed. Therefore, a differentiated model that examines whether or not the behavioural and psychological correlates of the undesirable aspects of masculinity and femininity differ from the desirable aspects still needs to be fully explored.

Adopting this differentiated model, the androgynous personality could include competency and/or communion behaviours and/or undesirable behaviours or vices. For example a positively androgynous person could demonstrate high levels of independence (M+), compassion (F+), ambition (M+), and tolerance (F+), whereas a negatively androgynous person could demonstrate high levels of submissiveness (F-) and selfishness (M-), or be overly anxious (F-) or aggressive (M-).

As previously mentioned, androgynous people are supposed to have a fuller behavioural repertoire in that they are, due to their balance between masculine and feminine characteristics, able to engage in a fuller range of behaviours and responses to environmental cues. However, if an individual is negatively androgynous they would have a wider range of *negative* behaviours and responses to cues and therefore bigger repertoire of undesirable behaviors from which to choose a response (May & Spangenburg, 1997; Woodhill & Samuels, 2003; 2004). Thus, they may, for example, react in an undesirable feminine way in one situation (e.g. submissively) and in an undesirable masculine way in another situation (e.g. aggressively). Consequently, it becomes clear that a single category of masculinity, femininity or androgyny cannot capture these important differences because such a category, by definition, usually ignores gender associated ‘vices’, that is, failings, deficits, or negative traits (Woodhill & Samuels 2003; 2004).

There has been a dearth of research on this distinction between desirable and undesirable aspects of masculinity and femininity in the sex role literature. That which has been done has indicated that desirable masculinity is positively related to self-esteem while negative masculinity is not. Similarly, undesirable femininity is negatively related to self-esteem while desirable femininity is not (Marsh & Myers, 1986). Others have replicated these results, for example, Wajsblat (2011) found positive sex role identities were associated with better stress management strategies and higher levels of wellbeing than their negative counterparts, whose identities were predictive of the poorest psychological outcomes. Yawn (2007) found that desirable gender traits predict better functioning than undesirable traits when it comes to drinking- related problem behaviour, measures of restrained eating, and measures of personal competence. In addition, researchers have found that negative sex-role extremities impair the psychological functioning of individuals (Aube, 2008; Hammer & Good, 2010; Helgeson & Fritz, 1998). Implications of these studies

strongly suggest that the exploration of desirable and undesirable gender traits for both males and females warrants further investigation (Wajsblat, 2011).

In an effort to extend this model of differentiated masculinity and femininity, researchers have turned their attention toward a similar differentiated model of androgyny. In a study conducted by Woodhill and Samuels (2003) investigating the effects of positive and negative androgyny (A+ and A-), and their relation to aspects of psychological health and wellbeing, results indicated that A+ individuals obtained higher scores on most indicators of wellbeing as compared to their A-counterparts. Further, A+, M+ and F+ individuals all obtained higher scores on indicators of wellbeing than their negative counterparts (Woodhill & Samuels, 2003).

Results of the aforementioned studies provide the first documented empirical support for the constructs of positive and negative androgyny. Woodhill and Samuels (2003, p.563) thus argue that "...the inability of prior research to differentiate between the positive and negative types of androgyny could have been responsible for masking the benefits of positive androgyny", as evidenced in much of the research on 'desirable-only' sex role identities.

Consequently, it has recently been proposed that future research must broaden the categorisation offered by Bem (1974). Woodhill and Samuels (2003; 2004) propose seven categories of sex role identities that embrace positive and negative masculinity, femininity and androgyny. These categories are as follows:

1. The positively feminine individual,
2. The negatively feminine individual,
3. The positively masculine individual,
4. The negatively masculine individual,
5. The positively androgynous individual,
6. The negatively androgynous individual and
7. The undifferentiated individual.

Woodhill and Samuels (2003; 2004) note that future research must direct itself towards measuring all of these categories of sex role identities and whether and how these sex role identity variations impact upon the stress-wellbeing relationship. By so doing, research may be able to account for the mixed findings, that is, those that have not shown health effects for masculine, feminine or androgynous individuals when sex role identity is measured according to four dimensions only, that is only the positive dimensions of masculinity, femininity and androgyny. An attempt to address this theoretical limitation was proposed through an extension of the earlier PAQ developed by Spence and colleagues (1979) in their development of the Extended Personality Attributes Questionnaire (EPAQ).

However, as mentioned there has been a scarcity of research on the differentiated model and a scarcity of research utilising this instrument. This may in part be due to the poor psychometric properties of some of the sub-scales of the EPAQ, particularly the negative sub-scales within the EPAQ and the negative sub-scales of other similar inventories, and consequently, the present researcher attempted to address this problem. The manner in which this was addressed is fully engaged with in Chapters 7 and 8).

Within the EPAQ the authors attempted to distinguish between socially desirable and undesirable traits, explicated by Bakan (1966) as the unmitigated counterparts to agency and communion (Spence et al., 1979). The resultant Extended Personal Attributes Questionnaire (EPAQ) addressed the inability of prior measures of gender role identity to account for both the desirable and undesirable masculine and feminine traits that contribute to gender stereotypes (Holahan & Spence, 1980; Kelly & Worrell, 1977). Over the past decade the EPAQ has been increasingly used in an effort to revive the field of gender research, which was limited by the conceptualisation of masculinity and femininity as endpoints on a uni-dimensional continuum and/or was limited to desirable aspects of masculinity or femininity only (Korabik, 1999). By way of the EPAQ, an emerging body of research has supported the differentiated model of gender role identity (Korabik & McCreary, 2000), where socially desirable agentic (M+) traits have been associated with task-orientation and positive mental health outcomes, including high self-esteem and low depression and anxiety and socially desirable communal (F+) traits associated with positive interpersonal functioning, including improved relationship satisfaction and social support

(Helgeson, 1994; Saragovi et al., 1997). In addition to providing a measure of positive and negative sex-based traits, the EPAQ allows for the measurement of positive and negative androgyny, whose unique contributions have only recently been explored as a contributor to wellbeing (Woodhill & Samuels, 2003). Other than the Australian Sex Role Scale (ASRS) (Antill, Cunningham, Russell, & Thompson, 1981) and the Unmitigated Communion Scale (Helgeson & Fritz, 1998), the EPAQ is the only inventory that differentiates androgyny into positive and negative components.

However, although the study of sex role identities and androgyny has been advanced by including an examination of socially desirable and undesirable traits there are some who argue that a core problem remains in that all of these traits are based on stereotypes and thus still confine the sexes to prescriptive roles. These researchers argue that there needs to be a movement towards gender role transcendence and although the study of androgyny aspires to this it is confounded by the limits of its own ideology (Bem & Lenny, 1976; Betz, 1993; Robinson & Green, 1981).

6.4.4 Stereotyping and the need for gender role transcendence

*“Every emancipation has in it the seeds of a new slavery and
every truth easily becomes a lie” I.F. Stone*

To the extent that sex role inventories actually measure personality traits, even in terms of a broader conceptualisation that includes traits that are socially desirable and undesirable, so is there a need to examine these traits and to be cognisant of not desegregating and assigning particular traits to a specific sex. By so doing, these previously stereotypically labelled traits can transcend being branded as masculine or feminine and can rather be viewed as constructs related to wellbeing that are not specifically prescribed to either sex. An understanding of sex roles as personality traits thus also argues for a deconstruction of stereotypes. In fact Spence and colleagues (1979) state quite emphatically that their EPAQ is not a measure of masculinity and femininity but rather is a measure of desirable and undesirable sex-based personality traits that are not specifically prescribed to either one of the sexes. Thus although the present study uses the terms negative and positive masculinity and femininity the researcher is continually cognisant of not consigning the traits contained within these subscales to any individual based on their biological sex.

The theory of androgyny and sex role identity has, in fact, been critiqued for strengthening gender stereotypes as it is upon these stereotypes that the theory is based (Betz, 1993). Although its development was designed to overcome sex role segregation, inescapably it is on the basis of this segregation that the theory was constructed. Furthermore, one needs to question whether the stereotypes or standards for male and female behaviour, developed in the 1970s, remain relevant today. That is, to what extent has androgyny theory and the identities it has proposed, maintained social relevance as changes in social roles evolve, deconstruct and reconstruct into the 21st century. Theoretically and socially, the theory of androgyny is thus exposed to the current challenges of continually transforming sex roles. While the concept of androgyny represents an improvement over traditional bipolar dimensions that sought to desegregate the sexes unequally, it has been suggested that psychological androgyny could become as inflexible as traditional sex-typed models and may in turn prevent the formulation of new models as society evolves and constructs and reconstructs new perceptions of being 'male' and 'female' (Bem & Lenny, 1976; Robinson & Green, 1981). Thus, within the androgyny model there is an inherent contradiction as although the aim of androgyny was to liberate individuals from prescriptive sex-typing, it could, over time itself become prescriptive and confining due to the stereotypes upon which it is based. Adopting this view implies that researchers need to constantly re-evaluate gender roles, taking into account that social reality is constantly being constructed and reconstructed and that allowance must be made for the destruction of social systems if and when they become obsolete (Benson, 1977). Robinson and Green (1981) radically argue that changes in social realities will facilitate the deconstruction of androgyny into an evolving form of sex-role transcendence where the stereotypes on which sex roles are based are completely rejected. In this sense gender role transcendence can be seen as a discourse against discourse as it is a deconstruction or reconstruction of the various identities proposed by androgyny theory, in which the constraints of all sex-typed identities are unshackled. Consequently, within the context of the present study the researcher will attempt to remain vigilant and cognisant of the degree to which these stereotypic sex-typed traits are endorsed by respondents and will bear in mind the implications of the degree of this endorsement.

6.4.5 Methodological limitations

Further limitations of the androgyny model pertain to those surrounding measurement. Of import is that of the instability of factor structure of many sex role inventories and scoring limitations, matters that the present study will attempt to address. With regard to instability of the factor structure of sex role inventories, over the course of more than almost four decades, the BSRI, the PAQ and the EPAQ have undergone several exploratory factor analyses (EFA) and confirmatory factor analyses (CFA) in order to validate the scales and factor structure (Gaa, Liberman, & Edwards, 1979; Helmreich et al., 1981; Hill, Fekken, & Bond, 2000; Ward et al., 2006). While continued use of these scales supports the utility of a multidimensional approach to gender (Spence & Buckner, 2000) their factor structure along with those of other sex role inventories has not always been stable with many studies failing to replicate the clear-cut factor structure as proposed by the authors of these instruments.

Other measurement limitations pertain to the use of M-F sub-scales in various sex role inventories one of which is the EPAQ. Ward and colleagues (2006), note that recent studies have omitted the M-F sub-scale due to concerns over the content validity and psychometric properties of this subscale. Spence and Helmrich (1978) note that the subscale is not homogenous in terms of content with the aggressive and dominant items being agentic and therefore, in fact more reflective of negative masculinity in the present researcher's view; while the remaining six items are more reflective of emotional vulnerability and therefore, possibly better aligned with negative femininity. Furthermore, as M-F items are based on a unidimensional bipolar approach to measurement that has been largely discredited in the seminal works of Constantinople (1973) and Lewin (1984a; 1984b) and as the present research adopts a multidimensional approach; it was felt that this sub-scale should be excluded or revised within the present study. Spence and Helmrich (1978 as cited in Hoffman, 2001) in fact acknowledge some embarrassment that their EPAQ has simultaneously embraced both a dualistic and bipolar model and therefore in accordance with the present studies dualistic multidimensional approach a possible consideration was to exclude or reformat this sub-scale of the EPAQ.

With regard to methodology, many gender researchers have cited limitations of the instruments and procedures used to assess sex roles as pertaining to the method of scoring (Hofmann, 2001,

Hofmann & Borders, 2001). Traditional means of scoring measures of sex role orientation have mainly utilised a median-split method to categorise individuals as masculine, feminine, androgynous, or undifferentiated. Limitations of this method highlight the insufficiency of prevailing measures to account for subtle variations in masculine and feminine traits (Woodhill & Samuels, 2004). That is, where does one determine the cut-off point to be for those whose scores border the median? In a review of androgyny research during the twentieth century, and a “prescription” for continued research in the twenty-first century, Woodhill and Samuels (2004) have therefore stressed that gender researchers utilise a method of scoring other than that of median split along with investigating the proposed correlates of androgyny on a behavioural level by examining both desirable and undesirable ‘masculine’ and ‘feminine’ traits. Methodologically, they have proposed the utilisation of the z- score method. They note that in order to make valid statistical comparisons between the positive and negative raw scores on masculinity and femininity, z-score transformations should be used. In such a way those with high scores on a particular subscale (that is z scores above zero) would be considered to belong to a specific sex-type category. As the more negative a z-score is the lower its association with a raw score, if one obtained a negative z-score on a particular subscale so would they not be considered to belong to that sex-type category. Consequently, the present study adopted this form of measurement utilising the broader conceptualisation as proposed by Woodhill and Samuels (2003; 2004).

6.4.6 Limitations of sampling and research within the South African context

A final, albeit lesser, set of limitations to be considered is that of sampling and androgyny research within the South African context. With regard to sampling, research both locally and internationally has often been conducted on convenience samples such as college students. Use of such samples may restrict generalisability of findings due to the possible lifestyle and stressor-demand differences that may exist between college populations and the adult population at large. College students may be subject to a different set of stressors than working adults and thus findings in which androgynous college students show better adaptational skills and health outcomes may not be completely generalisable to the broader population (Long 1986; May & Spangenburg 1997). Furthermore, it is important to note that most of the research findings on androgyny and stress have been obtained internationally. The findings of this research may thus be questionable in terms of relevance to the South African population which is uniquely different in its racial and cultural

composition as compared to North American and European populations. International research has in fact indicated that different racial and cultural groups may have differing perceptions with regard to sex role identity. In fact, Hinrichsen and colleagues (1981) in research on androgyny raised the issue of culture along with socio-economic factors. They note that “socio-cultural and economic factors may tend to foster differential social evaluations of different sex-role-related behaviours” (Hinrichsen et al., p.132). As discussed in detail in Chapters 5 and 6, social constructionism notes the shaping of sex role identity is a result of prevailing social conditions that embrace a particular individual in his or her environment from infancy right through to adulthood, prescribing what is appropriate with regard to the display of sex-based behavioural traits or personality predispositions. This perspective views gender and culture as being interconnected. That is to say, culture has an impact on the construct of gender and the construct of gender influences the practices of a culture (Yawn, 2007). Gender is viewed as more than simply a demographic of an individual; it is a social construction that “is learned and achieved at the interactional level, reified at the cultural level, and institutionally enforced via the family, law, religion, politics, economy, medicine, and the media” (Gagne, Tewksbury, & McGaughey, 1997, p. 479). Thus each society will assign different groupings of masculine or feminine traits or behaviours to each sex in terms of whether the manifestation of such traits or behaviours are considered to be appropriate and/or desirable (Boswell 1997).

If one adopts this social constructionist viewpoint, as the socio-economic and political forces that have shaped South African society, historically and to date may differ considerably from that of Eurocentric and North American populations; it is possible that South Africans may have different perceptions of what is socially acceptable and/or desirable and therefore salutogenic with regard to sex-role-related behaviours (Prinsloo, 1993). In turn, these differing perceptions may demonstrate distinctive patterns of relationship to stress perception, social support utilisation and wellbeing.

Some examples of studies conducted on South African samples are those carried out by Spangenburg and Lategan (1993) and May and Spangenburg (1997). In the 1993 study, Spangenburg and Lategan, using the Bem Sex Role Inventory, examined a sample of 301 male and female University of Stellenbosch students. Their findings indicated that androgynous females did have better coping abilities than feminine, masculine or undifferentiated females while both

androgynous and masculine males coped better than feminine or undifferentiated males. Problems with this study are that although the authors note that this first year purposive sample selection was considered appropriate as “during late adolescence a young person experiences particular stresses and, often for the first time, must cope with them as a responsible, autonomous individual” the results of the study could not be fully generalised to a working population (Spangenburg & Lategan, 1993, p. 197). Furthermore, the sample of 301 respondents was all White and only 56 were male. Although the authors note that the low ratio of males to females was representative of the registration ratio of 20.1%:79.9% of first year psychology students, the need to further explore the relationship between psychological gender and coping amongst males was indicated. In addition, 231 students were Afrikaans speaking, 60 were English speaking and 10 were German speaking indicating that the sample did not reflect the responses of any other cultural and racial groups.

In the later study by May and Spangenburg (1997) an attempt was made to address the preponderance of females studied in the Stellenbosch research by looking at a ‘male only’ sample. Findings revealed were similar to those in the 1993 study indicating that both androgynous and masculine respondents showed significantly better coping abilities than respondents with feminine or undifferentiated sex-role orientations. In addition, androgynous respondents displayed a significantly more flexible style in coping with the environment as opposed to respondents with other sex-role orientations. Although these males were largely adults that had been in the working environment for many years (age range 25 to 50 years with a mean age of 37), as with the Stellenbosch (1993) study, the sample was predominantly Caucasian and Afrikaans speaking thus severely limiting the findings in terms of cross-cultural generalisability.

A further problem with both of the above studies was their reliance on the Bem four-fold categorisation. Both these studies, and in fact, virtually all studies conducted within South Africa, have used the BSRI and have thus not considered the differentiated model as proposed by Woodhill and Samuels (2003; 2004). Utilising this instrument, only positive/desirable traits of masculinity and femininity are examined. Within the abovementioned studies positive masculine traits were those described as being instrumental in nature involving goal orientation, assertive activity, self-development and separation from others while positive feminine traits were described as expressive, focusing on emotionality, selflessness, sensitivity and interpersonal relationships (May

& Spangenburg, 1997; Spangenburg & Lategan, 1993). It is thus possible that if there was a distinction between and an assessment made of positive and negative, desirable and undesirable masculinity and femininity, a different pattern of results may have emerged.

6.5 CONCLUSION

Based on the above outlined limitations of the research on stress, social support, gender and sex role identity, discussed throughout Chapters 1 to 6, the present study aimed to address these limitations while undertaking an examination of various relationships between sex role identity, stress and indicators of wellbeing. In particular, the present research intended to adopt a broader prescription for examining sex role identity by utilising the differentiated model which takes into account both positive socially desirable and negative socially undesirable sex role identities. Furthermore, the present research intended to examine this model within the specific parameters of a South African occupational context, exploring the stress and wellbeing experience of female managers across the diverse racial spectrum that constitutes South African society. The aims, rationale, research questions and method whereby these limitations will be addressed are outlined in the following chapter, that is, Chapter 7: Methodology.

CHAPTER 7: METHODS

7.1 INTRODUCTION

The present chapter covers the aims and rationale of the present study, the proposed research questions and hypotheses, the research design and theoretical model adopted, and the measuring instruments that were utilised to assess the proposed hypotheses. In addition, the present chapter covers the data analyses that were employed to assess the proposed relationships between the variables as described within the hypotheses, the procedure that was applied in operationalising the study, and ethical considerations.

7.2 AIMS AND RATIONALE OF THE STUDY

A discussion of the limitations of the research on stress, social support, sex, gender, and sex role identity outlined in the previous chapters provided the framework for the aims and rationale of the present research. More specifically, as discussed in Chapter 6, research done on the salutogenic effects of androgyny has been largely limited by its use of the narrow four-fold conceptualisation of androgyny; only focusing on sex-based behavioural traits that are socially desirable (Choi et al., 2007; McCreary, 1990; McCreary & Korabik, 1994; Ricciardelli & Williams, 1995; Woodhill & Samuels, 2003; 2004). In addition, this research has largely been conducted using international samples; thus the findings thereof are of limited generalisability to the South African population. Although there has been some research on androgyny within the South African context, the little research that has been done has not explored the breadth of different cultures and race groups and has limited itself to student samples. While there have been a few local studies that have looked at managerial samples, these studies have focused on samples that are predominantly white and predominantly male. Most importantly, this research has only assessed sex role identity using Bem's four-fold measure which examines positive, socially desirable sex-based traits.

Post-1994 there has been an enormous change in workforce demographics in South Africa as a result of the new political dispensation and the promulgation of the Employment Equity Act in 1998. These changes have led to an increase in women of all race groups in higher level positions. Consequently, it has become critical to re-examine the proposed salutogenic findings of androgyny and the impact of the varying sex role identities on the stress process by exploring its impact on

female managers within a local context. This sector is one that was historically ignored, as in the past those within this sector, particularly non-white females, held very few high level positions. Their experience of managerial stress was therefore not subjected to sufficient research scrutiny. Furthermore the relevance of previous conceptualisations of sex role identities within the context of social changes in the 21st century, and more specifically within the context of dramatic social and political changes within the South African context, needs to be examined. Therefore, the current study was a novel attempt to explicate the relation of positive and negative sex role identities to a well-defined and empirically supported range of wellbeing indicators within a multicultural sample of South African female managers. In addition, it is crucial to examine the relationship of both socially desirable and socially undesirable sex role identities to wellbeing indicators, given that previous research has neglected the role of socially undesirable sex based traits and how these relate to, and can in fact confound, findings on sex role identity and wellbeing.

The present study also intended to address measurement and scoring issues outlined in the literature and the questionable psychometric properties of instruments assessing both socially desirable and socially undesirable sex-based traits. Consequently, the present study sought to establish the reliability and validity of the EPAQ in a South African sample, by assessing the internal consistency and face validity of the subscales and by confirming the proposed factor structure of the scale when used within a South African setting. In addition, the present study adopted the z-score method of scoring as opposed to the median split method, as suggested by Woodhill and Samuels (2003; 2004).

Thus, theoretically and methodologically, following ‘new prescriptions’ for sex role identity, the present study attempted to add to existing gender and wellbeing research by exploring a differentiated model of sex role identity, that is, the effect of both desirable and undesirable gender identities on aspects of wellbeing. In addition, the present study sought to add to the growing literature by exploring sex role behaviour within an occupational context, focusing on female managers specifically due to the plethora of studies on male managers and the dearth of studies on female managers. In addition, the present study intended to examine female managers across a diverse racial spectrum. However, as mentioned previously, the researcher within the present study remained cognisant that this broader conceptualisation of sex role identity is still based on

stereotypical, sex-typed personality traits. It is thus important to note that although the present study will continue to refer to ‘masculine’ and ‘feminine’ traits, the researcher remains aware that these traits are not sex-bound. More specifically, they are merely labels for *sex-based* personality traits that are variably inculcated into the sexes depending on societal demands and that, in turn, have variable implications for health and wellbeing.

7.3 RESEARCH QUESTIONS

Based on the aims of the present research and the proposed variables under study the research questions were framed as follows:

1. Do individuals with varying patterns of sex role identity, that is, both positive socially desirable and negative socially undesirable identities, have differing perceptions of stress?
2. Do individuals with varying patterns of sex role identity, that is, both positive socially desirable and negative socially undesirable identities, have differing perceptions of self-esteem?
3. Do individuals with varying patterns of sex role identity, that is, both positive socially desirable and negative socially undesirable identities, have differing perceptions psychological wellbeing?
4. Do individuals with varying patterns of sex role identity, that is, both positive socially desirable and negative socially undesirable identities, have differing perceptions of social support?
5. Under varied stress conditions, do varying sex role identities, that is, both positive socially desirable and negative socially undesirable identities, have differing perceptions of self-esteem and psychological wellbeing?
6. In the event of stress perception, do different sources of social support have a moderating effect upon psychological wellbeing and self-esteem?

7.4 HYPOTHESES

Based on the above research questions the following hypotheses were formulated:

7.4.1 Formulation of Hypothesis 1

Individuals with varying patterns of sex role identity do have different perceptions of work stress.

A large body of research literature has indicated that those who are positively androgynous or masculine are better able to deal with stress and report the highest level of wellbeing as compared to those who are positively feminine (Antill, 1983; Ashmore, 1990; Aylor & Dainton, 2004; Baril, Elbert, Mahar-Potter & Reavy, 1989; Bassoff & Glass, 1982; Campbell, Steffen, & Langmeyer, 1981; Cheng, 1999; Gianakos, 2000; Green & Kendrick, 1994; Hinrichsen, Follansbee & Ganellen, 1981; Jagacinski, 1987; Kirchmeyer, 1996; Rendely, Holmstrom & Karp, 1984; Rose & Montemayor, 1994; Sawrie, Watson, & Biderman, 1991; Shaver, Papalia, Clark, & Koski, 1996; Shimonaka, Nakazato, Kawaai, & Sato, 1997; Stake, 1997; Taylor & Hall, 1982; Whitley, 1985; Wubbenhorst, 1994).

More recently, research has suggested that those who have negative sex role identities have less capacity in terms of coping resources and report poorer wellbeing (Choi et al., 2007; McCreary, 1990; McCreary & Korabik, 1994; Ricciardelli & Williams, 1995; Woodhill & Samuels, 2003; 2004). In particular those who are negatively feminine, an identity that contains within it many traits associated with anxiety, neuroticism, and depression, are likely to fare the worst with regard to coping and wellbeing indicators.

Consequently, it was hypothesised that positively androgynous individuals would report the least amount of perceived stress, followed by positively masculine, positively feminine, negatively androgynous, negatively masculine, and negatively feminine individuals respectively. Overall, it was expected that individuals with positive sex role identities would have lower perceptions of stress as compared to individuals with negative sex role identities. As in the research by Woodhill and Samuels (2003), no order of prediction was proposed for the undifferentiated sex role identity. Woodhill and Samuels (2003) note that as individuals with an undifferentiated identity show 'no clear preferences' with regard to sex-based traits and therefore do not clearly manifest one or

another 'dominant' sex role identity, predicting the relationship of such an unclear identity to wellbeing indicators becomes problematic. Therefore no specific predictions for this identity were proposed.

7.4.2 Formulation of Hypothesis 2

Individuals with varying patterns of sex role identity do have different perceptions of self-esteem.

As with the literature on stress perception and psychological wellbeing, literature on self-esteem and sex role identity indicates that those with androgynous or masculine identities report far higher levels of self-esteem than those with feminine identities (Flaherty & Dusek, 1980; Marsh & Myers, 1986). With regard to the negative sex role identities, as negative femininity in particular is associated with many of the traits of anxiety, neuroticism, and depression, it was expected that negative feminine identity would link to lower self-esteem. Consequently it was hypothesised that positively androgynous individuals would have the highest self-esteem, followed by positively masculine, positively feminine, negatively androgynous, negatively masculine, and negatively feminine individuals respectively. Overall, it was expected that individuals with positive sex role identities would have higher perceptions of self-esteem as compared to individuals with negative sex role identities. As in research by Woodhill and Samuels (2003), no order of prediction was proposed for the undifferentiated sex role identity.

7.4.3 Formulation of Hypothesis 3

Individuals with varying patterns of sex role identity do have different perceptions of psychological wellbeing.

As with the literature on sex role identity, perceptions of and coping with stress, research has indicated that androgynous individuals and those that are masculine tend to have the highest level of psychological wellbeing, with slightly lower wellbeing reported for feminine individuals, (particularly if the domains of wellbeing are instrumental as opposed to expressive) (Antill, 1983; Ashmore, 1990; Aylor & Dainton, 2004; Baril, Elbert, Mahar-Potter & Reavy, 1989; Bassoff & Glass, 1982; Campbell, Steffen, & Langmeyer, 1981; Cheng, 1999; Gianakos, 2000; Green & Kendrick, 1994; Hinrichsen, Follansbee & Ganellen, 1981; Jagacinski, 1987; Kirchmeyer, 1996;

Rendely, Holmstrom & Karp, 1984; Rose & Montemayor, 1994; Sawrie, Watson, & Biderman, 1991; Shaver, Papalia, Clark, & Koski, 1996; Shimonaka, Nakazato, Kawaai, & Sato, 1997; Stake, 1997; Taylor & Hall, 1982; Whitley, 1985; Wubbenhorst, 1994; Yarnold, 1990). Consequently, it was hypothesised that positively androgynous individuals would have the best health outcomes, followed by positively masculine, positively feminine, negatively androgynous, negatively masculine, and negatively feminine individuals respectively. Overall, it was expected that individuals with positive sex role identities would have greater perceptions of wellbeing as compared to individuals with negative sex role identities. As in research by Woodhill and Samuels (2003), no order of prediction was proposed for the undifferentiated sex role identity.

7.4.4 Formulation of Hypothesis 4

In the event of high, medium, or low stress conditions, there will be differences in perceptions of self-esteem and psychological wellbeing amongst the different sex role identities. In this regard, in all stress conditions positive androgyny should produce the greatest beneficial effect, followed by positive masculinity, positive femininity, negatively androgyny, negative masculinity, and negative femininity respectively. Overall, it was expected that individuals with positive sex role identities would have higher perceptions of self-esteem and wellbeing as compared to individuals with negative sex role identities under varying conditions of stress. As in research by Woodhill and Samuels (2003), no order of prediction was proposed for the undifferentiated sex role identity.

7.4.5 Formulation of Hypothesis 5

Individuals with varying patterns of sex role identity do have different perceptions of social support. Those with positive identities will be more likely to perceive a higher degree of social support and, conversely, those with negative identities will be more likely to perceive a lower degree of social support.

In this regard, research has revealed that those with positive identities are likely to have more secure attachment patterns and are thereby better able to establish and mobilise networks of social support (Bornstein et al, 2004; Kitamura et al; 2004, Monnier et al., 1998). Furthermore, although research has indicated that positive masculinity better predicts indicators of wellbeing, research focused more specifically on social support as a wellbeing indicator has shown that those who are

females or more feminine are far more likely to seek out and utilise social support than those who are males or more masculine (Neff & Karney, 2005; Reevy & Maslach, 2001; Taylor et al., 2000; 2004; 2007). Taylor and colleagues (2000; 2004; 2007) in particular note that this difference in gender orientation, which is evident across a number of cultures, may have its roots in bio-behavioural responses to stress with men tending to adopt 'fight or flight' more while women tend to 'tend and befriend' more. Thus, within the present study a 'specificity hypothesis' was proposed for social support which predicted that positively feminine females would supersede positively masculine females with regard to perceptions of and utilisation of social support. This specificity hypothesis also took into account that depending on the domain of wellbeing, that is, if it is an expressive as opposed to an instrumental domain, this will determine which sex role identity will predict the greatest wellbeing (Yarnold, 1990). Consequently, the order of prediction for social support was as follows: positively androgynous individuals would have the highest perceptions of social support, followed by positively feminine, positively masculine, negatively androgynous, negatively masculine, and negatively feminine individuals respectively. As in research by Woodhill and Samuels (2003), once again no order of prediction was proposed for the undifferentiated sex role identity.

To conclude on all of the above hypotheses, while a specific order was proposed with regard to the these hypotheses, it was expected that those with positive sex role identities would have lower perceptions of work stress, higher perceptions of self-esteem, better psychological wellbeing, and higher perceptions of social support as opposed to those with negative sex role identities. Once again, as described above and in the review of the literature, this was expected as those with positive sex role identities have behavioural traits that are associated with competency cluster traits and interpersonal socio-emotional skills that enable them to better adapt to and cope with stressful environmental demands and establish stronger social support networks; while those with negative identities are prepossessed of behavioural traits and social skills that tend to be associated with poorer adaptation to and coping with stress and poorer support networks (Fritz, 2000; Fritz & Helgeson, 1998; Gallo & Smith, 1998; 1999; Gallo, Smith, & Ruiz, 2003; Ghaed & Gallo, 2006; Helgeson, 1993; 1994; Helgeson & Fritz, 1996; 1998; 1999; 2000). Consequently, the positive identities were expected to fare better overall on wellbeing indicators than those with negative identities.

7.4.6 Formulation of Hypothesis 6

Social support will moderate the relationship between perceptions of stress, self-esteem, and psychological wellbeing; and social support will have a main effect on perceptions of stress, self-esteem, and psychological wellbeing.

A large body of research has documented the moderating effect and main effects of social support on wellbeing in the event of stress (AbuAlrub, 2004; Antonucci et al., 1990; Bloom 1990; Brough & Pear, 2005; Burleson, 2003; Coyne & Bolger, 1990, Coyne & Downey, 1991; Cropley & Steptoe, 2005; Gencoz & Ozlale, 2004; Giliotti, 2004; Harrison, Loiselle, Duquette & Semenic, 2001; Holt-Lunstad, Smith & Layton, 2010; Ismail, Mohamed, Sulaiman, Ismail & Mahmood, 2010; Kitamura et al., 2002; Monnier, Schroevers, Helgeson, Sanderman & Ranchor, 2009; Monnier, Stone, Hobfoll & Johnson, 1998; Reevy & Maslach, 2001; Schirey, 2004; Schwarzer & Guiererez- Dona, 2005; Zachariah, 2009).

In this regard, research has demonstrated that social support can have a main effect on stress perception, that is, social support can reduce the threat perceived in the event of exposure to stress, social support can also have a generalised positive effect on health and wellbeing independent of the experience of stress and, in the event of stress being experienced, social support can moderate the impact of this stress on wellbeing and health. Research on specificity has further proposed that the beneficial effects of support may vary depending on the context and source of support. Thus it was hypothesised that varying sources of support may have varying impacts upon stress and wellbeing within the present study.

The hypotheses can be presented graphically, as shown in Figures 1 and 2 below.

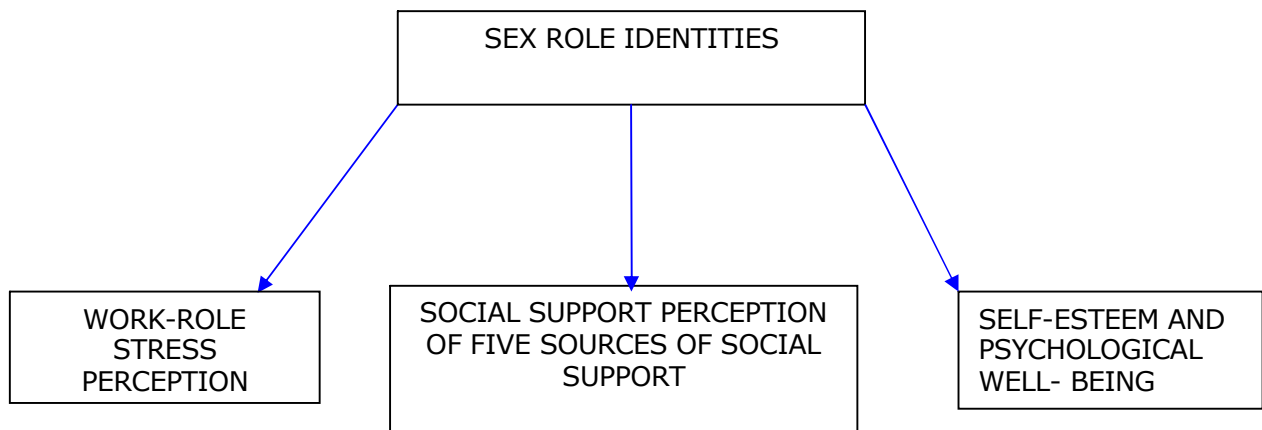


Figure 11
Main effects

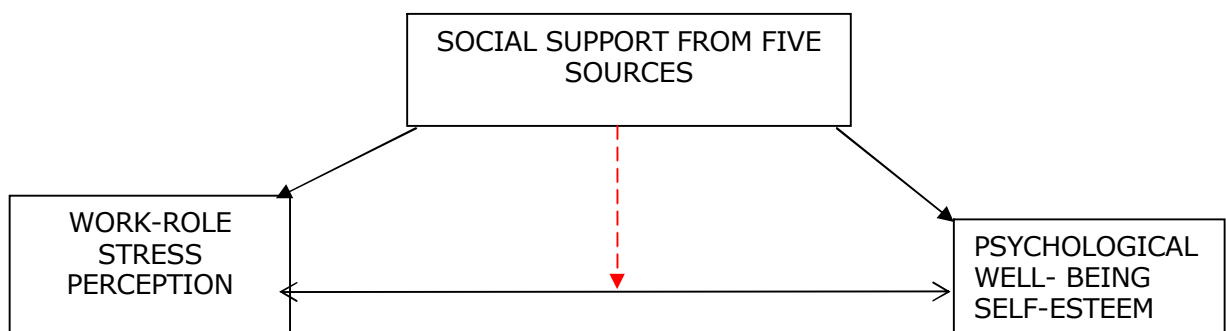


Figure 12
Moderator and main effects

7.5 RESEARCH DESIGN

The present study utilised a cross-sectional, field design and quantitative, survey methodology. Furthermore, as the key variables (sex role identity, work stress, self-esteem, psychological wellbeing, and social support) were not and could not be manipulated by the researcher, the study was non-experimental and ex-post facto in design (Kerlinger, 1981).

Although cross-sectional designs have been widely criticised as they do not allow for the determination of causality, the design in the present study was considered to be appropriate as the central focus was to examine the concept of sex role identity and how varying patterns of sex role identity (both desirable and undesirable) related to perceptions of stress, social support, and indicators of wellbeing. Furthermore, the cross-sectional design was considered to be appropriate as sex role identity in adulthood is considered to be a stable construct. By the time the individual has moved into early adulthood, gender identity is crystallized therefore it was not deemed necessary to utilise a longitudinal methodology (Kohlberg, 1966; Martin & Ruble, 2004).

In addition, as sex role identity or patterns thereof can be regarded to be a construct of personality, it is not likely that experience will cause a variation in this construct over time unless the individual has undergone some form of intervention or therapy or has experienced an extremely severe life altering event that could modify their behavioural style in the present. The use of a cross-sectional and non-experimental design was also justified by the exploratory nature of the present study in which a seven-fold (both desirable and undesirable) categorisation of sex role identity was used to assess the relationships of these categories to the experiences of work stress, social support, and wellbeing of a diverse group of female managers within a South African setting.

7.6 THE MODEL

Using the modified Transactional Model proposed in Chapter 2, the variables investigated were those of sex role identity, work stress, social support, self-esteem, and psychological wellbeing. Work stress was both an independent and dependent variable in the present study. When examined within the moderator model it served as the independent variable in the relationships between work stress, social support and psychological wellbeing and self-esteem respectively. When examined in relation to sex role identity, within the one-way ANOVA model it served as a dependent variable as the intention was to examine the extent to which there were differences in perceptions of work stress in relation to the different sex role identity groups. Similarly, depending on the research questions and hypotheses, social support acted as a moderator (independent variable) and as a dependent variable. In terms of being a moderator, social support

was hypothesised to moderate the relationships between work stress and wellbeing and self-esteem; it was also a dependent variable in the instance of examining the differences in perceptions of the various sources of social support based on sex role identity within the ANOVA model. In all statistical tests, psychological wellbeing and self-esteem were dependent variables and sex role identity, within the ANOVA model served as an independent variable.

7.7 INSTRUMENTS

7.7.1 Sex role identity

Sex role identity was measured using the Extended Personal Attributes Questionnaire (EPAQ) as developed by Spence, Helmreich, & Holahan (1979). The EPAQ is a 40-item, self-report measure used to assess masculinity, femininity, and androgyny. It was derived from items taken from the Personal Attributes Questionnaire (PAQ, Spence, & Helmreich, 1978), which was used to exclusively measure socially desirable agentic (e.g., independent, decisive) and socially desirable communal (e.g., kind, helpful) traits associated with masculinity and femininity respectively. The extended version of the PAQ, the EPAQ, was expanded to include items measuring socially undesirable agentic items (e.g., arrogant, egotistical, hostile) on which men scored higher than women; and socially undesirable communal items (e.g., gullible, subordinate, fussy) on which women scored higher than men (Holahan & Spence, 1980). In total, the EPAQ includes the original 24 items of the PAQ which consist of: 8 socially desirable agentic (positive masculine) traits (e.g. “stands up well under pressure”; “never gives up easily”); 8 socially desirable communal (positive feminine) traits (e.g. “aware of feelings of others”; “very kind”); and 8 bipolar masculine-feminine items. In addition, a further 16 items were added, consisting of: 8 items measuring socially undesirable (negative masculine) agency (e.g. “very arrogant”; “looks out only for self”); 4 items measuring negative feminine verbal, passive aggressiveness (e.g. “very whiny”; “nags a lot”); and 4 items measuring excessive feminine communality (e.g., “subordinates oneself to others”; “very gullible”). Although the negative femininity scale was divided into two components, that is verbal-passive aggressive and overly communal items, a number of researchers combined all eight items and used both subscales as a single negative femininity subscale (Woodhill & Samuels, 2003; 2004).

Masculine-feminine items are mixed in content, that is, they contain both a masculine and feminine pole. Two of these are instrumental items and six are indicative of emotional vulnerability. With all eight items the 'ideal female' would fall towards the stereotypically female pole while the 'ideal male' would fall towards the stereotypically male pole (Spence et. al, 1979). However, as discussed previously, there are methodological issues associated with the measurement of masculine-feminine items. Therefore it was decided that this subscale would be subject to revision or totally excluded depending on the internal consistency attained in a South African sample.

The positive masculinity and positive femininity scales each contain trait descriptions which are more stereotypically characteristic of males and females respectively; but may be regarded as socially desirable in both sexes. However the 'ideal male' would fall more toward the extreme poles of positive masculinity items indicating the greater presence of these traits, while the 'ideal female' would fall more toward the extreme end of the poles of positive femininity items indicating the greater presence of these traits (Helmrich, Spence, & Wilhelm, 1981). Similarly, with regard to negative masculinity and negative femininity, both scales contain trait descriptions that are more stereotypically characteristic of males and females respectively, but would be regarded as socially undesirable in both sexes. In this instance ratings of the ideal male and ideal female would fall towards the pole representing the *absence* of the trait (Helmrich et. al, 1981). This indicates that an individual of *either* sex may display traits that are regarded to be stereotypically masculine or feminine and/or desirable or undesirable to varying degrees.

While items on the original scale were scored A to E, for ease of responding this was converted to a Likert-type scale ranging from 1 to 5 where higher scores indicated greater agreement with the item and item scales were summed to obtain a total score for each scale. Respondents were asked to indicate the degree to which they felt each item described them. As proposed by Woodhill and Samuels (2003), in order to make valid, statistical comparisons between positive and negative raw scores, all scores were converted into z-scores. Respondents were then classified into one of the seven possible sex role identity categories, namely: positively androgynous, negatively androgynous, positively feminine, negatively feminine, positively masculine, negatively masculine, or undifferentiated. Androgynous respondents were determined by a relative balance

of positive feminine and positive masculine qualities or a balance of negative feminine and negative masculine qualities. Those with high scores (a pair of z-scores above zero which acted as the standardized sample mean) on both positive masculinity and positive femininity were categorised as positively androgynous while those with high scores on both negative masculinity and negative femininity were categorised as negatively androgynous. As the more negative a z-score gets the lower its association with the raw score, therefore those remaining on-androgynous respondents were classified as positively feminine; negatively feminine, positively masculine or negatively masculine, according to which of their z-scores on these sub-scales had the highest positive value.

Within the original validation study, Spence et al. (1979) reported internal consistency reliability estimates for 380 male and 540 female college students – the results are shown in Table 1 below.

Table 1

Internal consistency reliabilities: Original 1979 sample

EPAQ Subscale	Cronbach Alpha	Cronbach Alpha
	Coefficient	Coefficient
	Male	Female
M +	0.75	0.76
F +	0.72	0.74
M – F	0.57	0.59
M –	0.66	0.72
F – VA	0.62	0.59
F –	0.49	0.46

Italicized Alphas represent acceptable internal consistency reliability

Given the relatively low reliabilities reported, as well as that the scale had not, to the researchers knowledge, been used within the South African context or within an occupational setting, its piloting and validation in terms of internal consistency reliability was considered to be of major import in the current study.

In the original validation sample used by Spence et al. (1979), significant negative correlations were found between the cross-typed positive and negative scales, indicating that both positive and negative scales of the EPAQ could be treated as independent. Furthermore, significant relationships were found between the scales of the EPAQ and measures of self-esteem, neuroticism, and acting out behaviour. In both sexes, negative masculinity and both negative femininity scales were either close to zero or significantly negatively correlated with self-esteem (for negative masculinity, estimates ranged from 0 to 0.02, for negative feminine verbal passive-aggressive, estimates ranged from -0.16 to -0.30, and for negative feminine communality, estimates ranged from -0.25 to -0.40). Estimates also related significantly to both neuroticism (for negative masculinity, estimates ranged from 0.13 to 0.19, for negative feminine verbal passive-aggressive, estimates ranged from 0.31 to 0.33, and for negative feminine communality, estimates ranged from 0.04 to 0.24) and acting-out behaviour (for negative masculinity, estimates ranged from 0.18 to 0.26, for negative feminine verbal passive-aggressive, estimates ranged from 0.09 to 0.22, and for negative feminine communality, estimates ranged from 0.08 to 0.13). Positive masculinity and femininity demonstrated an opposite set of relationships for all three variables for both sexes. In a large-scale psychometric analysis of the scales of the EPAQ using six independent samples, factor analyses supported its four-factor structure (Helmreich, Spence, & Wilhelm, 1981).

As in the study by Woodhill and Samuels (2003), the intention in the present study was to modify the EPAQ by removing the 8 bipolar masculine-feminine items to reduce the number of items to 32. However these 8 items were still included in the pilot in order to assess whether the overall scale in the presence of masculine-feminine items had validity across all five subscales. This validation of the scale in a South African sample was considered to be crucial given that within the original validation study by Spence et al. (1979), low internal consistencies were reported for some subscales, particularly for the negative femininity subscales. In addition, to the knowledge of the present researcher, no studies utilising the EPAQ on a sample of working South African female managers had to date been undertaken; therefore it was necessary to validate the scale for use in a sample of South African female managers.

7.7.2 Work stress

Work stress was measured using the Job-Related Tension Index (JRTI) which was developed by Kahn and his colleagues (Kahn, Wolfe, Quinn & Snoek, 1964). This measure is composed of fifteen items pertaining to potentially psychologically stressful circumstances in the job situation. Respondents indicate on a five-point scale, ranging from “never” (1) to “nearly all the time” (5), how frequently they feel bothered by the situation described in each item. According to Muse, Harris, and Field (2003), the JRTI taps a number of stress dimensions within the work place, namely, role ambiguity, role conflict, resource inadequacy, control, and work overload. The development of this scale is based on research done on Role Theory or the Theory of Role Dynamics, which has been used extensively to explain the stressors associated with work and has formed the basis for research on role stress over the last six decades (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). The original validation study reported a Cronbach Alpha of .87 on a sample of 725 employees in a variety of job levels. In a study conducted by Eden and Jacobson (1976) on 179 senior managers a coefficient alpha of .84 was yielded.

7.7.3 Self-esteem

Self-esteem was measured using the Self-Esteem at Work Scale developed by Quinn and Shepard (1974). The scale consists of four items that refer to self-esteem in a job-related context. The items are bipolar, adjectival descriptors separated by a seven-point continuum. Respondents are thus asked to rate the extent to which they feel they are “successful/not successful”; “important/ not important”; “doing my best/ not doing my best” and “happy/ sad” on a scale of 1 to 7. A high score represents low self-esteem while a low score represents high self-esteem.

In the initial validation study by Quinn and Shepard (1974) using 1496 respondents, 38% of whom were females, a Coefficient Alpha of 0.70 was reported. In a study carried out by Bernstein (1992) with 285 South African employees, a similar Alpha of 0.70 was obtained. Construct validity of the scale was also demonstrated in the original validation study, as the scale correlated significantly with depressed mood at work ($r = 0.44$); life satisfaction ($r = 0.48$) and overall job satisfaction ($r = 0.50$).

7.7.4 Psychological wellbeing

Psychological wellbeing was assessed using the General Health Questionnaire (Goldberg, 1972). Thoits (1985) defines psychological wellbeing as the extent to which individuals are free of symptoms such as anxiety, depression, distress, and demoralisation. The General Health Questionnaire (GHQ) is a self-administered screening test which enables the assessment of minor sub-clinical psychiatric disorders in community settings. It is aimed at detecting common symptoms which are encountered in the various sub-clinical syndromes of mental disorders and will thus differentiate between individuals with psychopathology and those who are considered to be normal (Wissing & Van Eeden, 2002). Thus the focus of the questionnaire is on psychological components of ill-health where the respondents evaluate their present psychological state by comparing it to their usual psychological state. The questionnaire in its approach also focuses on 'symptoms' as opposed to 'traits'. The original form of the GHQ consists of sixty items. However, Goldberg (1972) provided shortened versions of the scale by identifying the "best" thirty, twenty, and twelve items; these shortened versions being administered when the respondent's time is at a premium. In the present study the twelve item format was used. Each item enquires whether the respondent has recently experienced a particular symptom or behaviour with responses ranging from "less than usual" (1) to "much more than usual" (4).

Goldberg (1972) also suggested two scoring procedures. With the first scoring procedure, known as the General Health Questionnaire method, if the respondent endorsed the first or second category a score of zero would be assigned. If the respondent endorsed the third or fourth category a score of one would be assigned. With the second procedure a Likert-type method would be used, with respondents given scores ranging from one to four for the respective categories. For both scoring methods comparable reliability and validity characteristics were obtained (Goldberg, 1972). In the present study the second method was adopted as it is shown that this method provides a more acceptable distribution of scores in parametric analysis (Banks, Clegg, Jackson, Kemp, Stafford, & Wall, 1980). This method is also used to overcome the potential problems associated with a truncated range (Bluen, 1986).

In terms of the psychometric properties of the GHQ, Goldberg (1972) reports that the scale demonstrates satisfactory test-retest reliability over a period of six months and acceptable split-half

reliability. In an investigation of the scale's utility within an organizational context, Banks et al. (1980) found that the GHQ exhibited satisfactory psychometric properties similar to those demonstrated in a clinical setting. Specifically, when administered to three samples, namely, a sample of employees, a sample of school leavers, and a sample of unemployed men, satisfactory Alpha Coefficients of 0.82 and 0.90 were recorded. In addition, the GHQ demonstrated a sensitivity to sex differences and employment status although it was found to be unrelated to age, job level, and marital status (Banks et al., 1980). When used within a South African organizational setting at separate time intervals, acceptable internal consistencies (Cronbach Alpha equals 0.91 at time one and Cronbach Alpha equals 0.93 at time two) were reported (Bluen, 1986). In a further local study conducted by Bernstein (1992), an internal reliability of 0.83 (standardized Alpha) was reported.

As discussed in the literature review section on psychological wellbeing (Chapter 3, section 3.2) the GHQ by detecting sub-clinical symptoms of mental disorders does adopt a pathogenic orientation with a high score indicating poor mental health or ill-being and a low score indicating good mental health and wellbeing. Thus while the term “wellbeing” is continually referred to in the present research one remains mindful that this measure utilised is indeed one of sub-clinical pathology and thus reflects the degree to which one is absent of sub-clinical pathological symptoms or the degree to which one demonstrates a high level of such symptoms.

7.7.5 Social support

Social support was measured using an adapted scale developed by House (1981) that investigated perceived social support from three sources: supervisors, colleagues, and family. The adapted scale consisted of five items assessing support from each of the five sources: co-workers, supervisor, family, friends, and spouse/partner. However, each source was scored separately across each item. Thus each source could have a minimum score of 5 across all five items and a maximum score of 20 across all five items. Each item within the scales was scored on a 4-point Likert-type scale ranging from “not at all” (1) to “extremely often” (4).

The original scale was utilised by Peeters, Buunk, and Schaufeli (1995), who reported Cronbach Alphas for the colleague, supervisor, and family scales of 0.78, 0.90, and 0.75 respectively. Within the present study the same items were used, as well as adapted to also assess support from friends

and partner/ spouse. The adapted version was assessed upon a sample of Wits Plus students and for internal consistency and the subscales for colleague, supervisor, family, friends and partner reported internal consistencies of 0.77; 0.80; 0.76; 0.74 and 0.77 respectively.

7.8 DATA ANALYSES

A number of statistical analyses were undertaken within the present study in order to validate the assessment instruments used and to test the hypotheses.

7.8.1 STUDY ONE – ASSESSING THE PSYCHOMETRIC PROPERTIES OF THE EPAQ

In the first phase of the study, that is, Study One the EPAQ was validated on a South African sample of working women. The reliability and validity of the EPAQ and its subscales was determined in order to ensure its reliability as an assessment instrument for sex role identity within the main phase of the study (Study Two). This validation was considered to be crucial given the low reliabilities reported by Spence et al. (1979) for some of the subscales and given that the scale had not been used before with a sample of South African female managers. In terms of the sample, the validation study was carried out using Wits Plus female students. These Wits Plus students were employed full-time and attended degree or diploma evening classes at the University of the Witwatersrand. If the scale was found to be reliable and valid within this sample, it could then be utilised within the main phase of the study (Study Two). If, however, it was not found to be so, provision for a second pilot to be conducted was made to further ensure that the modified version would be sufficiently reliable for use in Study Two.

7.8.1.1 Pilot Study: Assessing internal consistency of the EPAQ

The reliability of an assessment instrument or measure is defined by its consistency, accuracy, dependability, precision, and freedom from measurement error (Anastasi, 1982). In order to ensure an accurate reflection of the data, it is necessary to confirm that no measurement error exists. While it may be impossible to completely eliminate all measurement error, there is still a need to assess the extent to which measurement error does exist. This can be determined by calculating the internal consistency reliability (represented by Cronbach Alpha Coefficients) of all of the measurement instruments used. Within the social sciences 0.60 is regarded to be an acceptable level

of internal consistency however the more rigorous level of 0.70 was adopted within the present research (Nunnally & Bernstein, 1994). Thus in this instance where the intention was to assess the internal consistency reliability of the EPAQ utilising Cronbach Alphas, coefficients above the 0.70 level for each of the subscales were required in order to consider the instrument's use within Study Two to be acceptable (Kim & Mueller, 1986; Nunnally & Bernstein, 1994). Consequently the Alphas for each of the five subscales of the EPAQ were assessed.

7.8.1.2 Pilot Study: Face Validity

According to Anastasi and Urbina (2007), the validity of a test concerns what the test measures and how well it does so. Just as there are different forms of reliability, there are different forms of validity. There are several categorisation systems used but the major groupings include: face validity, content validity, construct validity, and criterion validity (Anastasi & Urbina, 2007; Moerdyk, 2009; Murphy & Davidshofer, 2005). Within Study One, the Pilot Study, face validity was assessed.

Within this pilot the original 40-item EPAQ was presented to respondents. In order to assess acceptable face validity, on completion of the EPAQ an additional set of six open-ended questions were presented to respondents. Face validity pertains to whether the test “looks valid” to the examinees who take it, the administrative personnel who decide on how it should be used, and to other technically untrained observers (Anastasi & Urbina, 2007). Face validity refers to the subjective judgment made by respondents on whom the measure is administered regarding their feelings about the appropriateness of the measure. Such validity needs to be established in order to ensure the cooperation of the respondents in the study (Anastasi, 1982).

Face validity was established in the current study by determining the respondents' answers to the six open-ended questions assessing their thoughts on the items within the EPAQ. Based on these responses, items could be removed, modified, or added as necessary. These questions asked respondents whether (1) there were any items in the scale that they did not understand, (2) there were any items that they felt were ambiguous or unclear, (3) there were any items that were included that they felt should be excluded, (4) there were any items that they felt were sensitive and/or offensive in nature, and if (5) there were any items that they thought should be included in

the scale that were not included. Responses followed a “Yes/No” format and respondents were instructed to elaborate on their answer if they answered ‘Yes’ to any of the questions. In addition a further question (6) asked respondents to comment on the clarity of the instructions of the scale (see Appendix A). This approach to Face Validity has been advocated by both Murphy and Davidshofer (2001) and Moerdyk (2009). In addition experts, that is, Industrial Psychologists were consulted with regard to examining the scale and its items and determining if the scale as a whole and the items within it had Face Validity.

7.8.2 STUDY TWO - VALIDATION OF THE EPAQ-R: CONFIRMING THE FOUR FACTOR STRUCTURE OF THE EPAQ-R AND TESTING THE STUDY’S HYPOTHESES

Once the internal reliability and face validity of the measure was established in Study One, it would then be utilised in Study Two, that is, the main phase of the study, within a survey containing measures of sex-role identity, work stress, social support, psychological wellbeing, and self-esteem (see Appendix C). Within Study Two, the construct, content, and criterion-related validity of the EPAQ was assessed, following which analyses to address the main hypotheses in the study were undertaken.

7.8.2.1 Study Two: Assessing Construct Validity

Construct validity is the primary form of validation underlying the trait-related approach to psychometrics (Kline, 1994; Larsen & Buss, 2008; Schultz & Schultz, 2009). It is defined as the extent to which the test may be said to measure a theoretical construct, trait, or set of traits and is therefore most appropriate for this study. Construct validity was explored via factor analysis, which was developed as a means of identifying psychologically-based constructs and is particularly relevant to construct validation procedures (Kline, 1994; Nunnally & Bernstein, 1994; Van de Vijver & Leung, 1997). Factor analysis is defined generally as a method for simplifying complex sets of data (Kline, 1994). Specific to the case of personality psychology inventories located within the trait approach, factor analysis may be defined as a technique that identifies the common traits underlying the overall large number of items included in an inventory to assess personality traits. As the identities within the EPAQ contained within them ‘sex-based personality traits’ this method of identifying and confirming the factor structure was considered to be most appropriate. If the four-factor structure of the EPAQ was not confirmed then an analysis of the emergent factors could

be undertaken and these could then be analysed in relation to the proposed variables within the study, that is, work stress, social support, psychological well being and self-esteem.

7.8.2.2 Study Two: Assessing Content Validity

Content validity is related to construct validity and examines the extent to which the test specification under which the test was constructed reflects the particular purpose for which the test was developed. It has to be judged qualitatively more often than quantitatively, as the form of any deviation from content validity is usually more important than the degree (Moerdyk, 2009). Content validity refers to the extent to which the individual items within a measuring instrument are appropriate to the theoretical construct being investigated and the extent to which such items adequately sample the overall construct under investigation. Content validity was examined by the usage of the open ended questions within the pilot study, which determined whether test respondents felt that the content contained within the questions were appropriate. Content validity was also inspected by examining the Cronbach Alpha Coefficients of each of the sub-scales within the EPAQ, which enable the determination of the extent to which each of the sub-scales were homogenous, thereby reflecting that the items contained within them were measuring content of a similar nature. Expert opinion was also obtained in order to ascertain that items within the subscales did reflect the content under consideration.

7.8.2.3 Study Two: Assessing Criterion Validity

Criterion validation procedures indicate the effectiveness of a test in predicting whatever it purports to predict (Anastasi & Urbina, 2007). Within the present study, the effectiveness of the EPAQ subscales to predict in relation to perceptions of the variables of work stress, social support, psychological wellbeing, and self-esteem was examined.

7.8.3 Statistical Analyses

Thus within Phase 1 and Phase 2 a number of statistical analyses were undertaken to assess the construct, content, and criterion-related validity of the EPAQ, and thereby the relationships as proposed in the hypotheses. These analyses were as follows:

- (i) Factor analysis to confirm the factor structure, construct, and content validity of the EPAQ for use in the main sample (Phase 2);
- (ii) Cronbach Alpha Coefficients to confirm the internal consistency reliability of the EPAQ and all other instruments used (Phase 1 and Phase 2);
- (iii) Pearson's Correlation Coefficients to examine the degree and nature of the relationships between all variables in the study (Phase 2);
- (iv) One-way Analyses of Variance (ANOVAs) to assess differences between the various sex role identities regarding perceptions of work stress, social support, psychological wellbeing, and self-esteem (Phase 2);
- (v) Two-way Analyses of Variance (ANOVAs) to assess the differences between the various sex role identities under conditions of high, medium, and low stress regarding perceptions of psychological wellbeing and self-esteem (Phase 2);
- (vi) Moderated multiple regressions (MMRs) to assess the main and moderating effects of social support on and between the independent and dependent variables, that is, work stress and psychological wellbeing and work stress and self-esteem (Phase 2).

Below follows a discussion of each of these statistical techniques and their underlying assumptions in greater detail.

7.8.3.1 Factor Analysis

Factor analysis was conducted in order to confirm the factor structure of the EPAQ. Factor analysis is a procedure whereby patterns of correlation between large numbers of variables are examined, with the main underlying dimensions then being extracted. It is based on the assumption that some underlying factors, which are smaller in number than the number of observed variables or items, are responsible for the co-variation amongst these observed variables. A factor is taken to be a concept with two or more underlying variables that is assumed to represent an area of generalization which is qualitatively different from that represented by other factors, that is, it has a low correlation with or is uncorrelated with the larger number of variables overall in the test battery (Kim & Mueller, 1986). Factor analysis can be either used in an exploratory or confirmatory manner. When using exploratory factor analysis one attempts to reduce a set of variables into two or three underlying factors. An exploratory factor analysis one attempts to determine whether presupposed underlying

characteristics actually exist (Kim & Mueller, 1986). Factor analysis may be calculated through the use of numerous techniques however there are a number of steps common to all of these techniques.

These are:

- (i) Selecting the variables;
- (ii) Computing the matrix of correlation amongst these variables;
- (iii) Extracting the un-rotated factors; and
- (iv) Interpreting the rotated factor matrix (Kerlinger, 1981).

In the present study exploratory factor analyses were conducted to determine the construct validity of the sub-scales in the EPAQ. Principal components analysis was the method selected since it is a simple but effective method of determining factors that explains all the variance including the error variance in any particular correlation matrix (Kline, 1993; 1994). Since principal components analysis is prone to an algebraic artifact, that is, it generally produces one general factor followed by bipolar factors, it must usually be simplified before it can be interpreted. Hence rotated factor solutions utilising varimax rotation were considered. Varimax rotation was utilised since it aims to maximise the sum of variances of squared loadings in the columns of the factor matrix. This produces in each column loadings that are either high or near zero, thereby facilitating interpretation (Kline, 1993; 1994). Using this method inter-correlations are conducted among all items. An initial factor is then extracted which accounts for most of the variance in the measure. Thereafter a second factor is created to account for most of the remaining variance with this procedure being repeated until all the variances are accounted for (Kim & Mueller, 1986). Since the first factor accounts for most of the variance, the factors are then rotated to distribute the variance more evenly among the subsequent factors. An oblique rotation can be used to identify and confirm the pre-supposed factors. An oblique rotation is used as it allows for the identification of factors, while acknowledging that there is *some correlation* between these identified factors.

As the intention in the study was to confirm, through exploratory factor analyses, four theoretically proposed factors that did bear some relation to each other in the EPAQ, the principal components

exploratory factor analysis with an oblique rotation was considered to be most appropriate. A number of criteria were adopted for factor extraction, namely: the scree test (Catell, 1966); the Eigenvalue specification; the Guttman-Kaiser Eigenvalue greater-than-one rule (K1 rule); the criterion of substantive importance; Harman's specification (1976), also referred to as Harman's criterion; parallel analysis (PA); Velicer's minimum average partial (MAP); inspection of communalities; factor loadings greater than 0.50; and an examination of the inter-correlations between the final factors extracted.

A brief discussion of each of these criteria is outlined below.

7.8.3.1.1 The scree test and Eigenvalue specification

The scree test advocated by Catell (1966) directs one to examine the graph of eigenvalues and to stop factoring at the point where the eigenvalues (or characteristic roots) begin to form a straight line with an almost horizontal slope. Such a method is regarded as a robust means of identifying only the major common factors where there are minor factors evidenced (Kim & Mueller, 1986).

The eigenvalue specification (Kaiser, 1974) is one of the most popular criteria for addressing the number of factors in question, with factors having an eigenvalue of greater than 1 being retained when the correlational (not adjusted) matrix is decomposed (Kim & Mueller, 1986). Eigenvalues are the roots derived from the solutions of the simultaneous linear equations computed during the principal factor extraction. The sum of all eigenvalues is equal to the number of variables in the factor analysis. Consequently, if the first eigenvalue is divided by the number of variables, the proportion of variance explained by a given axis or factor is obtained (Kim & Mueller, 1986). An eigenvalue of greater than +1 indicates that the correlation between variables is greater than or equal to zero. That is, the correlation is less than or equal to perfect. The largest eigenvalue represents the amount of variance explained by the principal factor, the second largest eigenvalue represents the amount of variance explained by the second factor and so on (Kim & Mueller, 1986).

Traditionally scree plots and the eigenvalue specification are used more than any of the other methods available to determine the appropriate number of factors (Hayton, Allen & Scarpello, 2004). According to Kline (1994), the scree test is one of the most popular solutions for selecting

the correct number of factors (Laher, 2011). The rationale for the scree test is that a few major factors account for most of the variance, resulting in a steep ‘cliff’ as these factors are identified first, followed by a shallow ‘scree’ describing the small and relatively consistent variance accounted for by numerous minor factors. Only factors that occur before the scree and above the breakpoint between the scree and cliff are retained (Hayton et al., 2004). The eigenvalue criterion also requires that communalities are inspected, with the requirement being that communality estimates for each individual item or factor must be greater than 0.2 (Kim & Mueller, 1986). Thus the eigenvalue specification, by establishing a criterion of eigenvalues greater than 1+, provides a lower limit for the extraction of statistically viable common factors (Kim & Mueller, 1986).

However it is important to note that the use of the scree plot and Eigenvalue specification are not infallible (Laher, 2011). The scree plot contains elements of subjectivity in that cut-off points can at times be arbitrary, and the Eigenvalue specification can be prone to errors of over-extraction; both of which have implications for solutions obtained (Laher, 2011). The scree plot involves *eyeball searches* for sharp demarcations between eigenvalues, which in practice do not always exist; or often there may be more than one sharp demarcation point, suggesting that although the scree plot is widely used it is not always the most reliable method for factor extraction (Hayton et al., 2004; Ledesma & Valero-Mora, 2007; O’Connor, 2000, as cited in Laher, 2011). In support of using this method for factor extraction, Hayton et al. (2004) cite Guttman’s (1954) proof as well as Kaiser’s (1974) argument that the reliability of a component must always be non-negative when its Eigenvalue is greater than one. However, they also argue that this rule is problematic; since Guttman’s (1954) proof applies only to the population correlation matrix and for finite samples, the K1 criterion tends to overestimate the number of factors. The rule is also arbitrary in that it draws distinctions between factors just above and just below 1 (Hayton et al., 2004; Ledesma & Valero-Mora, 2007). Thus the rule is intended as a lower boundary for the rank of the correlation matrix and thus an upper boundary for the number of factors to be retained, but in practice the rule is used as a criterion to determine the exact number of factors to retain (Hayton et al., 2004, as cited in Laher, 2011). Consequently Ledesma et al. (2007) and Zwick and Velicer (1986) argue that despite the simplicity of the method and the fact that it is probably the best known and most utilised practice, it also has a demonstrated tendency to substantially overestimate the number of factors that should be retained. Furthermore as a “mechanical rule” (Ledesma et al., 2007, p.2) its

arbitrariness is illustrated in that a factor with an Eigenvalue of 1.01 is major and worthy of retention while a factor with an Eigenvalue of 0.99 is regarded as trivial and not worthy of retention.

7.8.3.1.2 The criterion of substantive importance

Spence and Helmrich (1979) also critique the Eigenvalue specification, noting that although one should retain all factors with an Eigenvalue greater than 1, this often leads to the over-retention of poorly defined constructs that are difficult to interpret. A way of resolving this problem to some extent is to use the criterion of substantive importance, whereby one can set the cut-off point to retain factors that account for a specific percentage of the variance. Determination of this cut-off point is guided by previous theory and research on how many factors should be retained. The criterion of substantive importance refers to the minimum contribution by a factor in order for it to be considered substantively significant (Kim & Mueller, 1986). The criterion focuses on the proportion of total variance explained by the last factor to be retained. The criterion is subjective and is set at whatever level is considered to be substantively important. Some possibilities suggested by Kim and Mueller (1986) are one percent, five percent, or ten percent. Although this method is subjective, its advantage lies in its ease of interpretation.

In order to comply with best practice and to overcome the weaknesses described within the scree test, Eigenvalue specification, and the criterion of substantive importance, the present study also chose a number of further methods to determine factor extraction. These were Harman's criterion, inspection of communalities, parallel analysis, and the MAP technique. Both Hayton et al. (2004) and O'Connor (2000) propose the use of parallel analysis or MAP since these procedures are statistically-based.

7.8.3.1.3 Harman's criterion (1976)

Although linked to an inspection of the scree plot and Eigenvalue specification, Harman's criterion suggests that the extraction of factors *should be halted before the cumulative sum of eigenvalues exceeds the sum of the estimated communalities*, where communality is defined as the sum of the squares of the common-factor coefficients (Kim & Mueller, 1986).

7.8.3.1.4 Inspection of communalities

In addition, items with communality estimates lower than .02 should be excluded as this level is deemed to be the minimum acceptable level for item retention (Kim & Mueller, 1986).

7.8.3.1.5 Parallel analysis (PA)

Parallel analysis is a Monte Carlo simulation technique in which the focus is placed on the number of factors that account for more variance than the components derived from random data (Laher, 2011). The Eigenvalues obtained from the actual data are compared to the Eigenvalues obtained from the random data. If the i th Eigenvalue from the actual data is greater than the i th Eigenvalue from the random data, the factor is retained (Hayton et al., 2004; Ledesma & Valero-Mora, 2007; O'Connor, 2000). In the original description of the process by Horn (1965), the mean Eigenvalues from the random data served as the comparison baseline. However, Glorfeld (1995) argued that although Horn's (1965) procedure is relatively accurate, *it may tend to err in the direction of indicating the retention of one or two more factors than is actually warranted and/or of retaining poorly defined factors* (Laher, 2011).

7.8.3.1.6 Velicer's minimum average partial (MAP)

Velicer's (1976) MAP test also seeks to determine what factors are common and is proposed as a rule to find the best factor solution, rather than to find the cut-off point for the number of factors (Ledesma & Valero-Mora, 2007). In the MAP test, the focus is on the relative amounts of systematic and unsystematic variance remaining in a correlation matrix after extraction of an increasing numbers of factors (O'Connor, 2000). Factors are retained as long as the variance in the correlation matrix represents systematic variance. Factors are no longer retained when there is proportionately more unsystematic variance than systematic variance (O'Connor, 2000).

Both parallel analysis and the MAP test should result in the same decision regarding the number of factors to retain. However, researchers are encouraged to use both tests, since MAP when it errs tends to make errors of under-extraction, while parallel analysis tends to err in the direction of over-extraction (O'Connor, 2000). Ledesma and Valero-Mora (2007, as cited in Laher, 2011) argue that there are pitfalls associated with both over-extraction and under-extraction.

With regard to over-extraction, one can have fewer substantial loadings and factors which are difficult to interpret and or difficult to replicate. With regard to under-extraction, loss of relevant information and distortion in the solution, for example, in terms of the way in which variables load on retained factors, can be evident. In both instances, mistakes with regard to extraction can lead to erroneous conclusions in analyses when these factors are used to make predictions in relation to other variables (Ledesma et al., 2007). Hayton et al. (2004) suggest the use of both MAP and parallel analysis, and argue that these two methods by themselves are sufficient; although one can still use the scree plot, the K1 criterion, and the criterion of substantive importance as adjuncts to MAP and parallel analysis. Consequently, the present research used all five methods. In addition, Harman's criterion was used, which indicated the point at which factor extraction should halt, that is, before the sum of the Eigenvalues exceeded the sum of the estimated communalities.

Furthermore, the present research inspected the factor loadings of each item to determine if they indeed loaded on the expected factors. With regard to factor loadings, Kline (1994) reports that it is usual to regard factor loadings as high if they are greater than 0.60 and moderately high if they are above 0.30. Other loadings can be ignored. For the present study the more rigorous cut off point of 0.50 for loading on a factor was selected as the minimum. Lastly, the inter-correlation between final factors extracted was examined. This was done to ensure that the final factors extracted were indeed assessing constructs that had an acceptable degree of interdependence from one another.

7.8.3.1.7 Conclusion

To conclude on all the above criteria for determining factor extraction, many of the above methods have both strengths and weaknesses. Therefore they were all included in order to counteract or balance, to some extent, the problems associated with each of them. In addition, in the interpretation of these methods, the researcher remained mindful of the need to strike a balance between 'empirical evidence', as demonstrated through these criteria, and the previous research and theory on the constructs being factored. In this regard, Fabrigar, Wegener, MacCallum, and Strahan (1999) note that researchers should be guided by previous theory, as well as research and statistical/empirical solutions, and should consider both substantive and statistical issues, when determining the number of factors to be extracted. Consequently, the present research examined

the evidence as yielded by statistical criteria and balanced this evidence against theoretical considerations and previous research findings on the sex role identity construct.

7.8.3.2 Internal consistency reliability

Cronbach Coefficient Alphas were used to assess the reliability and freedom from measurement error of the EPAQ and all other instruments used within the present research. With regard to the EPAQ, the relevance of the inclusion of items within a particular sub-factor or subscale was also assessed.

Cronbach Alpha is a measure of internal consistency and assesses the degree of homogeneity of test items, that is, the degree to which items are positively inter-correlated and thus measure the same trait or factor. This measure of reliability assesses the degree to which the different parts, that is, items of the sub scales measure the same construct, by calculating inter-item correlations (Murphy & Davidshofer, 2005).

This technique is a derivative of the Kuder-Richardson 20 formula, which represents the mean of all split-half coefficients resulting from different splittings of a test (Anastasi, 1982). Such an approach is considered to be appropriate when there is a single administration of an instrument and when the items are not dichotomously scored. As the EPAQ and all other measures in the test were scored along five to seven point dimensions, this technique was deemed to be suitable for all the assessment instruments. Although an Alpha Coefficient of 0.60 is an acceptable level of reliability for the social sciences (McKenna, 1970), the more stringent cut-off of 0.70 was adopted as the minimum acceptable Alpha level in the present study. According to Nunnally and Bernstein (1994), an Alpha of 0.70 is recommended within the social sciences.

7.8.3.3 Pearson's Correlation Coefficients

Pearson's Correlation Coefficients were to be used to analyse the relationships amongst all variables within the study. The Pearson's Correlation Coefficient is defined as the degree of "relationship between variables" and the coefficient of this indicates "a measure" of this relationship (Howell, 2008, p.171). This statistical technique was used to determine whether or not

significant relationships existed between the variables of work stress, the various sex role identities, the various sources of support, psychological wellbeing, and self- esteem.

Correlation coefficients are based on a statistic called covariance, which can be defined as “any number that reflects the degree to which two variables vary together” (Howell, 2008, p 180). In Pearson’s Product-Moment method, the covariance is divided by the standard deviations obtained to provide an estimated result of the correlation. The correlation coefficient obtained indicates a value on a scale that exists between -1.00 and + 1.00. The closer this value is to either of these given limits, the stronger the relationship between the two variables in question is (Howell, 2008). Howell (2008), states that when working with correlations, one must be very careful of not stepping into the trap of drawing causal conclusions, because a correlation does not imply causation in any way. This is because a correlation does not allow for the establishment of temporal precedence (i.e. that variable x preceded variable y) (Howell, 2008).

The Pearson’s product-moment correlation coefficient was conducted based on meeting the following assumptions (Howell, 2008):

- (i) A linear relationship must exist between variables x and y;
- (ii) Random independent sampling is required;
- (iii) Variables must be continuous and randomly distributed;
- (iv) Both variables must be normally distributed;
- (v) Both variables must be at least interval in measure;
- (vi) Variables x and y must be independent of each other;
- (vii) Homogeneity of variance must be present.

Pearson’s product moment correlation was also used to examine the degree of inter-relationship between the factors identified on the EPAQ. Based on the constructs under consideration, it was expected that there would be low positive or inverse correlations between the positive and negative masculine and feminine identities.

7.8.3.4 Analysis of Variance (ANOVA)

Within the present study, one-way ANOVAs were conducted to establish whether there were differences in the levels of work stress, psychological wellbeing, self-esteem, and sources of social support between the different sex role identities.

ANOVA is a statistical technique which ascertains whether or not the means of a variable differ from one group to another. ANOVA methods employ ratios of variances in order to test statistical hypotheses regarding the significance of differences between means (Kerlinger, 1981). The purpose of ANOVA is to determine the probability that the means of several groups of scores deviate from one another by more than sampling error (McCall, 1990). In order to make this determination, ANOVA partitions the variability within the total sample into a portion that highlights the differences between the means of the sample groups and a portion that is not influenced by the differences in these means. This partitioning of variability is conducted in such a manner that the two estimates of the variance of the scores in the population are calculated. These estimates, referred to as between group variance, are determined from the deviation of the means about the grand or total mean, that is, the means of all the scores in the total analyses. Within group variance is also assessed and describes the deviation of scores within each group from the sample means (McCall, 1990).

ANOVA is based on the concept of sum of squares, which refers to the deviations from the mean, squared and summed. The merit of this technique is that one can partition the total sum of squares into two components, that is, the within group and between group sum of squares. To determine variance estimates from between and within group sum of squares, one divides each by the appropriate number of degrees of freedom. Degrees of freedom of the between group is calculated based on the number of cells minus 1 and for the within group is the total number of the sample (N) minus the number of cells (Runyon & Haber, 1980). The F-ratio is then calculated to determine whether the two variance estimates are drawn from the sample population. The F-ratio compares the between group variance estimate by the within group variance estimate (Runyon & Haber, 1980). If the between group estimate is large, that is, if the difference between the means is large relative to the within group variance estimate, then the F-ratio is considered to be large, signifying a significant difference among the group means. Conversely, if the between group estimate is small,

then the F-ratio is small and a significant difference among the group means is not considered to exist. The significance of difference in variance estimates, that is, the F-ratio, is obtained by reference to Fisher's F-distribution (Runyon & Haber, 1980). If the obtained F-ratio is greater than or equal to the appropriate table entry, the difference between the means is considered to be statistically significant. In such a case the null hypothesis of no difference between the means is rejected at the chosen significance level (typically 0.05, which was the level of significance utilised throughout the present study).

While a significant F-value does demonstrate a significant difference among groups, it does not specify between which groups these differences occur. To investigate specific hypotheses concerning population parameters one can use *a priori* or planned comparisons, that is, those planned in advance to examine specific hypotheses concerning the population parameters, or posterior or post hoc comparisons, that is, those not planned in advance (Runyon & Haber, 1980). In the present study post hoc comparisons, using Bonferroni and Tukey's tests, were used to compare which means across the groups differed after a significant F-ratio was found. These tests are considered appropriate as they determine which means are not equal without confounding the Alpha error which would occur through the use of the t-test.

Within the present study, ANOVAs were thus used to assess whether there were significant differences between the various sex role identities in terms of their perceptions of work stress, social support, psychological wellbeing, and self-esteem.

Two-way ANOVAs were also conducted in order to determine whether there were differences in the relationships between the seven sex role identities and psychological wellbeing and self-esteem in relation to work stress. A Two-way Anova always involves two independent variables. Each independent variable or factor is made up of two or more elements called levels (Huck, 2009). Within the two-way ANOVA conducted within the present study the two independent variables were work stress, which consisted of three levels, that is, high, medium and low stress conditions and sex role identity which consisted of seven levels that is (positive and negative androgyny, positive and negative femininity, positive and negative masculinity and undifferentiated). Thus 3 X 7 two-way ANOVAs were conducted for the dependent variables of psychological wellbeing and

self-esteem respectively. Thus, work stress was divided into three conditions, that is, high, medium, and low stress, and the interaction between work stress and sex role identity on the dependent variables was examined. The use of the two-way ANOVAs in this instance was to determine whether perceptions of the dependent variables based on sex role identity differed under varying stress conditions, that is, whether the relationship between sex role identity and the dependent variables was moderated by or differed based on the level of work stress experienced.

For both one-way and two-way ANOVAs, a number of underlying assumptions must be met. These are:

- (i) Normal distribution of the data, that is, the assumption of normality;
- (ii) Equality of variance between the groups, that is, the assumption of homogeneity of variance;
- (iii) Random selection of the sample from the population, that is, random sampling;
- (iv) Statistical independence of the groups of scores that are to be analysed, that is, independence of observations (McCall, 1990);
- (v) The dependent variables are at least interval in measure.

In addition, for two-way ANOVA, it is important that there be at least five observations present within each cell, that is, each intersection of the two independent variables (Huck, 2009).

Normality was assessed by examining skewness coefficients, Levene's test for Homogeneity of Variance was used to determine whether the variances were equal between the groups, and the scores on the scales used to assess each variable were all assumed to be interval in nature.

7.8.3.4.1 Skewness coefficients

Skewness coefficients were calculated to determine if the data obtained in relation to sex role identity, work stress, social support, psychological wellbeing, and self-esteem were normally distributed or not. According to Huck (2009), skewness values that lie between +1 and -1 indicate that the distribution is sufficiently normal and the use of parametric procedures will be acceptable, on condition that the other conditions for parametric testing are met, that is, random, independent

sampling, the dependent variables being at least interval in measure, and that there is homogeneity of variance (Huck, 2009).

7.8.3.4.2 Levene's Test for homogeneity of variance

Levene's test for homogeneity of variance was used to assess all the above mentioned variances. If the Levene's tests were found to be significant, then a non-parametric test, that is, a Kruskal-Wallis ANOVA would have to have been conducted to analyse the data.

7.8.3.4.3 Random sampling and independence of observations

With regard to random sampling and independence of the observations, while the present research did not use pure random sampling, every individual in the targeted population with access to a computer and the Internet could participate and therefore had an equal chance of contributing to the study. Furthermore, no individual was sampled more than once, that is, no single individual had more than one set of scores. Thus the assumptions of random sampling and independence of observations were deemed to be met. Finally with regard to the dependent variables, both self-esteem and psychological wellbeing were interval in measure.

Once the assumptions underlying ANOVA were met, one-way ANOVAs examining differences in work stress, the various sources of social support, psychological wellbeing, and self-esteem on the basis of sex role identity were carried out. As mentioned, if homogeneity of variance was found to not exist a non-parametric alternative to one-way ANOVA would be conducted.

In either instance, if the results were significant within the ANOVA, post hoc tests were used to determine between which groups significant differences occurred as sex role identity consisted of seven groups. For parametric tests, Bonferroni and Tukey's post hoc tests were conducted and for non-parametric tests, Kruskal Wallis or Scheffe's post hoc tests would be conducted. If significant findings were found, that is, if significant differences between group means were observed for the other variables on the basis of the sex role identity groups, then Cohen's *d* for effect size was inspected to determine the degree of effect size for such findings.

7.8.3.4.4 Cohen's D effect size statistic

Effect sizes for significant parametric ANOVAs were calculated using Cohen's d (Huck 2009). According to Cohen (1969; 1988) 'typically' effect sizes of less than or equal to 0.20 are considered to be small, those that are greater than 0.50 are considered to be moderate, and greater than 0.80 are considered to be large. However there are ranges to these typical cut-offs, Thus an effect size of between 0.35 to 0.50 would be considered to be moderate while an effect size of between 0.30 to 0.35 would be considered moderate to small. Similarly an effect size between 0.65 to less than 0.80 would be considered moderate to large. Consequently, the present study did take into account where within these ranges the effect sizes could be regarded to lie. Cohen's d is calculated by dividing the difference between two population (group) means by the standard deviation of either population (group) (Howell, 1999).

7.8.3.5 Moderated multiple regressions (MMR)

Moderated multiple regressions (MMRs) were used to assess whether social support from different sources moderated the relationship between work stress and the dependent variables of psychological wellbeing and self-esteem. This technique was developed by Saunders (1956) from standard multiple regression. Standard multiple regression allows for the assessment of the relationship between a dependent variable (Y) or criterion variable and a set of predictor or independent variables (X1, X2, X3, etc.). The dependent variable in a standard multiple regression is regarded as a function of a set of independent variables. However, MMR differs from standard multiple regression in that it includes an interaction term in the equation. The interaction term is defined as the joint effect of two variables accounting for the variance in the dependent variable over and above the additive combination of their separate main effects (Cohen, 1978).

The aim of MMR is to test for significance, the percentage of explained variance in each of the dependent variables due to the independent variable, the purported moderator variable and the interaction term. This technique, by its inclusion of the interaction term, thus offers a more complete explanation of the dependent variable, since few phenomena are produced by a single independent variable. Use of this technique enables the evaluation of the contribution of a specific independent variable with greater certainty, since the distorting effect of relevant independent variables is taken into account (Cleary & Kessler, 1982; Lewis-Beck 1980). Therefore, this

statistical technique, which is the method of choice for testing hypotheses of the moderating effects of variables in a variety of work research domains, was selected for the analysis of data in the present study (Aguinis, Beatty, Boik, & Pierce, 2005).

There are two basic concepts that underlie an interaction approach, namely the main effect concept and the moderator effect concept. A main effect occurs when the effect of the independent variable is constant, despite the presence or absence of any other variable or moderating influences. A moderator effect, on the other hand, is the effect of an independent variable that varies as a function of the presence or absence of an additional independent or modifying variable (Finney, Mitchell, Cronkite, & Moos, 1984). Thus this third variable (Z) is said to moderate the relationship between the independent and dependent variables (X and Y) when the “degree of association between X and Y varies as a function of the value assumed by Z ” (Stone & Hollenbeck, 1984, p. 196). MMR is able to assess both effects through the use of hierarchical analytical strategy that first assesses main effects, then partials them out to assess moderator effects (Pedhazur, 1982). Thus the effects of the independent variable (X) and the moderator variable (Z) are first assessed, then automatically partialled out as they are entered before the interaction term ($X*Z$) (Suchet, 1984). The significance of the interaction term is then assessed using the standard F -test and comparing the derived F -values with tabled F -tables (McNemar, 1962). A 0.05 level of significance is applied in determining the presence of a moderator (Zedeck, Cranny, Vale, & Smith, 1971). The formula $1/(n - k - 1)$ is then used to determine the degrees of freedom, where k represents the number of variables in the moderated multiple regression analysis, that is, the main effects and the interaction effect (Pedhazur, 1981). A significant interaction shows that the regression of Y on X is dependent on the moderator variable (Z).

When applying moderated multiple regression, regression equations were computed for each of the dependent variables, that is, psychological wellbeing and self-esteem. More specifically, the first step was to enter the one independent variable, that is, the composite work stress measure (X). This was followed by the moderator, that is, each of the hypothesised sources of social support (Y), followed by an interaction term consisting of the independent variable, that is, work stress, multiplied by each hypothesised source of support ($X*Y$). Thus ten regression equations were computed overall. For these separate analyses, the 0.05 level of significance was used to determine

the presence of significant effects. This cut-off point is deemed to be acceptable as MMR is recognized as a robust and stringent procedure (La Rocco & Jones, 1978).

The assumptions underpinning MMR that needed to be met in order to use this technique are:

- (i) The biographical variables are not related to the dependent variables;
- (ii) The relationships between the independent and dependent variables are linear;
- (iii) There are no significant outliers;
- (iv) No measurement error exists;
- (v) There is an absence of multicollinearity, that is, an absence of a relationship between the independent or predictor variables;
- (vi) There is a normal distribution of the data, that is, the assumption of normality is met;
- (vii) There is homogeneity of variance, that is, equality of variance between the groups;
- (viii) There is random selection of the sample from the population, that is, random sampling;
and
- (ix) The dependent variables are at least interval in measure

A discussion of assumptions ii), iii), v), vi), viii), and ix) have already been discussed above under the assumptions of Pearson's Product Moment Correlations and the assumptions of Analysis of Variance. However a discussion of assumptions i), iv), and vii) follows below.

7.8.3.5.1 Relationship of the biographical variables to the dependent variables

When using MMR, it is assumed that the biographical variables are not related to the dependent variables. If this is found to be so, that is, if a significant relationship is indicated between any of the biographical variables and the dependent variables, then that biographical variable must be included as a covariate in the moderated multiple regression equation. This is done in order to assess the extent to which the biographical variable is contributing to any variance obtained in the dependent variable, thus reducing the chance of obtaining spurious results. Three statistical procedures are used to determine if any such significant relationships exist. These are t-tests for categorical variables with two levels, one-way ANOVA's for multiple level discrete biographical variables, and Pearson's Correlation Coefficients for continuous biographical variables (Bluen, 1986; Bernstein 1992). As only one sex group was assessed, that is females, and all other

biographical variables, that is, race, education, marital status, number of children, and job level, were categorised into more than two discrete levels, the relationships between biographical variables were analysed using one-way ANOVAs.

7.8.3.5.2 Linearity

MMR requires that there is a linear relationship between the independent and dependent variables. Linearity can be ascertained by inspecting scatter plots for predicted independent (predictor) variable and dependent (criterion) variables. The relationship between the independent variable and the dependent variable is considered to be linear based on the extent to which sample scores cluster about a single line through the data. Inspection of the scatter plots also allows for the determination of the extent to which there are outliers that are so substantially removed from the rest of the sample scores that they will significantly impact on the means and standard deviation of overall scores on particular predictor variables. In the event of such outliers existing, they were removed from the data set.

7.8.3.5.3 Measurement Error

In order to ensure an accurate reflection of the data, specifically referring to the measurement of the data and the estimates yielded, it is necessary to confirm that no measurement error exists. While it may be impossible to completely eliminate all measurement error, there is still a need to assess the extent to which measurement error does exist. This can be determined by calculating the internal reliability of all of the instruments used. For this research, Cronbach Alpha Coefficients above the 0.70 level of reliability were deemed suitable (Nunnally & Bernstein, 1994).

7.8.3.5.4 Multicollinearity

Multicollinearity refers to the extent to which the independent or predictor variables are related to one another. Variables are said to be multicollinear when correlations between them are too high, that is, when r is equal to or greater than 0.80 (Pedhazur, 1982). When independent/predictor variables are multicollinear, this implies an extremely high degree of correlation amongst predictor variables suggesting that the regression equation may be unstable. This may lead to difficulty in interpreting the individual regression coefficients and the contribution of any one predictor may be accounted for by another/others (Kerlinger & Pedhazur, 1973). Multicollinearity can be assessed by

the calculation of Pearson's Correlation Coefficients which allows for the assessment of relationship between the independent variables. If no correlation greater than 0.80 is found to exist, then it can be assumed that there is no multicollinearity. As the present study contained three independent variables, that is, work stress, social support, and sex role identity, the relationships between work stress, social support, and sex role identity were examined. Multicollinearity can also be assessed by generating and examining the condition index, with a higher index, that is, those higher than 30, being regarded to be unacceptable, while those lower than 10 are considered to be ideal. While multicollinearity makes the meaning of the individual parameter estimates difficult to interpret it does not affect the predictive power of the regression. However, in the interest of statistical rigour, it was deemed appropriate to examine the condition indices for all of the regressions conducted within the present research.

7.8.3.5.5 The assumption of normality

As mentioned, normality can be determined by inspecting the skewness coefficients for each variable or by inspecting a histogram of the residuals for each variable. With regard to the inspection of the histogram, the distribution should appear in the form of a bell-shaped curve, with approximately equal measures of central tendency (Howell, 1999). Within the present study both methods were used to assess normality, although greater reliance was placed on the skewness coefficient as this method is statistical and does not involve an eyeball examination, as was the case with inspection of the histograms for each variable.

7.8.3.5.6 Equality of variance

Again, as mentioned above, equality of variance was determined through Levene's Test of Equality of Variance.

7.8.3.5.7 Effect size

Once again within the context of the regression equations, effect sizes were examined by inspecting the standard error estimates and r-squared estimates and calculating the difference between r-squared as each IV and the interaction term were removed /added to the equation in a step-wise fashion.

7.9 PROCEDURE

After obtaining ethical clearance to conduct the study, the Human Resource directors of a number of organisations were approached for permission to access female managers working within their organisations. Access was granted to two financial institutions and one tertiary institution. A questionnaire consisting of a covering letter, a biographical information sheet, and all relevant measurement instruments (the Extended Personality Attributes Questionnaire, the Job-Related Tension Index, the Self-Esteem at Work Scale, the General Health Questionnaire, and the adapted sources of social support scale) was compiled under the title “Employee Attitude Survey”. This survey was placed on an electronic website with each organisation having an independent survey link.

The IT department of each organisation sent out an email to all eligible respondents, that is, to all female managers within their respective organisations. The email provided a brief explanation of the research as compiled by the present researcher (see Appendix C) and contained a link to the survey site. All respondents were informed in the email that participation in the survey was approved of by their organisation, that participation was voluntary, that no respondent would be advantaged or disadvantaged in any way by participating or not participating, that no identifying information was asked for and therefore their responses would be anonymous, and that confidentiality would be ensured as no-one other than the researcher and her supervisor would have access to the responses. In addition, they were informed briefly of the purpose of the research, the advantages that it could have for their organisation, that their organisation would receive a generally summary of the findings, and that no single individual could be identified by the summary presented. They were also informed if they so wished, they could also receive a summary of the findings by contacting the researcher, and an email address for this was provided. In addition, they were informed that should they have any questions regarding the research they could contact the researcher.

Similar information to that contained within the email with more detail was provided in the covering letter attached to the survey and could be accessed by opening the survey link.

7.10 ETHICAL CONSIDERATIONS

Ethical clearance was received from the Human Research Ethics Committee of the University of the Witwatersrand (Protocol Number HO90618). A covering letter (see Appendix C) was provided to all prospective respondents providing them with a brief outline of the research objectives. In addition the covering letter informed prospective respondents that participation in the study was voluntary and that no person would be advantaged or disadvantaged in any way by choosing to participate or to not participate in the study. Those who did participate were notified within the covering letter that completion and submission of the survey would be deemed of as informed consent.

The covering letter also provided a statement of anonymity and confidentiality. Anonymity was assured as no identifying data such as name, staff number, or ID number was requested from respondents. Although the electronic survey could have provided the IP addresses of respondents, these were deleted immediately on final closure of the survey link. Confidentiality was also ensured as respondents were assured that no-one other than the researcher and the researcher's supervisor would have access to the data. Respondents were also informed that the raw data would be kept in securely locked storage for a period of three years and destroyed thereafter as per university policy.

The covering letter directed prospective respondents to a secure encrypted link through which they could access, complete, and submit the questionnaire. Furthermore, within the covering letter, prospective respondents were provided with the researcher's contact details if they required any additional information. They were also informed that a summary report identifying only general trends emerging from the research would be provided to the organisations that had participated. However, within these general trends, they were informed that no single participant could possibly be identified. It was also indicated that this summary report could be made available to respondents on request on completion of the research.

7.11 CONCLUSION

The above section has been devoted to describing the aims and rationale, research questions, hypotheses, research design, model, procedure, and ethical considerations of the present study. In addition a full discussion of the statistical procedures used in the present study to validate the EPAQ

for usage on a sample of South African female employees (Study One); to confirm the factor structure of the EPAQ in a South African sample of female employees (Study Two); and to determine the relationship between the various sex role identities and the other variables in the study (Study Two) has been provided. Procedures that have been described are factor analysis to confirm the factor structure of the EPAQ, Cronbach Alpha to assess internal consistency reliability of the EPAQ and all other instruments utilised, Pearson's Correlation Coefficients to confirm the extent of relationships between all variables in the study, one-way ANOVAs to examine if there were any differences in the other variables based on the various sex role identities, two-way ANOVAs to examine if work stress moderated the relationships between the independent variable of sex role identity and the dependent variables of psychological wellbeing and self-esteem, and moderated multiple regressions to determine whether social support moderated the relationships between the independent variable of work stress and the dependent variables of psychological wellbeing and self-esteem respectively. The following chapter (Chapter 8) will present all the findings of the current research in relation to both Study One and Study Two.

CHAPTER 8: RESULTS

8.1 INTRODUCTION

As discussed in Chapter 7, the methodology and procedure for the present research contained two separate studies. Study One initially was to consist of a single pilot study to assess the validity and reliability of the EPAQ and the adapted version of the social support scale. Within the first pilot study the 40-item original EPAQ and the adapted version of the social support scale was administered to 35 female students attending evening diploma and degree courses at the University of the Witwatersrand. However, a second pilot study was required as poor reliabilities for the EPAQ subscales were attained within the first pilot study. The second pilot study consisted of a refinement and modification of the original 40-item EPAQ. The modified version of the scale was administered to 135 female employees working within two financial organisations within Gauteng. Good reliabilities for the EPAQ-R were found in the second pilot study and thereafter the EPAQ-R was utilised to measure sex-role identity within the research. Study Two addressed the core research questions of the study linked to exploring the relationships between sex role identity, psychological wellbeing, self-esteem, and social support

8.2 STUDY ONE

8.2.1 Assessing the reliability and validity of the Extended Personal Attributes Questionnaire (EPAQ) and the adapted version of the Social Support Scale

The need for the pilot studies was due to the fact that while the EPAQ has been widely used in previous international research (see Smiler & Epstein, 2010), many of these studies have either failed to report inter-item consistency of its subscales or have acknowledged that certain of the subscales have generally poor internal consistency. Where reliabilities have been described, the levels reported have been moderate and, for some subscales, unacceptable within the social sciences. For example, in a study conducted by Aube (2008) two subscales for the EPAQ were used, the F+ scale and F- scale, however the Alpha Coefficient reported for the F- subscale was 0.51 which is unacceptably low (Aube, 2008).

The scale authors (Spence & Helmrich, 1979) reported Alpha Coefficients that were moderate to unacceptably low within the social sciences for certain of the subscales of the EPAQ. More

specifically, reported Cronbach Alpha Coefficients for the subscales using two separate scale validation samples of 380 male and 540 female college students were: 0.75 and 0.76 for positive masculinity respectively; 0.72 and 0.74 for positive femininity respectively; 0.66 and 0.72 for negative masculinity respectively; 0.62 and 0.59 for F_{VA} negative femininity respectively; and 0.49 and 0.46 for F_C femininity respectively (Spence & Helmrich, 1979). Fritz and Helgeson (1998) and Ghaed and Gallo (2006) both note that the unmitigated communion/ negative femininity scale of the EPAQ is questionable in terms of its reliability and construct validity.

While 0.60 is regarded by some as acceptable within the social sciences (e.g. Kim & Mueller, 1986), Nunnally and Bernstein (1994) indicate that an Alpha Coefficient of above 0.70 is a more rigorous level of reliability. Consequently, given the reliabilities reported by Spence et al. (1979) and Helmrich et al. (1981) and the fact that this scale had not as yet been used and assessed on a South African sample of female managers within an occupational setting, a pilot study assessing its reliability and validity within such a sample was deemed to be critical before the instrument could be used within the main phase (Study Two) of data collection in the present research.

Methods used to establish the reliability and validity of the scale were both quantitative, through descriptive statistical validation testing using Cronbach Alpha Coefficients, and qualitative, through open-ended response questions presented at the end of the EPAQ to respondents in the validation samples.

In addition, the social support scale was revised to include the self same questions used for colleague, supervisor and family by Peeters, Buunk, and Schaufeli (1995), in subscales for friend and partner support. Thus the adapted version consisted of five as opposed to three subscales assessing five sources of support was assessed in Study One.

8.2.2 PILOT STUDY 1

8.1.2.1 Procedure

Respondents were presented with an Employee Attitude Survey which consisted of four pages: a preamble explaining the purpose of the survey and a guarantee of confidentiality and anonymity of all respondents' responses (page 1); a Biographical Information Form (page 2); the original 40-item

EPAQ (page 3); and six open-ended questions on the final page. In addition, an adapted version of the Social support Scale was included in the survey (see Appendix A). The survey was presented to a group of Wits Plus female students, all of whom were in full-time employment within a variety of different South African organisations.

A hard copy of the survey was handed out to all respondents and they were instructed to return this hard copy to a sealed box kept within the main office of Wits Plus. Respondents were given two weeks to complete the questionnaire. Biographical information assessed the age, race, level of education, number of dependents, marital status, and job level of all respondents.

8.2.2.2 Sample

The sample consisted of 35 female respondents who were evening Bachelor of Commerce and Human Resource Diploma students at Wits Plus. All of the students were in full-time employment within the corporate sector. Although there were 35 females within the sample, only 26 responses were received.

Demographic information obtained from the respondents is presented in Tables 2 and 3 below. The age of the respondents ranged from 21 to 46 years of age ($M = 29.13$). In terms of race, seven respondents were White (26.92%), thirteen were Black (50%), four were Asian (15.38%), and two were Coloured (7.65%). The home language spoken by twelve of the respondents was English (46.15%), while thirteen spoke an African language (50%). One respondent did not report home language. The highest level of education indicated for the respondents was one respondent with a Masters degree (3.84%), followed by one respondent who had an Honours degree (3.84%), seven who had post-Matric diplomas or certificates (26.92%), and sixteen who were in possession of a Matric certificate and were part-way through either their degree or diploma (61.53%). One respondent did not report on her educational level. In terms of marital status, eight of the respondents were married (30.76%), sixteen were single (61.53%), one was divorced (3.84%) and one respondent was co-habiting (3.84%). Regarding number of children eighteen indicated that they had no children (69.22%), two indicated that they had one child (7.69%), three reported having two children (11.53%), one reported having three children (3.84%), and one reported having four children (3.84%). One respondent did not report on number of children. Eighteen respondents were

in junior positions (69.23%), seven were in mid-level positions (26.92%), and one was in a senior management position (3.84%).

Table 2

Demographic information for pilot one

Variable	Mean	Range
Age	29.13	21 – 46

Table 3

Demographic information for pilot one

Variable	Category	Frequency	Percentage
Population Group	Black	13	50.00
	White	7	26.92
	Coloured	4	15.38
	Asian	2	7.69
Language	English	12	46.15
	Afrikaans	0	0.00
	African Language	13	50.00
	Missing	1	3.85
Level of Education	Less than Matric	0	0.00
	Matric	16	61.54
	Post-Matric Diploma	7	26.92
	Degree	0	0.00
	Postgraduate Degree	2	7.69
	Missing	1	3.85
Marital Status	Single	16	61.53
	Married	8	30.76
	Divorced	1	3.84
	Widowed	0	0.00
	Co-habiting	1	3.84

Number of Children	None	18	69.22
	One	2	7.69
	Two	3	11.53
	Three	1	3.84
	More than Three	1	3.84
	Missing	1	0.00
Job Level	Junior	18	69.23
	Middle	7	26.92
	Senior	1	3.85

8.2.2.3 Measuring instrument: The Extended Personal Attributes Questionnaire (EPAQ)

The EPAQ consists of forty items and five subscales. The first subscale, referred to as M+, consists of eight positive masculine items that are more stereotypically characteristic of males than females but may be socially desirable to varying degrees in both sexes. These items describe self-assertive, agentic, instrumental characteristics.

The second subscale (F+) consists of eight positive feminine items that are more stereotypically characteristic of females but may also be desirable in both sexes to varying degrees. These items describe interpersonally-oriented, expressive characteristics.

The third subscale (M-F) contains eight bipolar items that stereotypically differentiate between the sexes in that the ideal man would fall toward the stereotypically masculine pole and the ideal female would fall toward the stereotypical female pole.

The fourth subscale (M-) contains eight items which assess negative masculine traits (M-). These traits are agentic in content. Their presence is more stereotypically associated with males than females and unlike the M+ items, are considered to be socially undesirable in both sexes (overly agentic or representative of unmitigated agency).

The fifth subscale (F-) consists of eight negative feminine items. These items are more stereotypically associated with females than males and their presence, unlike the F+ items, are

considered to be socially undesirable in both sexes. Four of the F- items are considered to be overly communal in nature (unmitigated communion) while four are items that represent neurotic or passive aggressive behaviour. While the authors of the scale divided this scale into two sub-components it has been consistently used in later research as one subscale (Smiler and Epstein 2010; Woodhill and Samuels, 2003). Therefore within the present study this subscale was not divided into two sub-components and was utilised as a single scale consisting of eight items subsumed under the construct of negative femininity.

The scoring format for all the subscales is the same with each item scored along five points. Values 1 and 5 represent extreme poles indicating that one is extremely like or unlike the characteristic represented; while values 2, 3 and 4 represent the extent to which respondents feel their behaviour falls between the extremes.

Instructions pertaining to the completion of the scale were given at the top of the questionnaire page and explained what was required from respondents (see Appendix A). The 40 items presented thereafter informed respondents that the items within the questionnaire enquired about “what kind of person you think you are”. Respondents were informed that each item describes a pair of contradictory characteristics and that one cannot be both at the same time. Respondents were required to rate where they fell on the two extremes between characteristics from 1 to 5 with 1 representing that one did not possess the characteristic on that extreme end at all and 5 representing that one possessed that characteristic to the highest extreme, for example, “Not at all artistic 1... 2... 3... 4... 5 Very artistic”

On completion of the scale, an additional set of six open-ended questions were presented to respondents. These questions asked respondents whether: (1) there were any items in the scale that they did not understand, (2) there were any items that they felt were ambiguous, (3) there were any items that were included that they felt should have been excluded, (4) there were any items that they felt were sensitive and/or offensive in nature, (5) there were any items that they thought should have been included in the scale that were not included, and (6) the instructions provided on how to answer the questions were clearly understandable. Responses followed a “Yes/No” format and

respondents were instructed to elaborate on their answer if they answered ‘Yes’ to any of the questions (see Appendix A).

As discussed, the purpose of including the open-ended response questions was to enhance the understanding of the respondents regarding the items and instructions. These questions were also included in order to ensure that the scale had an acceptable degree of face validity and where also used to gauge content validity.

8.2.2.4 Pilot Results

8.2.2.4.1 Reliability - internal consistency

As the intention was to establish the internal consistency of the EPAQ in a South African sample, the reliabilities of all of the subscales were examined. The reported Cronbach Alpha Coefficients for the subscales are presented in Table 4 below. From these results, there appeared to be some replication with regard to poor reliabilities obtained for the subscales, particularly the negative subscales, when used in a South African sample as compared to those obtained by the EPAQ authors in their validation samples.

Table 4

Internal consistency reliabilities for pilot one

EPAQ Subscale	Cronbach Alpha Coefficient
M +	<i>0.73</i>
F +	<i>0.76</i>
M – F	0.61
M –	0.59
F –	0.46

Italicized Alphas represent acceptable internal consistency reliability

With regard to the social support subscales all five subscales reported satisfactory reliabilities and therefore no further modifications to the scales were required. Reliabilities for the five subscales,

that is, colleague, supervisor, family, friends and partner reported internal consistencies of 0.77; 0.80; 0.76; 0.74 and 0.77 respectively.

8.2.2.4.2 Face and content validity: Problematic items in the EPAQ

With regard to the open-ended questions, three respondents indicated that they found the use of the word ‘servile’ in Item 37 both offensive and inappropriate. Based on these responses, it was recommended that this item be excluded or the wording changed. The wording was thus changed to ‘subservient’. In addition 1 respondent commented on difficulty with the meaning of the word ‘excitable’ (Item 8), while two respondents commented on difficulty with the meaning of the word ‘rough’ (Item 13). Two respondents were unsure of what was meant by the word ‘worldly’ in Item 18. This item was also deemed problematic in other studies and was in fact excluded by Ward, and colleagues (2006) in their study. Consequently, for the purpose of the second pilot this item was excluded.

A further six respondents indicated that they found the way in which some of the questions were asked was “confusing”. One respondent elaborated further noting that “some questions ask you to rate yourself as to whether you are something or not while others ask you to rate yourself as one of two things – this is confusing”. In particular, (M+) item 9, (M+) and item 33, (F+) item 13, (M-F) item 6, outlined in Table 5 below, were worded in this way. Based on the open-ended responses, as well as consultations with subject matter experts, it was suggested that these items be “split” into a format that requires respondents to answer the item in terms of ‘one characteristic only’, which would thus be consistent with the scoring for the rest of the items within the scale.

Table 5

Problematic items

EPAQ Subscale	Item	Content
M +	Item 9	Very passive – very active
M +	Item 33	Feels very inferior – feels very superior
F +	Item 13	Very rough – very gentle
M – F	Item 6	Very submissive – very dominant

Furthermore, as M-F items were based on a unidimensional, bipolar approach to measurement that has been largely discredited in the seminal works of Constantinople (1973) and Lewin (1984a; 1984b), and as the present research adopted a multidimensional approach, it was felt that this scale could be excluded or revised. As mentioned, Spence and Helmrich (1978, as cited in Hoffman, 2001) acknowledged some discomfort that their EPAQ had simultaneously embraced both a dualistic and bipolar model. In accordance with the dualistic, multidimensional approach of the present study, the low reliability obtained for this subscale, and respondents' responses to the format of one of the items in the M-F subscale; this subscale in its original form was not included. This format had also been used for items 9, 13, and 33 and was subsequently changed. Revision was considered to be an option as, after evaluation of a number of other sex role inventories and consultation with subject matter experts, it was felt that the extreme poles of these items could be representative in terms of content of the other identities, that is, M-, M+, F-, or +F.

8.2.2.4.3 Conclusion

To conclude the findings of Pilot Study 1, a number of problems were identified. Moderate to very poor reliabilities were reported for three of the five subscales within the pilot. The responses to the open-ended questions also indicated difficulties with the variation in response format – from extremes for one characteristic to distinguishing oneself on a bipolar continuum between two characteristics. There were also problems with the wording within certain items and theoretical arguments in the literature were identified against the use of M-F items (Hoffman, 2001, Ward, 2006). Consequently, modification of the EPAQ within a second pilot study was deemed necessary.

8.2.3 PILOT STUDY 2 -REFINING THE 40-ITEM EPAQ

Within the Pilot Study 2 the main aim was to improve the internal consistency of the four subscales, specifically the F- and M- scales. Another aim was to improve face, content, and construct validity. Face and content validity were enhanced by addressing respondents' answers to the open-ended questions and through consultation with subject matter experts on the content and wording of items within the original EPAQ. In addition, the literature on other measures of sex role identity was examined in order to determine whether other scales contained within them item content that would more adequately sample the constructs under consideration. Construct validity was thus enhanced in the same manner as content validity. Accordingly, a number of both qualitative and quantitative

steps were followed in order to render improvements to the original EPAQ. These steps are outlined in Table 6, p.181, below.

The literature search for existing and alternative sex role identity measures, examination of the open-ended questions, and consultation with experts were all undertaken in order to enhance the content and construct validity and the internal consistency of the measure within the present study. Examination of items within other measures assessing the same or similar dimensions or constructs as the EPAQ was conducted in order to determine if other scales included items that sampled these constructs more adequately. If such items were found they were included in the second pilot study as it was felt that their inclusion might serve to enhance content validity and improve internal consistency. It is important to note that no other scales were found that assessed *both* negative masculinity and negative femininity with the exception of the Australian Sex Role Inventory (Russel & Anthill, 1984), which also demonstrated poor internal consistency for its negative/socially undesirable subscales. Therefore, there was no alternative to the EPAQ and as a consequence this instrument, which covered all the required identities, needed to be revised.

Consultation with experts and addressing of the open-ended questions were also undertaken to ensure that original items were clearly understandable and appropriate in terms of the construct that they were designed to assess. More specifically, subject matter experts were consulted about the extent to which items within the original EPAQ assessed the purported content and constructs of the subscales adequately. Consultation with experts was thus undertaken to determine (1) whether any items within the scale were possibly *not* assessing the constructs and/or the presupposed content within the proposed subscales adequately and/or appropriately and were therefore detracting from the overall reliability; and (2) how best to address respondents' responses to the open-ended questions. Also by consulting with experts on the appearance of the scale and its items prior to its administration a measure of face validity was established.

Based on this consultation, certain items within the EPAQ were re-worded. In particular, Items 8, 13, and 37 were re-worded in order to form a clear and unambiguous understanding for future test takers. Wording that was changed was: servile to subservient (Item 37); excitable to panicked (Item 8); and rough to tough (Item 13). Furthermore, it was deemed appropriate that certain items

representing two characteristics on a single continuum should be split into two separate items; these ‘split’ items were then re-categorised in terms of which subscale they belonged to.

Table 6

Steps to enhance the reliability and validity of the EPAQ

	Internal Consistency Reliability	Face Validity	Content Validity	Construct Validity
Literature Search			Qualitative – subjective opinion of author	Qualitative – subjective opinion of author
Pilot Studies		Qualitative – Six open- ended questions	Qualitative – Expert opinion obtained	Qualitative – Expert opinion obtained
Statistical Validation	Quantitative- Cronbach Alpha Coefficients		Quantitative- Cronbach Alpha Coefficients	Quantitative- Factor Analysis (Study Two: Main Study) Pearson’s Correlations to assess discriminant validity of derived subscales

With regard to re-categorizing, items that were re-categorised included: “not at all aggressive /very aggressive” (Item 1), which was considered by experts to fall under the construct of negative masculinity as opposed to M-F; and “indifferent to the approval of others/highly needful of the approval of others” (Item 21), which was re-categorised as a negative feminine item from the original M-F. In addition, “not at all panicked in a major crisis/very panicked in a major crisis” (Item 8), which was originally a M-F item was re-categorised as a negative feminine item. Similarly “feelings not easily hurt/feelings very easily hurt” (Item 23); “never cries/cries very easily” (Item 30), and “very little need for security/very strong need for security” (Item 38), all M-F items originally, were retained in their original form but were re-categorised as negative feminine items.

The following items were split and subsequently re-categorised: “very submissive/very dominant” (Item 6) which was originally a M-F item was split into two items: “not at all submissive/very submissive” which was categorised as a negative feminine item; and “not at all dominant/very dominant”, which was categorised as a negative masculine item. “Very passive/very active” (Item 9), which was originally a positive masculine item, was split into two: “not at all passive/very passive”, which was re-categorised as a negative feminine item; and “not at all active/very active” which remained as a positive masculine item. “Very rough/very gentle” (Item 13), which was originally a positive feminine item, was split into: “not at all tough/very tough”, which was re-categorised as a negative masculine item; and “not at all gentle/very gentle” which was categorised as a positive feminine item. Lastly, “feels very inferior/feels very superior” (Item 33) which was originally a positive masculine item, was split into two: “not at all inferior/very inferior” which was re-categorised as a negative feminine item; and “not at all superior/very superior” which was categorised as a positive masculine item.

In addition, as previously mentioned, Item 18 was dropped due to its problematic nature. Thus, based on the dropping of this item and the splitting of four items, the revised EPAQ consisted of 43 items reflecting original content.

While the re-wording, re-categorisations, and splits were based on consultation with subject matter experts, an extensive review of other sex role inventories indicated that many of the splits and re-

categorisations were justified as other scales included many of these split characteristics as falling under the same subscales as the re-categorisations represented within the revised form of the EPAQ

Examination of other sex role identity scales also indicated that there were additional items that were representative of the constructs that the original EPAQ intended to assess and that were not included in the original EPAQ. These items were subsequently included in the second pilot study as it was felt that inclusion of additional items could potentially ensure that each subscale contained trait descriptions that would *more fully* represent the constructs under consideration and thereby enhance the internal consistency of each subscale. Thus, based on a perusal of a number of scales within the literature, sixteen items were added to the revised form of the EPAQ. Items that were added from these scales are presented in Table 7 below.

Table 7

Items added

EPAQ Subscale	Content
M +	Not at all adventurous – Very adventurous
M +	Not at all willing to take risks – Very willing to take risks
M +	Not at all daring – Very daring
M +	Not at all outspoken – Very outspoken
F +	Not at all forgiving – Very forgiving
F +	Not at all considerate – Very considerate
F +	Not at all eager to soothe hurt feelings – Very eager to soothe hurt feelings
F +	Not at all soft hearted – Very soft hearted
M –	Not at all bossy – Very bossy
M –	Not at all selfish – Very selfish
M –	Not at all hard-headed – Very hard-headed
M –	Not at all abrupt – Very abrupt
F –	Not at all nervous – Very nervous
F –	Not at all shy – Very shy
F –	Not at all anxious – Very anxious
F –	Does not worry at all – Tends to worry a lot

8.2.3.1 Conclusion: The refinement process

Although the intention was to modify the F- and M- subscales which demonstrated very poor internal consistency and to modify the M-F scale to eliminate the confusion that respondents felt when scoring across some of the items which were on a bipolar dimension (thus avoiding an instrument that contained within it both bipolar and multidimensional variables), there were some items that were added from other instruments to the M+, M-, F-, and F+ subscales. These additions were considered to be appropriate as it was felt that inclusion of these items would enhance the construct validity of the subscales, ensuring that these assessed the construct in question even more fully.

The final scale for implementation in Pilot Study 2 thus consisted of 59 items. Of these, 43 were similar to the original EPAQ, with three of the originals re-worded, four extra items derived from splitting of original four items, and one item dropped. In terms of the subscales, the modified version consisted of 12 positively feminine items; 12 positively masculine items; 19 negatively feminine items; and 16 negatively masculine items (see Appendix B).

8.2.4 ADMINISTRATION AND STATISTICAL VALIDATION OF THE REFINED EPAQ-R

Once the scale had been refined, the revised 59-item EPAQ-R was administered anonymously via electronic mail to 135 respondents working within two financial sector organisations. Once again this survey, which was accessed via an electronic encrypted link, consisted of a preamble/participant information sheet; a biographical information sheet; the 59-item revised EPAQ-R; and the same six open-ended questions as included in the previous pilot (See Appendix B). After data collection the EPAQ-R and the modified scales within the total scale were subject to statistical validation in order to assess whether their internal consistency had been improved by the revision so as to allow for their inclusion within Study Two of the present research.

8.2.4.1 Sample

The validation sample in Pilot Study 2 consisted of 135 respondents across two organisations, one within the short-term insurance sector and one within the financial/banking sector. Demographic information obtained from the respondents is presented in Tables 8 and 9 below.

Table 8

Demographic information for pilot two

Variable	Mean	Range
Age	34.23	22 – 48

Table 9

Demographic information for pilot two

Variable	Category	Frequency	Percentage
Population Group	Black	24	17.77
	White	68	50.37
	Coloured	17	12.59
	Asian	26	19.25
Language	English	72	53.33
	Afrikaans	39	28.88
	African Language	24	17.77
Level of Education	Less than Matric	5	3.70
	Matric	63	46.66
	Post-Matric Diploma	43	31.85
	Degree	15	11.11
	Postgraduate Degree	9	6.66
Marital Status	Single	38	28.15
	Married	64	47.41
	Divorced	26	19.26
	Widowed	0	0.00
	Co-habiting	7	5.19
Number of Children	None	28	20.74
	One	39	28.89
	Two	58	42.96
	Three	7	5.19
	More than Three	3	2.22

Job Level	Junior	52	38.52
	Middle	78	57.78
	Senior	5	3.70

All of the respondents were female. The age of the respondents ranged from 22 years to 48 years of age ($M = 34.23$). Sixty-eight of the respondents were White (50.37%), twenty-four were Black (17.77%), twenty-six were of Asian origin (19.25%), and seventeen respondents indicated Coloured as their racial grouping (12.59%). Seventy-two of the respondents indicated that English was their home language (53.33%), twenty-four of the respondents spoke an African language as their home language (17.77%), whilst thirty-nine respondents indicated Afrikaans as their spoken home language (28.88%). In terms of education, five respondents had not attained a Matric certificate (3.70%), sixty three of the respondents indicated that Matric was their highest level of education obtained (46.66%), forty-three respondents indicated that they held a post-Matric diploma or certificate (31.85%), while fifteen indicated that they had a degree (11.11%). A further nine respondents had post-graduate degrees (6.66%). With regard to job level, and in line with higher reported levels of education as compared to the first pilot study, a large proportion of the sample in the second pilot study were employed in more senior management positions. Of these fifty-two were in lower management positions (38.5%), seventy-eight were in middle management positions (57.7%), and five (3.70%) were in senior management positions. In terms of marital status, thirty-eight of the respondents were single (28.1%), sixty-four were married (47.4%), twenty-six were divorced (19.25%), and seven were cohabiting (5.18%). With regard to number of children, twenty-eight (20.74%) indicated that they had no children, thirty-nine (28.89%) indicated that they had one child, fifty-eight indicated that they had two children (42.96%), seven reported having three children (5.18%), and 3 (2.3%) reported having more than three children.

8.2.4.2 Procedure

The modified scale was sent out through an email entitled "Employee Attitude Survey". The email contained an abbreviated explanation to the respondents regarding the nature of the survey along with directions to a secure, encrypted link which served as the survey site. The first page of the survey consisted of a detailed preamble from the researcher which re-iterated points contained within the email but further explained to the respondents the purpose of the research and guaranteed

the anonymity and confidentiality of their responses. Respondents were then required to record their biographical information on the second page, after which they were instructed to complete the modified EPAQ-R. Instructions pertaining to the completion of the scale were given at the top of the questionnaire page. After completion of the scale respondents were instructed to respond to six open-ended questions pertaining to aspects of the scale (See Appendix B). Respondents completed the questionnaire within their own time during a two week specified period. After the two week period had elapsed respondents were sent a reminder email to complete the survey if they had not already done so. Two weeks after the reminder was sent the survey was closed and data was downloaded from the website.

8.2.4.3 Measuring instrument

The modified EPAQ-R was presented as a questionnaire entitled “The Employee Attitude Survey”. After the preamble respondents were required to record their biographical information (See Appendix B), following which instructions pertaining to the completion of the scale were given. The 59 items presented thereafter described the various sex role identity behaviours of respondents. Of the 59 items, 12 items pertained to Positive Femininity (Items 5, 12, 16, 17, 22, 24, 27, 31, 36, 49, 52, 58); 12 items pertained to the Positive Masculinity (Items 3, 18, 34, 35, 37, 39, 43, 44, 47, 50, 56, 57); 19 items pertained to the Negative Femininity (Items 2, 6, 9, 10, 13, 15, 19, 20, 23, 25, 28, 29, 30, 33, 33, 41, 53, 54, 55); and 16 items pertained to Negative Masculinity (Items 1, 4, 7, 8, 11, 14, 21, 26, 32, 40, 42, 45, 46, 48, 51, 59) (see Appendix D for sub-scale items after the EPAQ was revised).

On completion of the modified EPAQ-R, the same additional set of six open-ended questions as used in the first pilot study was presented to the respondents. The open-ended questions asked respondents whether (1) there were any items in the scale that they did not understand; (2) there were any items that they felt were ambiguous, (3) there were any items that were included in the scale that they felt should have been excluded; (4) there were any items that they felt were of a sensitive and/or offensive in nature; (5) there were any items that they thought should have been included in the scale that were not included; and (6) the instructions provided about how to answer the questions were clearly understandable. Responses once again followed a “Yes/No” format and respondents were instructed to elaborate on their answer if they answered ‘Yes’ to any of the

questions (see Appendix B). These questions were included to ensure that the adjusted scale had an acceptable degree of face validity and content validity. Thus face validity and content validity were again assessed in terms of the open-ended responses to the questions.

8.2.4.4 Results

8.2.4.1.1 Reliability - internal consistency

After analysing the reliabilities obtained for each subscale, it was observed that the Cronbach Alphas of the subscales had improved substantially – please refer to Table 10 below. All of the subscales had acceptable reliability, with estimates as follows: 0.81 for Positive Masculinity; 0.84 for Positive Femininity; 0.80 for Negative Masculinity; and 0.70 for Negative Femininity. There was thus a significant improvement in the internal consistency of the subscales rendered by the splitting of some of the items, the re-categorisation of items, and the addition of a further sixteen items to the overall scale.

Table 10

Internal consistency reliabilities for pilot two

EPAQ Subscale	Cronbach Alpha Coefficient
M +	<i>0.81</i>
F +	<i>0.84</i>
M –	<i>0.80</i>
F –	<i>0.70</i>

Italicized Alphas represent acceptable internal consistency reliability

These alphas were acceptable according to the standard of 0.70 adopted in the present study as an acceptable level of reliability for the social sciences (Nunnally & Bernstein, 1994). In terms of internal consistency, the revised version was thus considered suitable for usage in Study Two of the present study.

8.2.4.4.2 Face validity

With regard to face validity, after the revisions made as a result of the first pilot study none of the respondents indicated that any of the scale items were incomprehensible, ambiguous, sensitive, and/or offensive in nature. In addition there were no responses recorded that indicated that the way in which the items were phrased and the way in which the response format was presented was in any way problematic. Consequently, no items were removed from the scale based on the open-ended responses. Also, as mentioned, experts were consulted prior to the test's administration and therefore a measure of face validity was established.

8.2.4.3.3 Conclusion

Based on the reported Cronbach Alphas for each of the four subscales and no negative responses to the open-ended questions, the scale was deemed to have acceptable internal consistency and content and face validity to be used in the Study Two, which was the main data collection designed to assess the relationships as proposed within the research questions and hypotheses of the present research. Below follows a discussion of the procedures followed, the sample accessed, and the results obtained within Study Two.

8.3 STUDY TWO – THE ADMINISTRATION AND STATISTICAL VALIDATION OF THE REVISED EPAQ AND TESTING THE STUDY'S HYPOTHESES

While Study Two was utilised to assess the hypotheses proposed within the present research it was also used to statistically validate the EPAQ-R before the hypotheses were tested. Thus Study Two consisted of two steps:

- ii) The administration and statistical validation of the revised EPAQ referred to hereafter as the EPAQ-R.
- iii) Testing the hypotheses with the EPAQ-R.

8.4 THE ADMINISTRATION AND STATISTICAL VALIDATION OF THE REVISED EPAQ-R AND ASSESSING THE PROPOSED HYPOTHESES WITH THE EPAQ-R

Within Study Two the revised EPAQ-R, along with instruments assessing work stress, social support, psychological wellbeing, and self-esteem, were administered to a sample of 7800 employees within a national financial institution and a tertiary institution based in Gauteng. The aim of Study Two was to validate the EPAQ-R and assess the relationships between patterns of sex role identity, work stress, social support, and wellbeing in South African female managers. From the sample of 7800, 2080 responses were received. However only 1477 survey responses could be used in all analyses as 603 respondents did not complete the survey in full.

8.4.1 Procedure

Data on the variables under study was obtained by presenting respondents with an “Employee Attitude Survey” which consisted of a preamble, a biographical information sheet which assessed the biographical information of the sample under study, and the Employee Attitude Questionnaire (see Appendix C). Presentation of the survey was electronic with respondents being provided with a secure, encrypted link to access the survey. Use of this link ensured that respondents could remain anonymous and that their responses would remain confidential.

8.4.2 Sample

As outlined above, the present research sampled respondents from varying levels of employment working within the banking sector nationally and within a tertiary institution in Gauteng. The sample consisted of 1477 females. Demographic information obtained from the respondents is presented in Tables 11 and 12 below.

Table 11

Demographic information for sample

Variable	Mean	Standard Deviation	Range
Age	37.48	9.13	18 – 68

Table 12

Demographic information for sample

Variable	Category	Frequency	Percentage
Population Group	Black	236	15.98
	White	664	44.96
	Coloured	251	16.99
	Asian	251	16.99
	Missing	75	5.08
Language	English	812	54.98
	Afrikaans	413	27.96
	African Language	236	15.98
	Other	1	0.00
	Missing	15	0.01
Level of Education	Less than Matric	29	1.96
	Matric	369	24.98
	Post-Matric Diploma	443	29.99
	Degree	251	16.99
	Postgraduate Degree	221	14.96
	Missing	164	11.10
Marital Status	Single	413	27.96
	Married	664	44.96
	Divorced	324	21.94
	Widowed	11	0.01
	Co-habiting	29	1.96
	Missing	36	2.44

Demographic information for sample continued.

Number of Children	None	251	16.99
	One	413	27.96
	Two	590	39.95
	Three	184	12.46
	More than Three	39	2.64
Job Level	Junior	576	39.00
	Middle	871	58.97
	Senior	30	2.03

The sample consisted of 7800 female managers working within a national financial institution and within a tertiary institution within Gauteng. Two thousand and eighty responses were received but of these only 1477 were complete and therefore usable within the study. Demographic information for the sample are presented in Tables 11 and 12 above.

The age of the respondents ranged from 18 to 68 years of age ($M = 37.48$). In terms of race, six-hundred and sixty-four respondents were White (44.96%), two-hundred and thirty-six were Black (15.98%), two-hundred and fifty-one were Asian (16.99%), two-hundred and fifty-one were Coloured (16.99%) and seventy five respondents did not supply their race(5.08%). The home language spoken by eight-hundred and twelve of the respondents was English (54.98%), while two-hundred and thirty-six spoke an African language (15.98%). Four hundred and thirteen respondents spoke Afrikaans (27.96%) and one respondent (0.00%) indicated their home language as “other”. Fifteen respondents did not report home language (0.01%).

The highest level of education indicated for the respondents was two-hundred and twenty-one with postgraduate degrees (14.96%), four-hundred and forty-three with post-Matric diplomas or certificates (29.99%) and two-hundred and fifty-one with degrees (16.99%). Three-hundred and sixty-nine were in possession of a Matric certificate (24.98%) and twenty-nine reported having less than a Matric (1.96%). One-hundred and sixty-four did not report on their educational level (11.10%). In terms of marital status, six-hundred and sixty-four of the respondents were married (44.96%), four-hundred and thirteen were single (27.96%), three-hundred and twenty-four were

divorced (21.94%), twenty nine were co-habiting (1.96%) and thirty-six respondents did not report their marital status (2.44%).

Regarding number of children two-hundred and fifty-one indicated that they had no children (16.99%), four-hundred and thirteen indicated that they had one child (27.96%), five-hundred and ninety reported having two children (39.95%), one-hundred and eighty four reported having three children (12.46%), and thirty nine reported having more than three children (2.64%). Five-hundred and seventy-six were in junior management positions (39.00%), eight-hundred and seventy-one were in middle management positions (58.97%), and thirty were in senior management positions (2.03%).

Before beginning to compute and analyse the data obtained from the sample on the proposed relationships between variables, the reliability and factor structure of the revised EPAQ-R needed to be assessed. Thereafter, statistical analyses of the proposed hypotheses were undertaken.

8.4.3 Assessing reliability and factor structure of the Revised EPAQ (EPAQ-R): Statistical analyses and results

In order to assess the reliability and validity of the revised EPAQ for usage within Study Two, the following analyses were conducted. Internal consistency reliability for each of the four proposed subscales was assessed using the present sample. Thereafter the inter-correlations between the four subscales were examined to assess the degree of independence of the four subscales from one another using Pearson's Correlation Coefficients. Finally the present study sought to confirm the construct validity of the revised EPAQ-R in terms of a four-factor structure, as theoretically proposed by the original authors of the scale. This was done in order to ensure that the instrument was assessing the constructs under consideration and thereby suitable for testing the hypothesised relationships.

8.4.3.1 Reliability - Internal consistency

Internal consistency was evaluated by means of the Cronbach Alpha Coefficient to assess the degree of homogeneity of test items, in other words, the degree to which items were positively inter-correlated and thus measured the same trait (Anastasi, 1982). This technique also allows for a degree of content validation as a high Alpha indicates that the items are somewhat representative of

the universe of elements to be measured (Anastasi, 1982; Kerlinger, 1981). However content validity was also built into the scale from the outset by including new items and revising original scale items in such a way that they would be considered to be consistent with the appropriate theoretical constructs under investigation. As discussed in Pilot Study 2 of Study Two, the revision and inclusion of items and the assumption that they were consistent was based on extensive searching of the literature and consultation with subject matter experts. The Cronbach Alpha Coefficients obtained for each of the four subscales within Study Two are presented in Table 13 below. (Note that these Cronbach Alpha Coefficients were obtained *after* the reassignment of some items based on the Factor Analysis discussed below).

Table 13

Internal consistency reliabilities for Study Two- Pilot 2

EPAQ Subscale	Cronbach Alpha Coefficient
M +	<i>0.83</i>
F +	<i>0.85</i>
M –	<i>0.85</i>
F –	<i>0.81</i>

Italicized Alphas represent acceptable internal consistency reliability

The internal consistency estimates for each of the subscales were thus again found to be acceptable according to the minimum standard of 0.70 adopted in the present study (Nunnally & Bernstein, 1994).

8.4.3.2 Inter-correlations between the four EPAQ-R subscales

Pearson's Correlation Coefficients were calculated between the four subscales in order to assess their relative independence from one another. Pearson's Correlation Coefficient is defined as the extent of "relationship between variables" and the coefficient indicates "a measure" of this relationship (Howell, 2008, p.171). Correlation coefficients are based on a statistic called covariance, which can be defined as "any number that reflects the degree to which two variables vary together" (Howell, 2008, p 180). In Pearson's Product-Moment method for calculating the

correlation coefficient, the covariance divided by the standard deviations obtained provides an estimated result of the correlation. The correlation coefficient obtained indicates a value on a scale that exists between -1.00 and + 1.00: the closer this value is to either of these given limits, the stronger the relationship between the two variables in question is (Howell, 2008).

However, before conducting a Pearson's Product Moment Correlation Coefficient a number of assumptions regarding the data need to be satisfied. These assumptions are as follows:

- i) A linear relationship must exist between the two variables
- ii) Random, independent sampling is required
- iii) Variables must be continuous and randomly distributed
- iv) There must be normal distribution of the sample data, that is, both variables must be normally distributed
- v) Both variables must have interval scales of measure
- vi) The variables must be independent of each other
- vii) There must be equality of variance within each group, that is, homogeneity of variance must be present

The results of these assumption tests were all satisfied. As many of these assumptions were the same as those required to be satisfied before conducting the statistical techniques of ANOVA and MMR, the results of these assumption tests can be found in the discussions of assumption testing for ANOVA and MMR respectively in sections 8.6 and 8.8 below.

In the original validation study (Spence et al., 1979) and in the later study by Helmrich et al. (1981), inter-correlations between the subscales were reported for both males and females. The 1979 study consisted of 380 male and 540 female college students while the 1981 study consisted of 854 male and 1465 female college students. As the present study was comprised of females, for comparison purposes the tables below only report the inter-correlations for female college students. Table 14 refers to the 1979 data and Table 15 refers to the 1981 data.

Table 14

Correlations between subscales: Original 1979 sample

	M	F	M –	F_{VA}	F_C
M	1.00				
F	0.02	1.00			
M –	0.13	-0.43	1.00		
F_{VA}	-0.26	-0.16	0.42	1.00	
F_C	-0.32	0.08	-0.06	0.17	1.00

Table 15

Correlations between subscales: Original 1981 sample

	M	F	M –	F_{VA}	F_C
M	1.00				
F	0.08	1.00			
M –	0.12	-0.44	1.00		
F_{VA}	-0.23	-0.16	0.42	1.00	
F_C	-0.33	0.17	-0.11	0.11	1.00

In the present study a similar pattern of inter-correlations was reported although negative femininity was subsumed as a single subscale and was not divided into subcomponents of passive aggressive behavioural traits and unmitigated communion traits. The inter-correlations of the subscales in the present study are outlined below in Table 16.

Table 16

Correlations between subscales: Current study

	M +	F +	M –	F –
M +	1.00			
F +	0.03	1.00		
M –	0.17	-0.38	1.00	
F –	-0.46	0.13	0.23	1.00

Within the present study the positive and negative scales had low correlations with the same sex scales. For example, M+ and M- had a low correlation with each other (0.17 in the current study, 0.12 and 0.13 in the original studies), and F+ and F- had low correlations with each other (0.13 in the present study, -0.16 for Fva in both previous studies and 0.08 and 0.17 for Fc in previous studies). In addition, low positive correlations were obtained between the positive cross types M+ and F+ (0.03 in the current study, 0.08 and 0.02 in both previous studies).

Significant inverse correlations were seen between the positive and negative cross typed scales. In the present study the correlation between positive masculinity and negative femininity was -0.46. In the previous studies positive masculinity was significantly and inversely correlated with the passive aggressive component of negative femininity (-0.26 and -0.23) and was significantly and inversely correlated the unmitigated communion component of negative femininity (-0.32 and -0.33).

In the present study there was a positive correlation of 0.23 between negative masculinity and negative femininity. With regard to negative masculinity, in the previous studies there were significant positive correlations with the passive aggressive component of negative femininity (0.42 in both previous studies) and a low though inverse correlation with the unmitigated communion component of negative femininity (-0.06 and -0.11). In the current study a correlation of 0.23 between M- and F- was obtained, which, because FvA and Fc were combined, might represent a compound of the 0.42 and -0.06 and 0.42 and -0.11 obtained in the 1979 and 1981 studies in which FvA and Fc were separated.

Thus, the pattern of inter-correlations in the current study was similar to the original 1979 and 1981 studies, with the pattern of correlations being in the expected directions. Negative and positive masculinity were expected to be correlated to some extent as both sets of traits are considered to be those more stereotypically displayed by males; but they differ in terms of whether they would be regarded to be socially desirable or socially undesirable (Spence et al., 1979; Helmreich et al., 1981). Negative and positive femininity would also be expected to be correlated to some extent as they are both considered to be traits more stereotypically displayed by females but again they would differ in terms of their social desirability (Spence et al., 1979; Helmreich et al., 1981). Positive

masculinity, which represents a cluster of traits associated with competency and high levels of self-esteem and wellbeing, would be expected to have a strong negative correlation with negative feminine traits which represent a cluster of traits associated with anxiety, neuroticism and low wellbeing (Spence et al., 1979; Helmreich et al., 1981). Lastly negative masculine traits, which represent an unmitigated level of aggression, power, dominance, and self-centredness, would be expected to have a strong negative correlation with positive femininity which represents a set of traits high on concern for others such as caring and helpfulness and an interest in the welfare of others (Spence et al., 1979; Helmreich et al., 1981).

8.4.3.3 Conclusion

The above sections have described the establishment of internal consistency of the four subscales and the expected degree of inter-correlation amongst them. Once internal consistency had been established by utilising Cronbach's Alpha Coefficients to inspect the inter-item consistency of the four subscales, inter-correlations between the four subscales were shown to demonstrate a reasonable degree of independence between the subscales yet to correlate in expected directions. In order to further establish the reliability and validity of the extended EPAQ-R, the present research still needed to confirm the pre-supposed four factor structure of the instrument. This was done through the statistical technique of factor analysis.

8.5. FACTOR ANALYSIS: CONFIRMING THE FOUR-FACTOR STRUCTURE OF THE EPAQ-R

As discussed in section Chapter 7, a principal components exploratory factor analysis using an oblique rotation was utilised to confirm the theoretical four factor structure of the EPAQ-R. Factor analysis is a procedure whereby patterns of correlation between large numbers of variables or items are examined, with the main underlying dimensions then being extracted. It is based on the assumption that some underlying factors, which are smaller in number than the number of observed variables, are responsible for the co-variation amongst these observed variables. A factor is taken to be a concept with two or more underlying variables that is assumed to represent an area of generalisation which is qualitatively different from that represented by other factors that it has a low

correlation with or that it is uncorrelated with within the test battery, that is, the larger number of variables overall (Kim & Mueller, 1986).

While factor analysis can be used in either an exploratory or confirmatory manner, in the present study an exploratory factor analysis using the principal components method was used. More specifically, following the same method utilised by Helmreich and colleagues (1981), a Joreskog (1973) factor analysis was employed, using the maximum likelihood solution with oblique rotation and varied degrees of obliqueness (Helmrich et al., 1981).

Using this method inter-correlations were conducted among all items. An initial factor was then extracted which accounted for most of the variance in the measure. Thereafter a second factor was created to account for most of the remaining variance with this procedure being repeated until all the variances were accounted for (Kim & Mueller, 1986). Since the first factor accounted for most of the variance, the factors were then rotated to distribute the variance more evenly among the subsequent factors.

An oblique rotation as opposed to an orthogonal rotation was used to identify and confirm the presupposed factors. This was because orthogonal rotations rotate the factors in such a way that they are always at right angles to one another, which essentially means that the factors are uncorrelated (Kline, 1994). Catell (1978) and Kline (1994) note that in searching for factors which are fundamental dimensions in understanding psychological phenomena it is unlikely that, *a priori*, such factors would be uncorrelated. With an oblique rotation the factor axes can take up any position in the factor space with the cosine of the angle between the factor axes indicating the degree of correlation between them. An oblique rotation of factors allows more freedom in selection of the position of factors in factor space than does an orthogonal rotation where there is the constraint of orthogonality (Kline, 1994).

An oblique rotation was thus used as, unlike orthogonal, it allows for the identification of factors while acknowledging that there is some correlation between them. As the intention was to confirm four factors that do bear some relation to each other (as evidenced in the patterns of inter-correlations), the principle components exploratory factor analysis with an oblique rotation was

considered to be most appropriate. Kline (1994) notes that when assessing factor structure of instruments measuring personality or dispositional traits, it is *extremely unlikely* one would find orthogonal factors. Consequently an oblique rotation for the factors within the present study, which were dispositional in nature, was deemed to be more appropriate than an orthogonal rotation. As discussed a number of criteria were used to judge the appropriateness of the factor structure. These were:

- (i) Catell's Scree Test
- (ii) Eigenvalue specification/ Guttman-Kaiser eigenvalue greater-than-one rule (K1 rule)
- (iii) Criterion of substantive importance
- (iv) Harman's criterion
- (v) Inspection of communalities
- (vi) Parallel analysis (PA)
- (vii) Velicer's minimum average partial (MAP)
- (viii) Factor loadings greater than .50 - inspection of item factor loadings on extracted factors
- (ix) Inter-correlations between the four factors (See Table 16 above)

The results of these criteria are outlined on the following pages.

8.5.1 Catell's Scree test

With regard to Catell's Scree Test, the solution suggested that four factors be retained as the Scree Plot tapered off significantly after four factors.

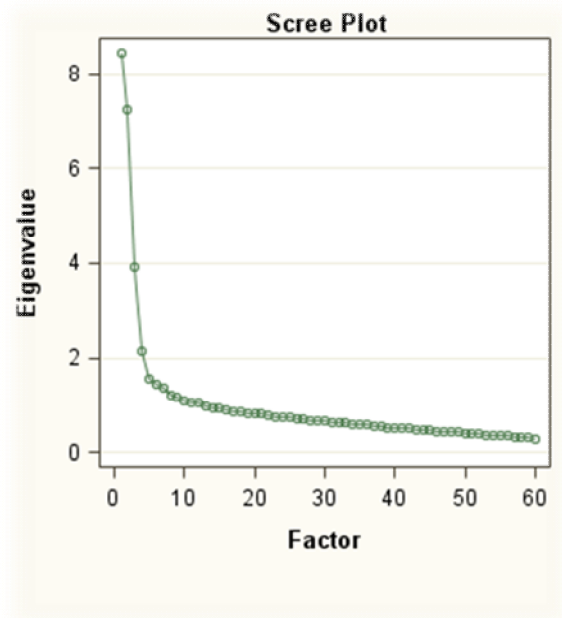


Figure 13 *Scree plot of Eigenvalues for the EPAQ-R*

8.5.2 The Eigenvalue Specification

An inspection of the Eigenvalues indicated that there were twelve factors with eigenvalues greater than 1. A closer examination of the proportion of the variance accounted for by each of the factors indicated that the first four factors accounted for the greatest amount of variance explained: Factor 1 for 14.09%, Factor 2 for 12.09%, Factors 3 for 6.55%, and Factor 4 for 3.58% respectively (see Table 17 below).

Table 17

Eigenvalues and proportion of variance explained

	Eigenvalue	Variance Explained
Factor 1	8.45	0.14
Factor 2	7.25	0.12
Factor 3	3.92	0.06
Factor 4	2.15	0.03
Total		0.36

8.5.3 Criterion of substantive importance

In order to avoid over-extraction and the retention of poorly defined factors that could be difficult to decipher the criterion of substantive importance was adopted. Guided by previous theory and research, the 3% level of substantive importance was selected and consequently four factors were retained. The first factor was that of positive femininity, the second factor was that of negative femininity, the third factor was that of negative masculinity, and the fourth factor was that of positive masculinity. The first two factors accounted for the greatest proportion of the variance and, as the sample of respondents were all female, it was expected that the feminine factors would account for the greatest proportion of variance overall.

8.5.4 Harman's Criterion

To further validate the retention of these four factors, Harman's Criterion (1976) was utilised, which states that the extraction of factors should be halted before the cumulative sum of eigenvalues exceeds the sum of the estimated communalities; where communality is defined as the sum of the squares of the common-factor coefficients (Kim & Mueller, 1986). Consequently, the retention of four factors was considered to be appropriate. This was so as the cumulative sum of the eigenvalues of the first four factors equalled 21.79 and the final communality estimate equalled 21.786, therefore the halting of extraction after four factors was deemed to be accurate.

8.5.5 Communality estimates

Communality estimates for each individual item were also inspected and no items with a communality estimate less than .02 were retained. Items with communality estimates lower than .02 were to be excluded as this level is deemed to be the minimum acceptable level for item retention (Kim and Mueller, 1986). All items had communality estimates above .20 with the exception of “Never subordinates oneself to others – Always subordinates oneself to others” (Item 20). An examination of this item’s loadings on the four factors also revealed that it loaded poorly across all four factors with the highest loadings being an inverse loading on negative masculinity (-0.33) and a positive loading on negative femininity (0.26). “Very little need for security – very high need for security” (Item 54) also had low loadings on all four factors. Consequently both these items were dropped and were not used in the subscales.

8.5.6 Velicer’s MAP and Parallel Analysis

In addition, Velicer’s MAP and Parallel Analysis were utilised. Thereafter factor loadings were inspected to ensure that items were loading on the appropriate factors.

With regard to MAP, this statistical procedure suggested that four factors be retained. However, PA suggested seven. As discussed in detail in Chapter 7, Parallel Analysis tends to over-extract while MAP can under-extract. However in order to strike a balance between empirical and theoretical considerations, four factors were retained.

8.5.7 Factor Loadings

With regard to factor loadings, it was intended that items that loaded with less than 0.50 on the retained factors be excluded (Kline, 1994). The loadings of each of the items on the four factors are presented in Table 18 below.

Table 18

Factor loadings for the EPAQ-R (59 items)

		Factor 1: F–	Factor 2: F+	Factor 3: M–	Factor 4: M+
1	Not at all/very aggressive	0.11	-0.19	0.91	0.22
2	Not at all/ very whiny	0.76	0.02	0.65	-0.10
3	Not at all/ very independent	-0.53	0.07	0.09	0.42
4	Not at all/ very arrogant	0.19	-0.23	1.01	0.46
5	Not at all/ very emotional	0.85	0.54	0.51	-0.17
6	Not at all/ very submissive	0.76	0.23	-0.13	-0.17
7	Not at all/ very dominant	-0.06	0.02	0.95	0.70
8	Not at all/ very boastful	0.40	-0.12	0.97	0.51
9	Not at all/ very panicked in a crisis	0.83	0.17	0.34	-0.44
10	Not at all/ very passive	0.55	0.10	0.00	-0.07
11	Not at all/ very egotistical	0.45	-0.16	0.91	0.50
12	Not at all/ very able to devote oneself to others	0.40	0.76	-0.03	0.41
13	Not at all/ very spineless	0.77	-0.06	0.19	-0.23
14	Not at all/ very tough	-0.33	0.16	0.44	0.81
15	Not at all/ very complaining	0.65	-0.04	0.54	-0.18
16	Not at all/ very helpful to others	0.11	0.82	-0.16	0.46
17	Not at all/ very considerate	0.25	0.92	-0.25	0.34
18	Not at all/ very competitive	-0.10	0.20	0.61	0.90
19R	Not at all/ very shy	0.44	-0.05	-0.35	-0.85
20	Never/always subordinates oneself to others	0.26	0.13	-0.33	-0.04
21	Not at all/ very greedy	0.43	-0.33	0.73	-0.01
22	Not at all/ very kind	0.29	0.98	-0.22	0.42
23	Not at all/ very anxious	0.80	0.38	0.346	-0.22

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24	Not at all/ very forgiving	0.22	0.57	-0.35	0.24
25	Indifferent to/very needy of the approval of others	0.82	0.41	0.27	-0.22
26	Not at all/ very dictatorial	0.31	-0.07	0.94	0.50
27	Not at all/ very eager to soothe hurt feelings	0.60	0.82	-0.06	0.08
28	Not at all/ very nervous	0.83	0.19	0.15	-0.62
29	Feelings are not/ are very easily hurt	0.87	0.57	0.22	-0.43
30	Do not nag at all/nag a lot	0.67	0.05	0.57	-0.23
31	Not at all/ very aware of the feelings of others	0.35	1.00	-0.16	0.28
32	Not at all/ very hard-headed	0.09	-0.02	0.78	0.23
33	Does not worry at all/ worries a lot	0.67	0.45	0.40	-0.31
34	Not at all/ very adventurous	-0.06	0.25	0.41	0.95
35	Has difficulty making decisions/makes decisions very easily	-0.62	0.09	0.15	0.78
36	Not at all/ very soft-hearted	0.73	0.86	-0.19	-0.13
37	Not at all/ very willing to take risks	-0.27	0.19	0.35	1.00
38	Not at all/ very fussy	0.19	0.20	0.58	0.18
39	Gives up very easily/ never gives up easily	-0.54	0.20	0.06	0.74
40	Not at all/ very cynical	0.23	-0.17	0.64	-0.03
41	Never cries/ cries very easily	0.82	0.65	0.17	-0.17
42	Not at all/ very selfish	0.19	-0.49	0.64	-0.17
43	Not at all/ very daring	-0.18	0.18	0.55	1.03
44	Not at all/ very self-	-0.51	0.18	0.36	1.08

	confident				
45R	Does not look out for the self only - principled/ looks out only for the self – unprincipled	0.22	-0.50	0.29	-0.25
46	Not at all/ very outspoken	-0.31	0.15	0.64	0.99
47	Tends to feel/never tends to feel inferior	-0.57	-0.08	-0.05	0.79
48	Not at all/ very hostile	0.45	-0.15	0.87	0.35
49	Not at all/ very understanding of others	0.14	0.92	-0.31	0.34
50	Never feels/ feels very superior	0.22	-0.01	0.83	0.60
51	Not at all bossy/ very bossy	0.18	-0.09	1.09	0.45
52	Very cold/ warm in relation with others	0.17	0.81	-0.20	0.48
53	Not at all/ very subservient	0.75	0.22	0.00	0.04
54	Very little/ very high need for security	0.36	0.29	0.13	-0.31
55	Not at all/ very gullible	0.78	0.17	0.21	-0.25
56R	Goes to pieces/ stands up well under pressure	-0.70	0.17	-0.11	0.60
57	Not at all/ very active	-0.01	0.32	0.19	0.77
58	Not at all/ very gentle	0.49	0.89	-0.38	0.12
59	Not at all/ very abrupt	0.04	-0.33	0.73	0.19

Based on the above factor loadings:

Factor 1 consisted of Negative Feminine items, including: Very whiny; very emotional; very submissive; very panicked in a crisis; very passive; very spineless; complains a lot; very anxious; very needy of the approval of others; very nervous; feelings are easily hurt; nags a lot; worries a lot; cries very easily; very subservient; very gullible; goes to pieces under pressure.

As discussed, Items 20 and 54, both negatively feminine items, were dropped due to low factor loadings.

“Not at all independent – very independent” (Item 3) was intended to be a positive masculine item. However, it had a higher inverse loading on negative femininity (-0.53) as compared to positive masculinity (0.44). Consequently this item was reverse-scored and included in the negative femininity subscale. Similarly, “Goes to pieces under pressure- stands up well under pressure” (Item 56) loaded higher and inversely on negative femininity as opposed to positive masculinity and was, therefore, reverse-scored and included in the negative femininity subscale.

Although “not at all shy - very shy” (Item 19) was supposed to be negative feminine item, it loaded high and in reverse on positive masculinity and was thus excluded from the negative feminine scale and included in the positive masculine subscale. In addition, “not at all fussy -very fussy” (Item 38) was supposed to be a negative feminine item but loaded on negative masculinity and was therefore included in the negative masculine subscale. “Not at all emotional - very emotional” (Item 5) was supposed to be a positive feminine item but loaded on the negative feminine factor and was thus included in the negative feminine subscale and excluded from the positive feminine subscale. Thus with re-assignments and the dropping of two items, the final negative feminine subscale consisted of 18 items.

Factor 2 consisted of Positive Feminine items and included the following items: Very able to devote oneself to others; very helpful to others; very considerate; very kind; very forgiving; very eager to soothe hurt feelings of others; very aware of the feelings of others; very soft hearted; very understanding; very warm; and very gentle. “Does not look out only for the self- principled – looks

out only for the self -unprincipled” (Item 45) which was intended to be a negative masculine item loaded highest and inversely on positive femininity (-0.50) and was consequently included as a reverse scored positive feminine item. As mentioned above, “not at all emotional - very emotional” (Item 5) was supposed to be a positive feminine item but loaded on negative feminine subscale. Thus with re-assignments the positive feminine scale consisted of 12 items.

Factor 3 consisted of Negative Masculine items and included the following items: Very aggressive; very arrogant; very dominant; very boastful; very egotistical; very greedy; very dictatorial; very cynical; very selfish; very hostile; very bossy; very abrupt; very hard-headed; very fussy; and very superior.

As discussed, “not at all fussy -very fussy” (Item 38), which was supposed to be a negative feminine item, loaded on negative masculinity. “Never feels superior- feels very superior” (Item 50), which was supposed to be a positive masculine item, also loaded much higher on negative masculinity. “Does not look out for the self only – principled - looks out only for the self – unprincipled” (Item 45), as mentioned above, loaded in reverse on positive femininity. “Not at all tough - very tough” (Item 14), which was supposed to be negative masculine item, loaded higher on positive masculinity and “Not at all outspoken- very outspoken” (Item 46), which was also supposed to be negative masculine item, loaded on positive masculinity. Thus with re-assignments negative masculinity consisted of 15 items.

Factor 4 consisted of Positive Masculine items and included the following items: Very competitive; very adventurous; makes decisions very easily; very willing to take risks; never gives up easily; very daring; very self-confident; very outspoken; never tends to feel inferior; very active; not at all shy; and very tough. As mentioned above, while “not at all tough-very tough” (Item 14) was expected to load as a negative masculine item, it loaded highest on positive masculinity (0.81) as opposed to on negative masculinity (0.44); therefore this item was included in the positive masculinity subscale.

As discussed above, two items “goes to pieces under pressure- stands up well under pressure” (Item 56) and “not at all independent-very independent” (Item 3) loaded in reverse and were thus re-

assigned to negative femininity. “Not at all tough - very tough” (Item 14) and “Not at all outspoken-very outspoken” (Item 46), which were negative masculine items, loaded higher on positive masculinity and “not at all shy-very shy” (Item 19), which was supposed to be a negative feminine item, loaded higher and in reverse on positive masculinity. Thus in total after re-assignment positive masculinity subscale consisted of 12 items.

With regard to the overall scale, after re-assigning some items based on their loadings on the factors and dropping some items due to their unacceptably low loadings on all subscales (Item 20 and Item 54), the final version of the revised EPAQ (EPAQ-R) consisted of 57 items in total (see Appendix D). Furthermore, it is important to note that the internal consistencies of the subscales reported in Table 13 were run on the re-assigned items as based on the described factor loadings. Thus with re-assignment and dropping of items the internal consistencies of the subscales in Study Two were actually higher in all instances than those observed after the refinement in the second pilot study (Table 10). For a detailed presentation of items assigned under each subscale for administration in Study One Pilot 2 and the re-assignment after the factor analysis loadings in Study Two (see Appendix D).

8.5.7.1 Cross loadings of items on the EPAQ-R

As can be seen from Table 18, a number of the items cross loaded across more than one factor, that is, there were a number of items that indicated off-diagonal loadings. Costa and McCrae (1992) and Laher (2011) make a sensible explanation for cross-loadings that applies to most cases. According to them, cross-loadings will occur since aspects of personality are related but the higher loading will always be seen on the factor on which the facet should load theoretically. As the items on the EPAQ-R all measure sex-based personality traits, incidences of cross-loadings were not unexpected.

However, such off-diagonal loadings needed to be inspected in order to ascertain the convergent and discriminant validity of items with regard to how they load on specific factors. In order to judge whether an item has convergent validity, that is, the extent to which it corresponds to a particular expected factor in the rotated method of the factor analysis, a cut-off point equal to or above which

an item must load is selected (Brown, Alpert, Lent, Hunt & Brady, 1988; McCormick, Siegert, & Walkey, 1987).

In the present study the minimum cut-off point selected was 0.50. Discriminant validity is assessed by examining the extent to which items load on other factors, that is, the extent to which they load on factors that they are not expected to load on. According to Brown et al. (1988), the discriminant validity represented by the extent of the off-diagonal loadings is judged to be satisfactory when the difference between an item's highest loading and the second highest loading is greater than 0.10. McCormick et al. (1987) suggest in instances where the difference in magnitude is less than 0.10 one cannot claim a perfect replication of the intended factor structure. Another criterion suggested by McCormick et al. (1987) is that one examines the range of off-diagonal loadings. In the present study the off-diagonal loadings ranged from 0.40 to 0.64 and were thus moderately high indicating that the factor structure was not perfectly replicated. In this regard Items 2, 5, 7, 8, 11, 15, 18, 26, 27, 29, 30, 35, 39, 43, 44, 46, 47, 50, and 56 all had off-diagonal loadings that were at or above 0.50. These high off-diagonal loadings were not entirely unexpected given the degree to which the subscales of the sex role identities correlated either positively or inversely with one another. However, in terms of the 0.10 difference in magnitude criterion, all these items met this criterion.

These off-diagonal loadings may be explained in terms of the extent to which there is some expected correlation between the subscales. In particular, it is expected some negative feminine traits could well be categorised with or be perceived of as negative masculine traits. Spence et al. (1979) and Helmreich et al. (1981) noted that there was overlap with regard to the verbally aggressive items contained within the negative femininity subscale and the negative masculinity subscale. Consequently the off-diagonal loadings on Items 2, 15 and 30 (whiny, complaining, and nags a lot) were not unexpected.

Furthermore, the high inverse correlation between positive masculinity and negative femininity subscales empirically demonstrated in the present study and the previous research of Spence et al. (1979) and Helmreich et al. (1981) would thus be expected to be evidenced in some high inverse off-factor loadings. The inverse relationship between positive masculine competency cluster traits and the negative affect and dependence of negative femininity traits is clearly reflected in the high

inverse off factor loadings of Items 35, 39, 44, 47, and 56 (independent, difficulty making decisions, gives up easily, self confident, tends to feel inferior, and stands up well under pressure).

With regard to negative and positive femininity, previous research has indicated that these constructs are to some degree correlated with one another even though this correlation would be of a low degree (Spence et al., 1979; Helmreich et al., 1981). Thus the off factor loadings on Items 5, 27 and 29 indicate overlap between traits that represent a degree of communion to unmitigated communion (very emotional, eager to soothe hurt feelings, and feelings easily hurt). Similarly there is some conceptual overlap between positive and negative masculinity therefore the off-factor loadings on items were expected. Items 7, 8, 11, 18, 26, 43, 46 and 50 (dominant, boastful, egotistical, competitive, dictatorial, daring, outspoken, and superior) do tend to load on both positive and negative masculinity although the “more negative” these traits are perceived to be the less they load on positive masculinity.

There is also some conceptual overlap between the positive masculine and feminine traits as both identities would be expected to display a degree of ‘humanitarian caring-type traits’, albeit that this degree would be much higher for positively feminine individuals as compared to positively masculine individuals. Therefore, cross loadings on Items 12, 16, 17, 22, 49 and 52 (devotion to others, helpfulness, consideration, kindness, understanding, and warmth) were expected although for positively masculine individuals all these loadings were below 0.50.

The factor loadings also indicate the extent to which there may have been a change in perceptions regarding sex typed behavioural traits. As discussed in Chapter 6 perceptions of what is socially desirable or undesirable and what is more or less typical for biological males and females may change over time and place (Benson, 1977; Hinrichsen et al., 1981; Prinsloo, 1993; Robinson & Green, 1981). Thus, while women have stereotypically had negative labels attached to them in terms of being complaining and fussy, ‘complaining’ loaded just as highly on negative masculinity and being ‘very fussy’, which was originally a negatively feminine item, loaded predominantly and highest on negative masculinity. Thus these dispositional traits and the behaviours that they describe are not necessarily seen as the exclusive preserve of one cluster of behaviours or as the exclusive or predominant preserve of one sex over another; indicating that there may be a change in

perceptions with regard to how certain behaviours are defined by the sample group responding to these items.

8.5.8 Inter-correlations between the four identified subscales

Finally as discussed above (see Table 16) and in alignment with the cross factor loadings, the inter-correlations between subscales were examined. The subscales demonstrated a degree of correlation that clearly indicated that while there was some overlap between the subscales, they were sufficiently independent of one another to indicate that each subscale represented an independent construct.

8.5.9 Conclusion

To conclude the discussion of confirmation of the internal reliability and factor structure of the EPAQ-R; once it was determined that the revised EPAQ-R had acceptable internal consistency and that the factor structure of the scale was confirmed (with some modifications); assumption tests of ANOVA and MMR were conducted and thereafter the proposed hypotheses within the present research could be tested.

Below follows a detailed discussion of the results in this regard.

8.6 STUDY TWO

8.6.1 Assessing the relationships in the proposed hypotheses

In order to test the proposed hypotheses, the statistical techniques of ANOVA and MMR were employed. However before conducting these analyses in order to assess the relationships proposed, the assumptions underlying the utilisation of ANOVA and MMR had to be tested. Below follows a discussion of the assumption tests and results for both techniques.

As discussed in Chapter 5, five assumptions needed to be fulfilled before conducting an ANOVA. These are: the assumption of normality, that is, the normal distribution of the data obtained from the sample; the assumption of homogeneity of variance, that is, equality of variance within each group, random sampling; and the assumption of independence of observations, that is, the statistical independence of the groups of scores that are to be analysed (McCall, 1990). In addition, the dependent variables need to be at least interval in nature (McCall, 1990).

Normality was examined using skewness coefficients and Levene's Test for homogeneity of variance was used to determine whether the variances were equal. As mentioned previously, with regard to random sampling and the assumption of independence of observations, while the present research did not use pure random sampling, of a population of 7800 every individual with access to a computer and the Internet could participate and therefore had an equal chance of participating in the study. Furthermore no individual was sampled more than once, that is, no single individual had more than one set of scores. Thus, the assumptions of random sampling and independence of observations were deemed to be met. Finally, with regard to the dependent variables, both self-esteem and psychological wellbeing were assumed to be interval in measure as they were assessed using formal psychometric scales. In addition, social support and work stress, which were outcome variables within the context of the ANOVA's, were also both interval in nature for the same reason.

8.6.2 Descriptive statistics

The descriptive statistics obtained included frequencies for the nominal variables, that is, all the demographic variables (See Table 11 and 12 on pages 179 to 180 for Sample statistics). In addition, the descriptive statistics included the frequencies, means, standard deviations, maximum and minimum scores, and skewness coefficients for the continuous variables, that is, sex role identity, stress, social support, psychological wellbeing and self-esteem (See Table 19 below).

The demographic data were analysed in order to describe various aspects and characteristics of the sample on which the data were gathered; while the skewness coefficients within the descriptive statistics of the continuous variables allowed for the establishment of one of the assumptions of the ANOVA, that is, normality of the data. A discussion of the results of the assumption testing follows below.

8.6.3 Normal distribution of the data

Skewness coefficients were calculated to determine if scores for the sex role identity, work stress, social support, wellbeing, and self-esteem scales were normally distributed or not. According to Huck (2009), skewness values that lie between +1 and -1 indicate that the distribution is sufficiently normal and the use of parametric procedures will be acceptable, on condition that the other conditions for parametric testing are met; namely, random independent sampling, the dependent

variables must be at least interval in nature, and there should be homogeneity of variance (Huck, 2009). Table 19 below represents the means, standard deviations, and minimum and maximum values obtained for all measurement scales and subscales within the study.

Table 19

Descriptive statistics and skewness coefficients

Variable	N	Mean	Standard Deviation	Minimum	Maximum	Skewness Coefficient
Negative Feminine	1477	35.53	6.45	18.00	65.00	0.13
Positive Feminine	1477	52.63	6.33	31.00	60.00	-0.40
Negative Masculine	1477	35.31	7.95	17.00	62.00	0.11
Positive Masculine	1477	44.63	6.50	19.00	60.00	-0.27
Colleague Support	1382	15.25	3.36	5.00	20.00	-0.54
Family Support	1378	14.98	4.19	5.00	20.00	-0.60
Friend Support	1379	14.22	4.08	5.00	20.00	-0.39
Partner Support	1377	14.76	5.09	5.00	20.00	-0.78
Supervisor Support	1382	15.27	4.10	5.00	20.00	-0.74
Psychological Wellbeing	1368	24.22	6.68	12.00	48.00	0.96
Work Stress	1285	38.23	9.88	15.00	73.00	0.26
Self-Esteem	1276	9.42	4.21	4.00	28.00	0.89

From the results obtained, negative femininity had a mean of 35.53 with a standard deviation of 6.45 and minimum and maximum scores of 18 and 65 (across 18 items with a theoretical range of 18 and 90). Positive femininity had a mean of 52.63 with a standard deviation of 6.33 and minimum and maximum scores of 31 and 60 (across 12 items with a theoretical range of 12 and 60). Negative masculinity had a mean of 35.31 with a standard deviation of 7.95 and a minimum of 17 and a maximum of 62 (across 15 items with a theoretical range of 15 and 75). Positive masculinity had a mean of 44.63 and a standard deviation of 6.50 with a minimum score of 19 and a maximum score of 60 (across 12 items with a theoretical range of 12 and 60).

Colleague support had a mean of 15.25 and a standard deviation of 3.36 with a minimum of 5 and a maximum of 20, while supervisor support had a mean of 15.27 and a standard deviation of 4.10 with a minimum of 5 and a maximum of 20. Family support had a mean of 14.98 and a standard deviation of 4.19 with a minimum of 5 and a maximum of 20; and friend support had a mean of 14.22 and a standard deviation of 4.08 with a minimum of 5 and a maximum of 20. Partner support had a mean of 14.76 and a standard deviation 5.09 of with a minimum of 5 and a maximum of 20. All of the support scales consisted of five items with a theoretical range of 5 and 20.

Psychological wellbeing had a mean of 24.22 and a standard deviation of 6.68 with a minimum score of 12 and a maximum score of 48 (across 12 items with a theoretical range of 12 and 48). Work stress had a mean of 38.23 and a standard deviation of 9.98 with a minimum score of 15 and a maximum score of 73 (across 15 items with a theoretical range of 15 and 75). Self-esteem had a mean of 9.42 and a standard deviation of 4.21 with a minimum score of 4 and a maximum score of 28 (across 4 items with a theoretical range of 4 and 28).

It is evident from the results obtained that all of the variables were sufficiently normally distributed as the skewness coefficients were all within the normal range of -1 and +1 (Huck, 2009).

8.6.4 Equality of variance

Levene's Tests were conducted to test the required assumption of homogeneity of variance, that is, equality of variance between the groups. Results of the Levene's Tests for all of the variables in the study are presented in Table 20 below. From the results, it is clear that all of the tests were found to be non-significant, suggesting that the variances were sufficiently similar between the groups. Therefore the need to conduct non-parametric tests was not necessitated.

As discussed in Chapter 7; random selection of the sample from the population; statistical independence of the groups of scores, that is, the assumption of independence of observations; and the requirement that the dependent variables were all interval in nature were all assumed to be met (McCall, 1990).

Table 20

Levene's test for equality of variances

Variable	F	p-Value
Work Stress	1.27	0.2672
Self-esteem	1.18	0.3168
Psychological Wellbeing	0.52	0.7965
Colleague Social Support	1.35	0.2318
Supervisor Social Support	1.62	0.1369
Friend Social Support	1.55	0.1588
Partner Social Support	0.50	0.8081
Family Social Support	0.43	0.8598

8.6.5 RESULTS OF THE ANOVA'S FOR SEX ROLE IDENTITY, WORK STRESS, SELF-ESTEEM, AND PSYCHOLOGICAL WELLBEING

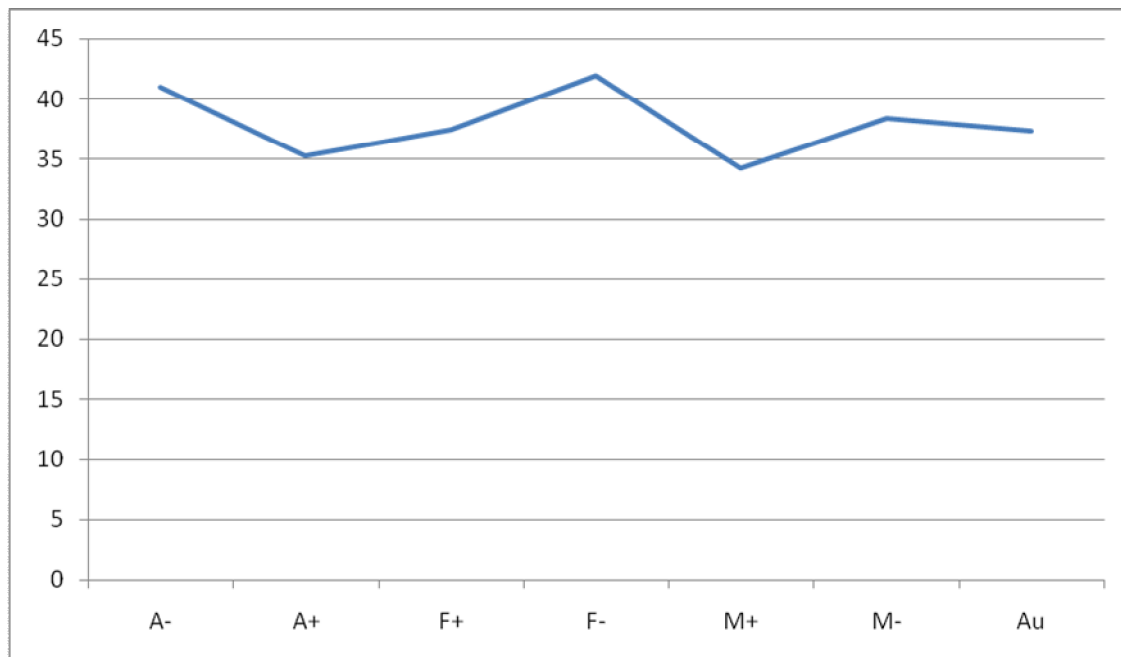
8.6.5.1 Sex role identity and work stress

The overall grand mean for work stress across all identities was 38.23. The means obtained by each specific sex role identity group are presented in Table 21 and Figure 14 below. The lowest mean obtained was for positive masculinity (34.24), followed by positive androgyny (35.29), undifferentiated (37.29), and positively feminine (37.44). Higher means were obtained by negative masculinity (38.33) and thereafter by those who were negatively androgynous (40.95) and negatively feminine (41.87). As a low score on the work stress scale indicates lower stress perceptions these findings were in the expected direction. Those who were negatively feminine had the greatest perceptions of work stress (highest mean) followed by those who were negatively androgynous and negatively masculine respectively.

Table 21

Descriptive statistics – sex role identity and work stress

SRI Categories	N	Work Stress	
		Mean	Standard Deviation
A +	298	35.29	10.14
A –	298	40.95	8.95
F +	278	37.44	9.33
F –	167	41.87	10.13
M +	64	34.24	10.25
M –	101	38.33	8.76
Au	79	37.29	9.72

Figure 14 *Plotted means – Sex role identity and work stress*

As presented in Table 22 below, the overall model for the ANOVA was significant, indicating that there were significant differences between the various sex role identity categories and the dependent variable of work stress, that is, there were significant differences in the mean scores of work stress on the basis of the various sex role identities.

Table 22

One way ANOVA – sex role identity and work stress

Source	DF	MS	F-Value	p-Value
Model	6	1376.05	15.02	<0.0001
Error	1278	91.62		

In order to identify specific differences between the groups, post-hoc tests were conducted (See Table 23 below). With regard to significant differences between sex role identity means, negative femininity had a significantly higher mean than positive masculinity, positive androgyny, undifferentiated, and positive femininity respectively. In a similar vein, negative androgyny had a significantly higher mean than positive masculinity, positive androgyny, undifferentiated, and positive femininity respectively. There were no significant differences between negative masculinity and the positive identities, nor were there any significant differences amongst the positive identities.

Effect sizes for significant ANOVA results were calculated using Cohen's D (Huck, 2009). As can be seen from Table 23 most of the effect sizes were moderate (0.36 to 0.47). Moderate effect sizes were reported for the differences between positive and negative androgyny, positive androgyny and negative femininity, negative androgyny and undifferentiated, negative femininity and positive femininity and negative femininity and undifferentiated. Large effect sizes were reported for negative androgyny and positive masculinity and negative femininity and positive masculinity.

Table 23

Tukey's Post hoc tests – sex role identity and work stress

Group Comparison	Difference	Simultaneous 95% Confidence Limits		Cohen's D	LCL	UCL
A – and A +	5.6615***	3.3459	7.9771	0.5915	0.3496	0.8334
A – and F +	3.5164***	1.1596	5.8733	0.3674	0.1211	0.6136
A – and M +	6.7180***	2.8238	10.6122	0.7019	0.2950	1.1087
A – and Au	3.6597***	0.0828	7.2366	0.3823	0.0087	0.7560
F – and A +	6.5738***	3.8415	9.3060	0.6868	0.4013	0.9722
F – and F +	4.4288***	1.6614	7.1961	0.4627	0.1736	0.7518
F – and M +	7.6303***	3.4749	11.7857	0.7972	0.3630	1.2313
F – and Au	4.5720***	0.7123	8.4317	0.4777	0.0744	0.8809

The results of this ANOVA support the hypothesis that those who are positively androgynous, masculine, and feminine fare better than those who are negatively androgynous and negatively feminine in relation to work stress. The hypothesis that those who were negatively masculine would fare worse than those who had positive identities was not supported. Overall, two of the three negatively valenced identities were significantly different to all of the positively valenced identities. However undifferentiated fared better than those who were positively feminine. These unexpected findings will be discussed fully in the discussion (Chapter 9 below).

8.6.5.2 Sex role identity and self-esteem

The overall grand mean for self-esteem across all identities was 9.42. The means obtained by each specific sex role identity group are presented in Table 24 and Figure 15 below. Those who were positively androgynous had the lowest mean (7.44), followed by those who were positively masculine (8.25), undifferentiated (8.34), and positively feminine (8.84). As a low score on the self-esteem scale indicates high self-esteem these groups had the highest sense of self-esteem as compared to negative masculinity (9.43), negative androgyny (11.00), and negative femininity (12.05). Once again these findings were in the expected direction as those that are positively androgynous and masculine are expected to have the highest sense of self-esteem followed by

positively feminine individuals. In turn, those with negative identities are expected to fare more poorly on indicators of self-esteem.

Table 24

Descriptive statistics – sex role identity and self-esteem

SRI Categories	N	Self-Esteem	
		Mean	Standard Deviation
A +	295	7.44	3.67
A –	295	11.00	4.14
F +	276	8.84	3.73
F –	166	12.05	4.17
M +	65	8.25	4.21
M –	99	9.43	3.30
Au	80	8.34	4.24

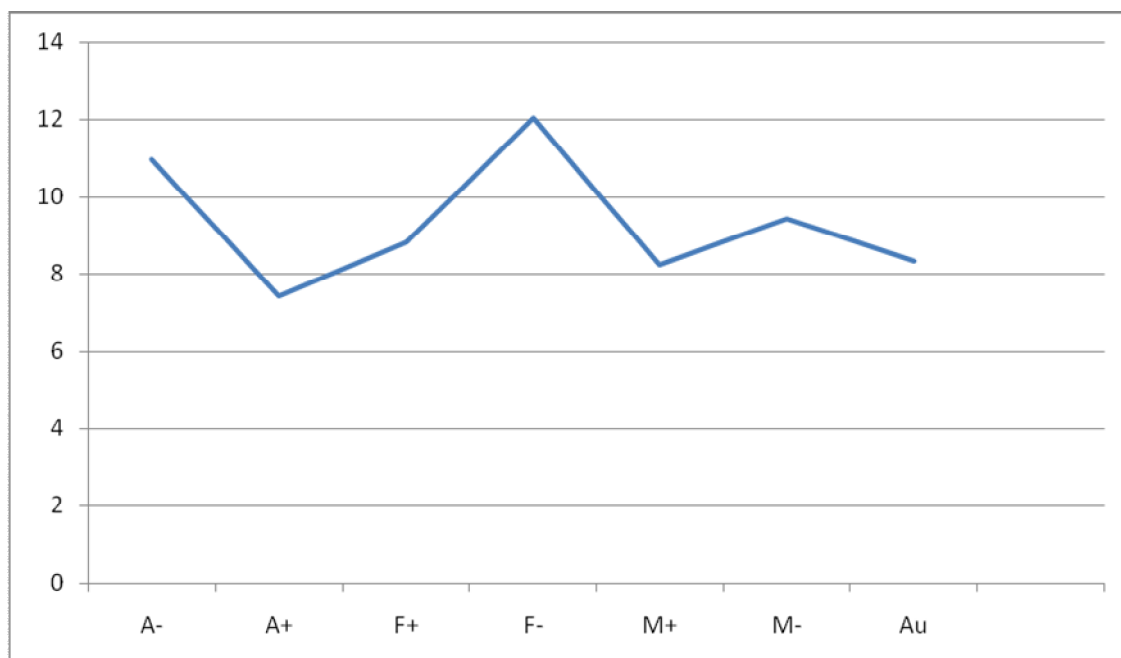


Figure 15 *Plotted means - Sex role identity and self-esteem*

As presented in Table 25 below, the overall model for the ANOVA was significant, indicating that there were significant differences between the various sex role identity categories and the dependent variable of self-esteem, that is, there were significant differences in the mean scores of self-esteem on the basis of the various sex role identities.

Table 25

One way ANOVA – sex role identity and self-esteem

Source	DF	MS	F-Value	p-Value
Model	6	553.19	36.36	<0.0001
Error	1269	15.21		

In order to identify specific differences between the groups, post-hoc tests were conducted (See Table 26 below). With regard to significant differences between the group means, negative femininity had a significantly higher mean (therefore lower self-esteem) than positive androgyny, positive masculinity, undifferentiated, positive femininity, *and* negative masculinity respectively. Thus, those who were negatively feminine fared worse on self-esteem as compared to *all* the other identities with the exception of negative androgyny, which although it has a slightly lower mean (therefore slightly higher self-esteem than negative femininity) was not significantly different to negative femininity. Similarly negative androgyny had a higher mean than positive androgyny, positive masculinity, undifferentiated, positive femininity, *and* negative masculinity. Furthermore, there were significant differences between negative masculinity and positive androgyny and positive femininity and positive androgyny. Although negative masculinity had a higher mean (therefore lower self-esteem) than undifferentiated, these two means were not significantly different. Thus overall, the negative identities fared the worst, particularly negative femininity and negative androgyny; with there being significant differences between both these two negative identities and *all* of the positive identities. Negative masculinity was *only* significantly different to positive androgyny and did *not* differ significantly from positive femininity and positive masculinity. There were no significant differences between the positive identities with the exception of positive androgyny and positive femininity.

Effect sizes for significant ANOVA results were calculated using Cohen's D (Huck, 2009). Moderate effect sizes were observed between negative androgyny and positive femininity, negative androgyny and negative masculinity, between positive femininity and positive androgyny and between positive androgyny and negative masculinity. The remaining effect sizes were all large, that is between A- and A+; A- and M+; A- and Au; and between F- and all of the following identities, that is, A+; F+, M+, M- and Au .

Table 26

Tukey's Post hoc tests – sex role identity and self-esteem

Group Comparison	Difference	Simultaneous 95% Confidence Limits		Cohen's D	LCL	UCL
A – and A +	3.5627***	2.6143	4.5111	0.9134	0.6703	1.1566
A – and F +	2.1606***	1.1960	3.1252	0.5539	0.3066	0.8012
A – and M +	2.7538***	1.1756	4.3321	0.7060	0.3014	1.1107
A – and M –	1.5657***	0.2278	2.9035	0.4014	0.0584	0.7444
A – and Au	2.6625***	1.2106	4.1144	0.6826	0.3104	1.0549
F + and A +	1.4021***	0.4375	2.3667	0.3595	0.1122	0.6068
F – and A +	4.6109***	3.4933	5.7285	1.1821	0.8956	1.4687
F – and F +	3.2088***	2.0775	4.3402	0.8227	0.5326	1.1127
F – and M +	3.8020***	2.1167	5.4874	0.9748	0.5427	1.4069
F – and M –	2.6138***	1.1512	4.0765	0.6701	0.2951	1.0451
F – and Au	3.7107***	2.1430	5.2784	0.9514	0.5494	1.3533
M – and A +	1.9971***	0.6592	3.3349	0.5120	0.1690	0.8550

The results of this ANOVA thus support the hypothesis that those who are positively androgynous, masculine, or feminine will have the highest sense of self-esteem, while those who are negatively masculine, androgynous, and feminine will fare the worst in terms of their self-esteem, that is, the positively valenced identities will fare better on self-esteem than the negatively valenced identities. Those who were undifferentiated fared better on self-esteem than those who were negatively androgynous and negatively feminine. In addition negative masculinity was not significantly different to any of the positive identities with the exception of positive androgyny and there were no

significant differences between the positive identities with the exception of positive androgyny and positive femininity. A discussion of these unexpected finding will be undertaken in the discussion (Chapter 9).

8.6.5.3 Sex role identity and psychological wellbeing

The overall grand mean for psychological wellbeing across all identities was 24.22. The means obtained by each specific sex role identity group are presented in Table 27 and Figure 16 below. Those who were positively androgynous had the lowest mean score for psychological wellbeing (22.31), followed by those who were positively masculine (22.73) and positively feminine (23.31). Thereafter, those who were negatively masculine had a higher mean score on psychological wellbeing (23.77), followed by undifferentiated (24.06), and negatively androgynous (26.00). Negative femininity (26.94) had the highest mean score for psychological wellbeing. As a low score on this scale indicates good mental health while a high score indicates poor mental health, findings were in the expected direction. Once again the undifferentiated sex role identity indicated better health outcomes than negative androgyny and negative femininity.

Table 27

Descriptive statistics – sex role identity and psychological wellbeing

SRI Categories	N	Psychological Wellbeing	
		Mean	Standard Deviation
A +	318	22.31	6.68
A –	315	26.00	6.34
F +	296	23.31	6.39
F –	177	26.94	6.93
M +	67	22.73	6.32
M –	113	23.77	5.89
Au	82	24.06	6.35

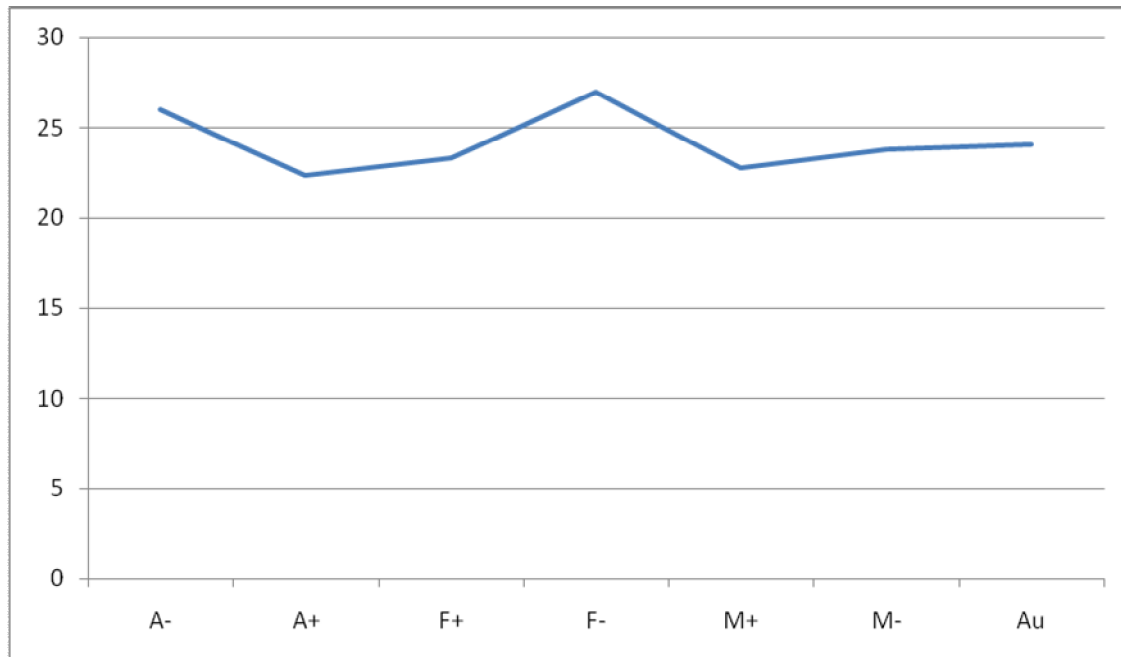


Figure 16 *Plotted means -Sex role identity and psychological wellbeing*

As presented in Table 28 below, the overall model for the ANOVA was significant, indicating that there were significant differences between the various sex role identity categories and the dependent variable of psychological wellbeing, that is, there were significant differences in the mean scores of psychological wellbeing on the basis of the various sex role identities.

Table 28

One way ANOVA – sex role identity and psychological wellbeing

Source	DF	MS	F-Value	p-Value
Model	6	648.01	15.46	<0.0001
Error	1361	41.91		

In order to identify specific differences between the groups, post-hoc tests were conducted (See Table 29 below). With regard to significant differences between the group means, negative femininity had a significantly higher mean score for the psychological wellbeing than positive androgyny, positive masculinity, positive femininity, negative masculinity, and undifferentiated. As mentioned a high score on the wellbeing scale indicates poor wellbeing, thus those who were negatively feminine fared worse on psychological wellbeing than *all* the other identities with the

exception of negative androgyny, which although it has a slightly lower mean than negative femininity was not significantly different. Similarly negative androgyny had a higher mean than positive androgyny, positive masculinity, positive femininity, and negative masculinity. There were no significant differences between the positive identities and no significant differences between negative masculinity and all the positive identities. Overall, two of the negative valenced identities, that is, negatively feminine and negatively androgynous, were significantly different *to all of* the positive identities and negative masculinity.

Effect sizes for significant ANOVA results were calculated using Cohen's D (Huck, 2009). As can be seen from Table 29 most of the effect sizes were moderate to moderately large ranging from 0.50 to 0.71.

Table 29

Tukey's Post hoc tests – sex role identity and psychological wellbeing

Group Comparison	Difference	Simultaneous 95% Confidence Limits		Cohen's D	LCL	UCL
A – and A +	3.6871	2.1675	5.2067	0.5695	0.3348	0.8043
A – and F +	2.6914	1.1440	4.2389	0.4157	0.1767	0.6548
A – and M +	3.2699	0.6981	5.8416	0.5051	0.1078	0.9023
A – and M –	2.2316	0.1355	4.3278	0.3447	0.0209	0.6685
F – and A +	4.6316	2.8390	6.4243	0.7154	0.4385	0.9923
F – and F +	3.6359	1.8196	5.4523	0.5616	0.2811	0.8422
F – and M +	4.2144	1.4724	6.9564	0.6510	0.2274	1.0745
F – and M –	3.1761	0.8743	5.4779	0.4906	0.1350	0.8461
F – and Au	2.8782	0.3246	5.4318	0.4446	0.0501	0.8390

Thus, in terms of the differences between sex role identity groups and perceptions of psychological wellbeing the hypothesis was supported. Those who were positively androgynous, masculine, or feminine had the highest sense of wellbeing, while those who were negatively androgynous and feminine fared the worst in terms of their psychological wellbeing.

Although positive androgyny had a lower mean than positive masculinity and positive femininity, these means were not significantly different. In addition, no significant differences were found between negative masculinity and the positive identities. Once again the undifferentiated identity seemed to fare better than negative androgyny and negative femininity. However, unlike work stress and self-esteem where the undifferentiated identity means clustered with the positive identities, with psychological wellbeing the undifferentiated identity mean clustered with the negative identities. This disparity will be discussed in the discussion (Chapter 9).

8.6.6 WORK STRESS AS A MODERATOR: TWO-WAY ANALYSES OF VARIANCE

Within the present study 3 X 7 Two-way Anovas were run with the dependent variables of psychological wellbeing and self-esteem respectively. Within the two-way ANOVA there are always two independent variables with each variable defined by two or more elements or levels. In the present study the two independent variables were sex role identity and work stress. Work stress consisted of three levels that is high, medium and low stress while sex role identity consisted of seven levels, that is, the seven sex role identities: positive and negative androgyny, positive and negative femininity, positive and negative masculinity and undifferentiated. The purpose of the two-way analyses of variance was to determine if there were variations in perceptions of psychological wellbeing and self-esteem amongst the different sex role identity groups under varying conditions of stress, that is, under high, low, and medium stress conditions. The two-way analyses of variance thus indicated whether work stress acted as a moderator of the relationships between sex role identity and psychological wellbeing and sex role identity and self-esteem respectively (Huck, 2009). Within the two-way ANOVA there are three possible effects, that is, the main effect of work stress on the dependent variables, the main effect of the seven sex role identities on the dependent variables and the interaction of the three levels of work and sex role identity on the dependent variables. The assumptions associated with the Two-way ANOVA are essentially the same as those associated with the one-way ANOVA, namely, random sampling, independence of observations, normality of the data distribution and homogeneity of variance (Huck, 2009). These assumptions were deemed to have been met for the one-way ANOVAs and were therefore considered to be met for the computation of the two-way ANOVAs. Below follows a discussion of the main and interaction effects for the two-way ANOVAs for work stress, sex role identity and psychological wellbeing and work stress, sex role identity and self-esteem.

8.6.6.1 Sex role identity, work stress, and psychological wellbeing

Table 30 and Figure 17 below contain means for psychological wellbeing for each sex role identity across the three stress conditions.

In terms of the order of means under low stress conditions, those who were positively androgynous enjoyed the greatest wellbeing (as represented by the lowest mean score), followed by positively masculine, positively feminine, and undifferentiated. Higher means, that is, poorer wellbeing, were indicated for those who were negatively androgynous, followed by negatively feminine, with negatively masculine having the poorest wellbeing. Thus this order was aligned to that proposed in the hypothesis.

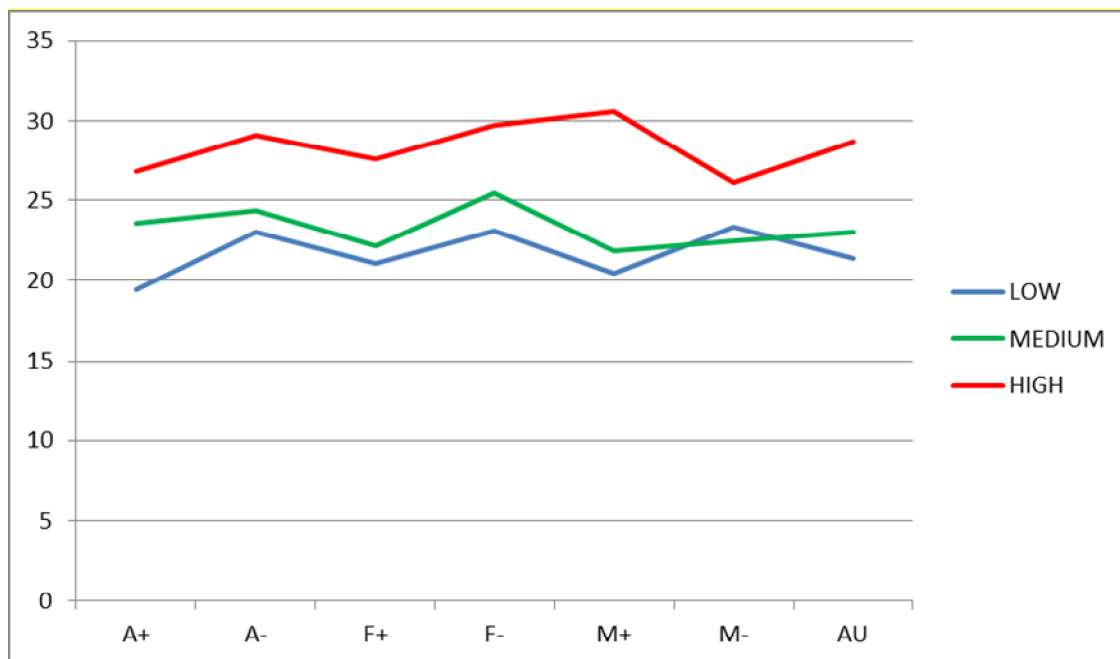
In terms of the order of means under medium stress conditions, those who were positively masculine reported the highest psychological wellbeing, followed by those who were positively feminine, negatively masculine, and undifferentiated. Lower perceptions of wellbeing (as represented by higher means) were reported by those who were positively androgynous, negatively androgynous, and negatively feminine. Thus in this instance *positive androgyny was anomalous*.

In the high stress condition, those who were negatively masculine indicated the greatest wellbeing (as represented by lower mean scores), followed by positively androgynous, positively feminine, and undifferentiated. Thereafter poorer wellbeing (as indicated by higher means) was indicated for those who were negatively androgynous and negatively feminine, followed by positive masculinity which reported the poorest wellbeing. In this instance *negative masculinity and positive masculinity were anomalous*.

Table 30

Descriptive statistics – sex role identity, work stress, and psychological wellbeing

	Low	Medium	High
	Work Stress	Work Stress	Work Stress
SRI Categories	Mean	Mean	Mean
A +	19.49	23.58	26.80
A –	23.04	24.37	29.12
F +	21.04	22.14	27.61
F –	23.08	25.46	29.75
M +	20.45	21.86	30.58
M –	23.30	22.51	26.11
Au	21.40	23.01	28.69

Figure 17 *Plotted means – Sex role identity and psychological wellbeing (high, medium, low stress)*

As shown in Table 31 below, the model for the relationship between sex role identity and perceptions of psychological wellbeing under varying conditions of stress was significant. Specifically, the interaction between the two independent variables on the dependent variable was significant, as were both main effects. This indicated that there were differences in psychological

wellbeing between the different levels of work stress and between the different levels of sex role identity (as shown in the one-way ANOVA's), as well as differences between the intersecting groups of sex role identity and stress level (Huck, 2009).

Table 31

Two-way ANOVA – sex role identity, work stress, and psychological wellbeing

Source	DF	MS	F-Value	p-Value
Sex Role Identity	6	648.01	18.92	<0.0001
Work Stress	2	5070.66	148.02	<0.0001
Sex Role Identity	12	63.23	1.85	0.0369
* Work Stress				

As the interaction between the independent variables was significant, Tukey's post-hoc analyses were used to establish which specific pairs of means differed significantly from each other. The results with regard to significant differences *within identities* for psychological wellbeing under high, medium, and low stress conditions are presented below (see Table 32).

Table 32

Tukey's Post hoc tests – sex role identity, work stress, and psychological wellbeing (within category comparison)

Group Comparison		p-Value	Difference	Simultaneous 95% Confidence Limits	
A – High	A – Low	<0.0001	6.0712	3.0317	9.1106
A – High	A – Medium	<0.0001	4.7438	2.0339	7.4537
A + High	A + Low	<0.0001	7.3140	4.4234	10.2046
A + Low	A + Medium	<0.0001	-4.0915	-6.9577	-1.2253
F + High	F + Low	<0.0001	6.5642	3.6116	9.5168
F + High	F + Medium	<0.0001	5.4697	2.3226	8.6168
F – High	F – Low	<0.0001	6.6739	2.8229	10.5250
F – High	F – Medium	0.0105	4.2903	0.4668	8.1139
M + High	M + Low	<0.0001	10.1288	3.0727	17.1849
M + High	M + Medium	0.0060	8.7280	1.2162	16.2397
Au High	Au Low	0.0010	7.2855	1.5943	12.9766

For those who were positively androgynous, there were significant differences between group means of psychological wellbeing under high and low stress conditions and medium and low stress conditions however the high and medium stress conditions did not differ significantly from each other. For those who were negatively androgynous, there were significant differences between group means of psychological wellbeing under high and low stress conditions and high and medium stress conditions but not medium and low stress conditions. Similarly, for those who were positively feminine, negatively feminine, and positively masculine, there were significant differences between group means of psychological wellbeing under high and low stress and high and medium stress conditions but not for medium and low stress conditions. For those who were negatively masculine, *there were no significant differences amongst the means in any of the three stress conditions*, indicating that despite levels of stress, even when it stress becomes extreme, the wellbeing of negatively masculine individuals does not become impaired. This finding suggests a degree of hardiness or lack of emotional lability in terms of responsiveness to stress. Lastly, for

undifferentiated the only significant difference observed was between the high and low stress conditions.

The results with regard to significant differences *between* the different sex role identities and different stress levels for psychological wellbeing are presented below (see Table 33).

Table 33

Tukey's Post hoc tests – sex role identity, work stress, and psychological wellbeing (within level comparison)

Group Comparison		p-Value	Difference	Simultaneous 95% Confidence Limits	
A + Low	A – Low	0.0028	-3.5564	-6.4856	-0.6272
A + Low	F – Low	0.0408	-3.5927	-7.1247	-0.0608
A + Low	M – Low	0.0239	-3.8126	-7.4081	-0.2171

In the high stress condition and medium stress condition no significant differences were observed between the sex role identities in terms of perceived psychological wellbeing. In the low stress condition, there were significant differences between positive and negative androgyny, positive androgyny and negative femininity, and positive androgyny and negative masculinity. There were no differences between any of the positive identities in the low stress condition, nor were there any differences for undifferentiated. While there were some anomalous findings for the order of the means, none of these were significantly different although the positioning of positive masculinity and negative masculinity under the high stress condition and the fact that there were no differences within the identity of negative masculinity under the three stress conditions is worthy of comment (to be discussed in Chapter 9).

8.6.6.2 Sex role identity, work stress and self-esteem

Table 34 and Figure 18 below contain means for self-esteem for each sex role identity across the three stress conditions.

Table 34

Descriptive statistics – sex role identity, work stress, and self-esteem

	Low	Medium	High
	Work Stress	Work Stress	Work Stress
SRI Categories	Mean	Mean	Mean
A +	6.14	7.98	9.24
A –	8.12	10.44	12.80
F +	6.90	8.85	11.13
F –	8.90	11.11	13.85
M +	6.81	7.95	12.50
M –	7.80	10.05	10.28
Au	6.69	7.70	11.04

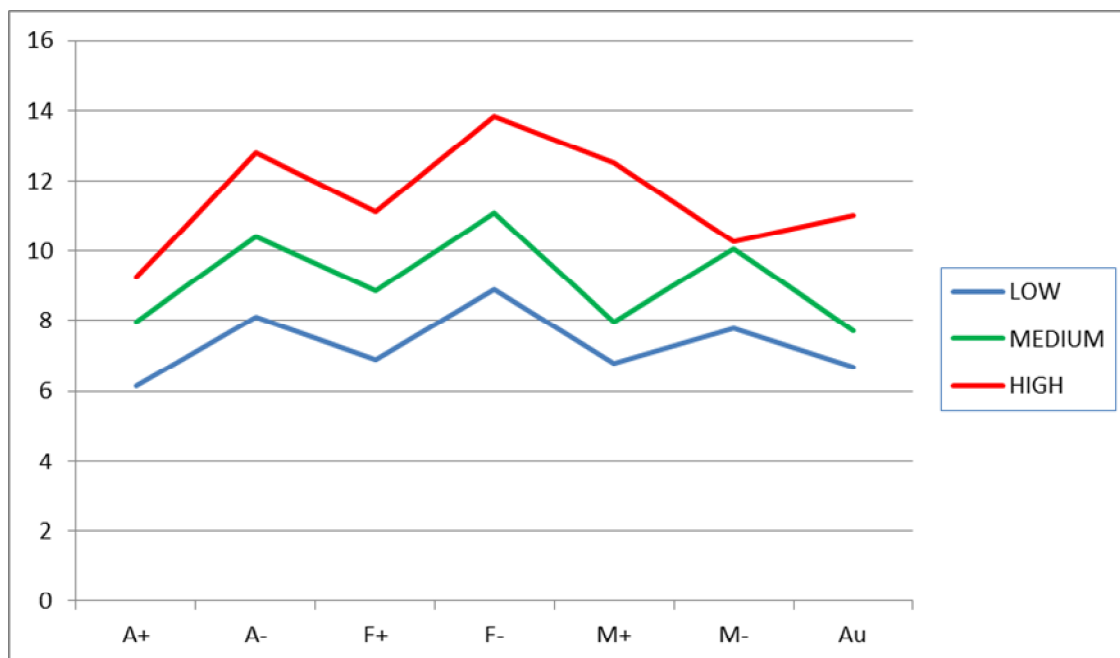


Figure 18 *Plotted means for sex role identity and self-esteem (high, medium, low stress conditions)*

In terms of the order of means under the low stress condition, those who were positively androgynous reported the highest self-esteem (as represented by low mean scores), followed by positively masculine, positively feminine, and undifferentiated. Higher means, that is, lower self-esteem, were indicated for those who were negatively masculine, followed by negatively androgynous, and negatively feminine with the poorest self-esteem. Thus, the order was as expected except for negative masculinity being positioned slightly higher than negative androgyny. The better positioning of undifferentiated was consistent with findings on the one-way ANOVA's.

In terms of the order of means under the medium stress condition, those who were undifferentiated indicated the highest self-esteem, followed by positively masculine, positively androgynous, and positively feminine. Lower perceptions of self-esteem (as represented by higher means) were perceived by those who were negatively masculine, negatively androgynous, and negatively feminine with the poorest self-esteem. This order was unexpected in that undifferentiated and positive masculinity fared better than positive androgyny and negative masculinity fared better than negative androgyny.

In the high stress condition, those who were positively androgynous reported the greatest self-esteem (as represented by lower mean scores), followed by negatively masculine, undifferentiated, and positively feminine. Thereafter poorer self-esteem (as indicated by higher means) was indicated for those who were positively masculine, negatively androgynous, and negatively feminine which had the poorest self-esteem. This order was again unexpected in that negative masculinity had the second lowest mean and therefore fared second best on self-esteem while positively masculine fared third worst.

As shown in Table 35 below, the model for the relationship between sex role identity and perceptions of self-esteem under varying conditions of stress was not significant. Specifically, the interaction between the two independent variables on the dependent variable was not significant, although both main effects were. This indicated that there were differences in self-esteem between the different levels of work stress and between the different levels of sex role identity (as shown in the one-way ANOVA's) however the interaction between sex role identity and self-esteem level was not significant (Huck, 2009).

Table 35

Two-way ANOVA – sex role identity, work stress, and self-esteem

Source	DF	MS	F-Value	p-Value
Sex Role Identity	6	553.19	44.18	<0.0001
Work Stress	2	1684.72	134.54	<0.0001
Sex Role Identity * Work Stress	12	18.43	1.47	0.1280

As the interaction between the independent variables was not significant, no post-hoc analyses were used to establish which specific pairs of means differed significantly from each other.

However, as with the two-way ANOVA on work stress, sex role identity and psychological wellbeing the order of the means for the masculinities, although not significant were of interest. Once again, the positioning of positive masculinity and negative masculinity under the high stress condition and the fact that there were no differences within the identity of negative masculinity under three stress conditions is worthy of comment. Under the high stress condition positive masculinity had the third highest mean for self-esteem (therefore the third poorest self-esteem) while negative masculinity had the second lowest mean (therefore the second best self-esteem). In addition, for those that were negatively masculine M- no significant differences in self-esteem were observed under any of the three conditions indicating, once again, that despite extreme levels of stress the self-esteem of negatively masculine individuals does not become impaired thus suggesting that negatively masculine individuals are in some way inured with regard to responsiveness to stress and worsening stress conditions. A more detailed discussion of these findings for the masculinities under varying stress conditions will be undertaken in Chapter 9: Discussion.

8.6.6.3 Conclusion and summary for the one-way and two-way ANOVAs

To summarise and conclude, in all of the one-way ANOVA's for sex role identity and work stress, self-esteem, and psychological wellbeing respectively, the research hypotheses were supported. All the positive identities were significantly different to the negative identities of negative androgyny

and negative femininity. However there were no significant differences between the positive identities with the exception of between positive androgyny and positive femininity for self-esteem. In addition, with regard to negative masculinity, this identity *was not significantly different* to any of the positive identities in terms of wellbeing indicators with the exception of being significantly different to positive androgyny on self-esteem. Furthermore, in the instance of self-esteem and psychological wellbeing, negative masculinity, along with the positive identities, was significantly different to negative femininity and negative androgyny. Moreover, in all instances, those who were undifferentiated were significantly different to those who were negatively feminine and negatively androgynous, with the exception of no significant difference between undifferentiated and negative femininity for psychological wellbeing.

With regard to the two-way ANOVAs, it appeared that under varying conditions of stress within each identity there were significant differences in the means for psychological wellbeing, but not for self-esteem.

Overall, the means were significantly different from one another with more significant differences being observed between the three conditions for positive and negative androgyny, positive and negative femininity and positive masculinity and less or no significant differences observed for negative masculinity and undifferentiated. In this regard, counter-intuitively it appeared that negatively masculinity suffered the least impairment under varying conditions with there being no significant within-identity differences between the means of negative masculinity on psychological wellbeing under varying conditions of stress. Although the findings for self-esteem with regard to interaction effects were not significant, a similar pattern was observed for self-esteem and negative masculinity in that despite varying conditions of stress, negative masculinity did not suffer any impairment in terms of worsening wellbeing.

Of interest was the pattern of means for the masculinities under high, medium and low stress conditions for both psychological wellbeing and self-esteem. Under the high stress condition negative masculinity had the lowest mean score on wellbeing and second lowest on self-esteem. As a low score on both variables indicate better wellbeing and self-esteem, negative masculinity seemed to fare better than most of the other identities. Similarly, counterintuitive results were

observed for positive masculinity as those that were positively masculine seemed to suffer the most dramatic impairment under high stress conditions as this identity had the highest mean score for psychological wellbeing under the high stress condition and the third highest mean score for self-esteem under the high stress condition.

Thus, there seems to be a specificity hypothesis operating for positive masculinity as under certain conditions it appears that positively masculine females may suffer some drawbacks. Similarly, there may be some specificity with regard to negative masculinity. A socio-cultural shift regarding the social desirability of negative masculinity or a shift in terms of the extent of this identity to predict poorly for health and wellbeing seems to be apparent. However, these counterintuitive findings will be discussed in greater depth in Chapter 9 – Discussion.

Below follows the results for the one-way ANOVA's in relation to the five sources of social support to address Hypothesis 5.

8.7 SEX ROLE IDENTITY AND SOCIAL SUPPORT

Five sources of support were examined in relation to the various sex role identities, namely colleague and supervisor support as work sources of support; and family, friend and partner support as non-work sources of support. Consequently the results will be presented and discussed in this order.

8.7.1 Sex role identity and work sources of support

8.7.1.1 Sex role identity and colleague support

The overall grand mean for colleague social support across all identities was 15.25. The means obtained by each specific sex role identity group are presented in Table 36 and Figure 19 below. The highest means scores were: positive androgyny (16.00) and negative masculinity (15.62), followed by undifferentiated (15.49) and positive femininity (15.38). Lower means were obtained by positive masculinity (14.90), negative femininity (14.81), and negative androgyny (14.49). While the higher mean for positive femininity as compared to positive masculinity was expected and in line with the specificity hypothesis for social support, the higher mean for negative

masculinity was not expected. In addition, although no *a priori* prediction was proposed for the undifferentiated identity, the higher mean for this identity was also not entirely expected.

Table 36

Descriptive statistics – sex role identity and colleague support

SRI Categories	N	Colleague Support	
		Mean	Standard Deviation
A +	321	16.00	3.31
A –	317	14.49	3.38
F +	298	15.38	3.43
F –	181	14.81	3.08
M +	68	14.90	3.84
M –	113	15.62	3.04
Au	84	15.49	3.19

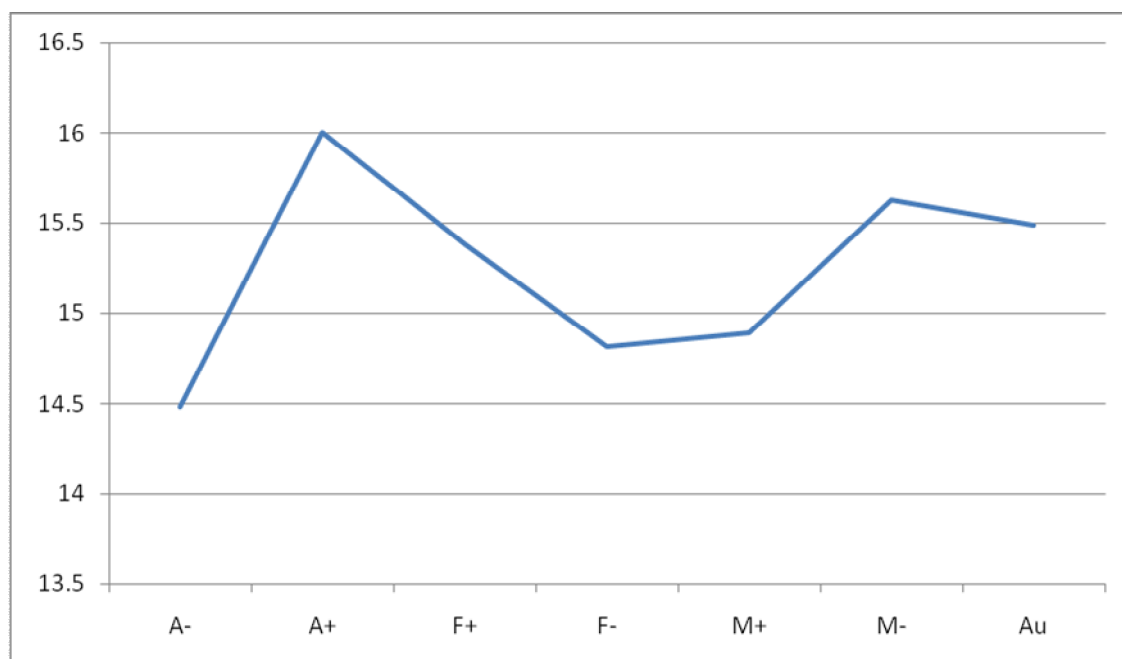


Figure 19 *Plotted means -Sex role identity and colleague support*

As presented in Table 37 below, the overall model for the ANOVA was significant, indicating that there were significant differences in the mean scores of colleague support on the basis of the various sex role identities.

Table 37

One way ANOVA – sex role identity and colleague support

Source	DF	MS	F-Value	p-Value
Model	6	72.05	6.53	<0.0001
Error	1375	11.04		

In order to identify specific differences between the groups, post-hoc tests were conducted (See Table 38 below). With regard to significant differences between the group means, significant differences observed were between those who were positively androgynous and those who were negatively androgynous, as well as between those who were positively androgynous and those who were negatively feminine. In this regard those who were positively androgynous reported significantly higher mean scores than those who were negatively androgynous and negatively feminine, which was in the expected direction of the proposed hypotheses. Significant differences were also observed between those who were positively feminine and negatively androgynous and between those who were negatively masculine and those who were negatively androgynous. There were however, no significant differences between the positive identities; nor were there any differences between negative masculinity and the positive identities.

Effect sizes for significant ANOVA results were calculated using Cohen's D (Huck, 2009). As can be seen from Table 38 the effect sizes were small to moderate (0.26 to 0.45).

Table 38

Tukey's Post hoc tests – sex role identity and colleague support

Group Comparison	Difference	Simultaneous 95% Confidence Limits		Cohen's D	LCL	UCL
A + and A –	1.5110***	0.7343	2.2878	0.4548	0.2210	0.6886
F + and A –	0.8911***	0.0995	1.6826	0.2682	0.0299	0.5064
M – and A –	1.1312***	0.0564	2.2061	0.3405	0.0170	0.6640
A + and F –	1.1865***	0.2746	2.0983	0.3571	0.0827	0.6316

While the findings did in part support the hypothesis, the findings for negative masculinity were counterintuitive. It was not expected that negative masculinity would fare significantly better than negative androgyny and no significant differences between negative masculinity and the positive identities was also unexpected. In addition, positive femininity did not fare significantly better than positive masculinity, as proposed in the specificity hypothesis. These significant and non-significant findings for colleague support will be discussed in greater detail in Chapter 9.

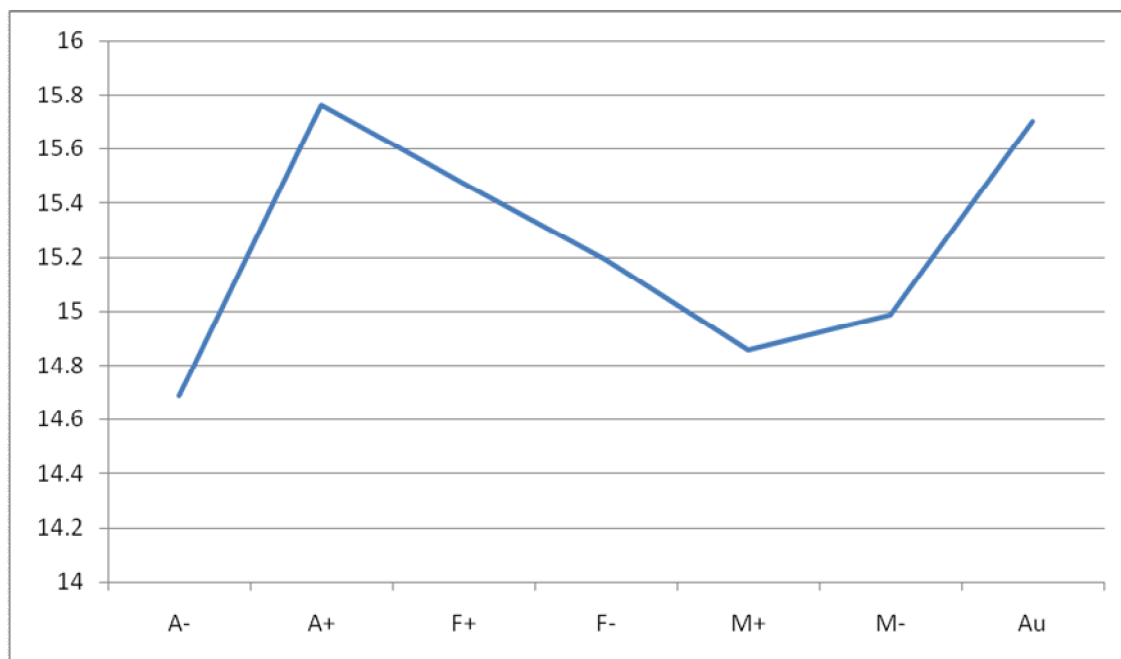
8.7.1.2 Sex role identity and supervisor social support

The overall grand mean for supervisor social support across all identities was 15.27. The means obtained by each specific sex role identity group are presented in Table 39 and Figure 20 below. Those who were positively androgynous had the highest mean (15.77), followed by undifferentiated (15.71), positive femininity (15.48), negative femininity (15.19), negative masculinity (14.99), positive masculinity (14.86), and negative androgyny (14.69). Again the order of means was in the expected direction with those that were positively androgynous having the highest mean and those that were positively feminine having a higher mean than those that were positively masculine.

Table 39

Descriptive statistics – sex role identity and supervisor support

SRI Categories	N	Supervisor Support	
		Mean	Standard Deviation
A +	321	15.77	4.32
A –	317	14.69	4.15
F +	298	15.48	4.08
F –	181	15.19	3.66
M +	68	14.86	4.44
M –	113	14.99	3.83
Au	84	15.71	3.86

Figure 20 *Plotted means - Sex role identity and supervisor support*

As presented in Table 40 below, the overall model for the ANOVA was significant, indicating that there were significant differences in the mean scores of supervisor support on the basis of the various sex role identities.

Table 40

One way ANOVA – sex role identity and supervisor support

Source	DF	MS	F-Value	p-Value
Model	6	39.26	2.35	0.0291
Error	1375	16.71		

In order to identify specific differences between the groups, post-hoc tests were conducted (See Table 41 below). However, with regard to significant differences between the group means, there were no significant differences amongst the groups with the exception of those who were positively androgynous and those who were negatively androgynous. Thus, there were no significant differences between the positive identities, no significant differences between positive femininity and positive masculinity, as proposed by the specificity hypothesis and no differences between positive and negative identities with the exception of positive and negative androgyny. These significant and non-significant findings for supervisor support will be discussed in greater detail in Chapter 9.

Effect sizes for significant ANOVA results were calculated using Cohen's D (Huck, 2009). As can be seen from Table 42 the effect size for the difference between positive and negative androgyny was small (0.26).

Table 41

Tukey's Post hoc tests – sex role identity and supervisor support

Group Comparison	Difference	Simultaneous 95% Confidence Limits		Cohen's D	LCL	UCL
A + and A –	1.0763***	0.1206	2.0319	0.2633	0.0295	0.4971

8.7.2 Sex role identity and non-work sources of support

With regard to non- work sources of support, there were more significant differences between the sex role identity groups and the pattern of results conformed far more to those outlined in the hypotheses.

8.7.2.1 Sex role identity and family support

The overall grand mean for family social support across all identities was 14.98. The means obtained by each specific sex role identity group are presented in Table 42 and Figure 21 below. Those who were positively androgynous had the highest mean score for family support (15.95), followed by undifferentiated (15.38), positively feminine (15.09), and positively masculine (14.63). Thereafter those who were negatively androgynous had a lower mean score (14.54), followed by those who were negatively masculine (14.17), with negatively feminine having the lowest mean score (14.26).

Table 42

Descriptive statistics – sex role identity and family support

SRI Categories	N	Family Support	
		Mean	Standard Deviation
A +	320	15.95	4.10
A –	316	14.54	4.11
F +	298	15.09	4.12
F –	180	14.26	4.28
M +	68	14.63	4.33
M –	112	14.17	4.31
Au	84	15.38	3.85

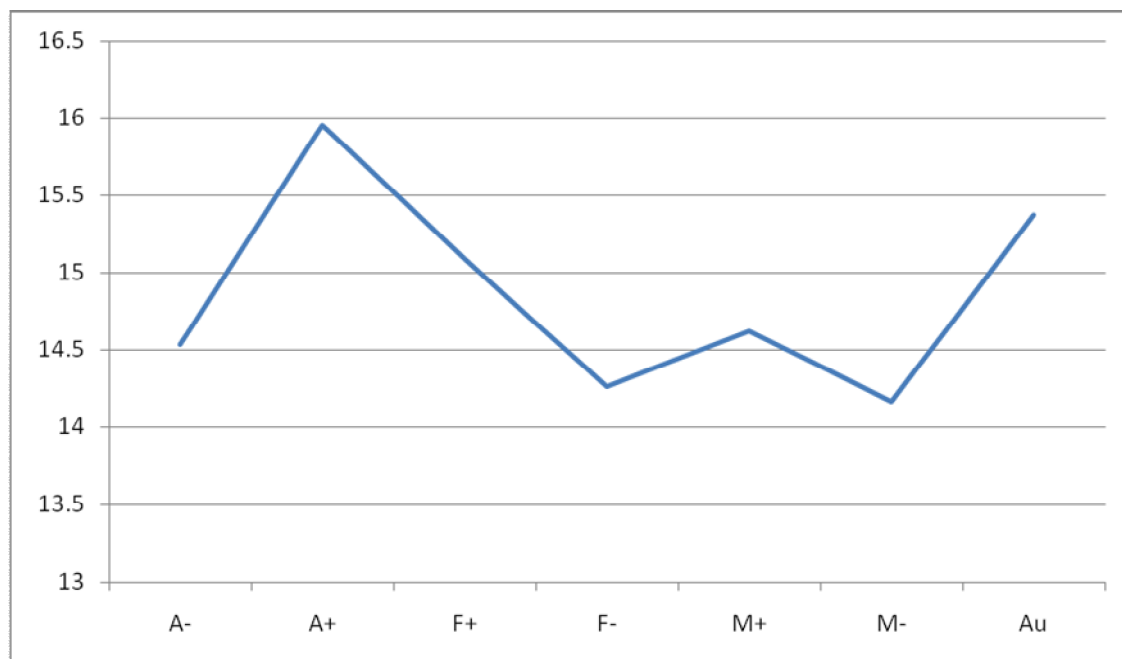


Figure 21

Plotted means -Sex role identity and family support

As presented in Table 43 below, the overall model for the ANOVA was significant, indicating that there were significant differences in the mean scores of family support on the basis of the various sex role identities.

Table 43

One way ANOVA – sex role identity and family support

Source	DF	MS	F-Value	p-Value
Model	6	92.27	5.37	<0.0001
Error	1371	17.19		

In order to identify specific differences between the groups, post-hoc tests were conducted (See Table 44 below). With regard to significant differences between the means, only those who were positively androgynous had a significantly higher mean score on family support as compared to those who were negatively androgynous, negatively masculine, and negatively feminine respectively. No other significant differences were observed.

Effect sizes for significant ANOVA results were calculated using Cohen's D (Huck, 2009). As can be seen from Table 50 the effect sizes were small to moderate (0.34 to 0.42).

Table 44

Tukey's Post hoc tests – sex role identity and family support

Group Comparison	Difference	Simultaneous 95% Confidence Limits		Cohen's D	LCL	UCL
A + and A –	1.4104***	0.4396	2.3813	0.3402	0.1060	0.5744
A + and F –	1.6856***	0.5451	2.8262	0.4066	0.1315	0.6817
A + and M –	1.7804***	0.4364	3.1243	0.4295	0.1053	0.7536

Thus, the hypothesis was partly supported in that positive androgyny was significantly different to all the negative identities. However there were no differences amongst the positive identities although one positively valenced identity overall was significantly different to *all* the negatively

valenced identities. These significant and non-significant findings will be discussed in greater detail in Chapter 9.

8.7.2.2 Sex role identity and friend support

The overall grand mean for friend social support across all identities was 14.22. The means obtained by each specific sex role identity group are presented in Table 45 and Figure 22 below. With regard to friend support those who were positively androgynous had the highest mean score (15.31), followed by undifferentiated (15.19), positively feminine (14.64), and positively masculine (13.62). Thereafter, those who were negatively androgynous (13.47) those who were negatively masculine (13.47), and those who were negatively feminine (13.16) had the lowest means score respectively.

Table 45

Descriptive statistics – sex role identity and friend support

SRI Categories	N	Friend Support	
		Mean	Standard Deviation
A +	321	15.31	4.05
A –	316	13.47	3.86
F +	298	14.64	4.09
F –	180	13.16	4.06
M +	68	13.62	4.43
M –	112	13.47	4.12
Au	84	15.19	3.35

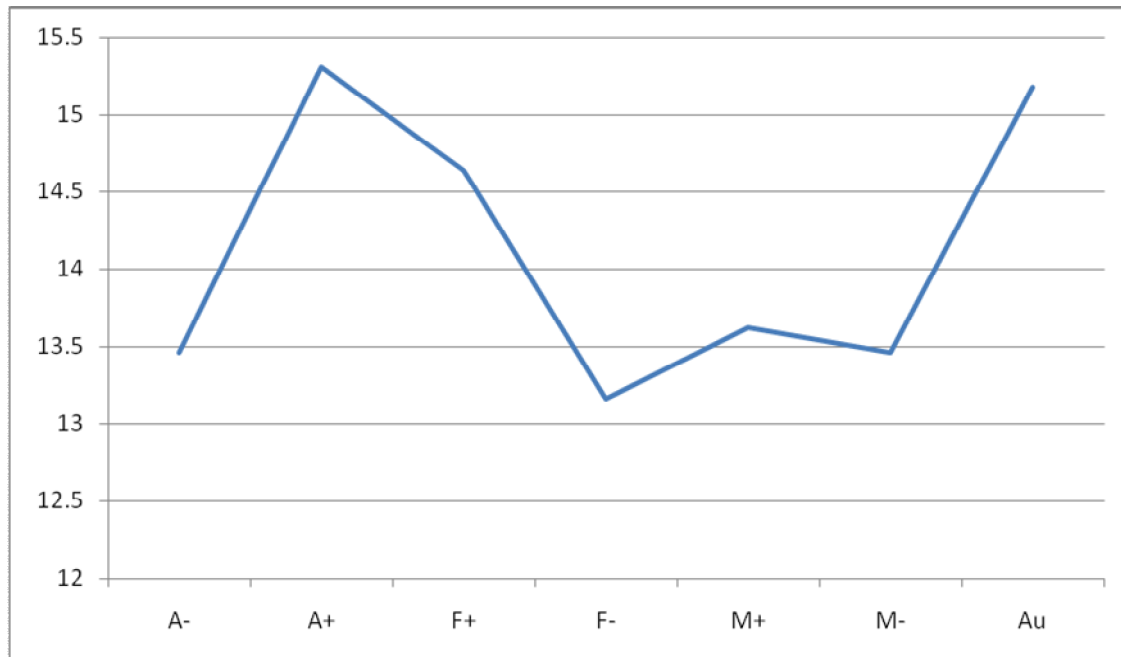


Figure 22

Plotted means -Sex role identity and friend support

As presented in Table 46 below, the overall model for the ANOVA was significant, indicating that there were significant differences in the mean scores of friend support on the basis of the various sex role identities.

Table 46

One way ANOVA – sex role identity and friend support

Source	DF	MS	F-Value	p-Value
Model	6	163.59	10.21	<0.0001
Error	1372	16.03		

In order to identify specific differences between the groups, post-hoc tests were conducted (See Table 47 below). With regard to significant differences between the means, those who were positively androgynous had a higher mean score than those who were positively masculine, negatively androgynous, negatively masculine, and negatively feminine. Those who were undifferentiated also scored significantly higher as compared to those who were negatively androgynous, negatively masculine, and negatively feminine respectively. Lastly those who were

positively feminine scored significantly higher than those who were negatively androgynous and negatively feminine. There were no significant differences between the positive identities with the exception of between positively androgynous and positively masculine. Negative masculinity did not differ from the positive identities with the exception of positive androgyny and positive femininity did not fare significantly better than positive masculinity as proposed in the specificity hypothesis. The significant and non-significant findings for friend support will be discussed in greater detail in Chapter 9.

Effect sizes for significant ANOVA results were calculated using Cohen's D (Huck, 2009). As can be seen from Table 47 most of the effect sizes were moderate (0.36 to 0.53) with the exception of a small effect size (0.29) for the difference between positive femininity and negative androgyny.

Table 47

Tukey's Post hoc tests – sex role identity and friend support

Group Comparison	Difference	Simultaneous 95% Confidence Limits		Cohen's D	LCL	UCL
A + and A –	1.8424***	0.9056	2.7792	0.4602	0.2262	0.6942
A + and F –	2.1490***	1.0482	3.2498	0.5368	0.2618	0.8117
A + and M +	1.6897***	0.1116	3.2678	0.4220	0.0279	0.8162
A + and M –	1.8445***	0.5471	3.1418	0.4607	0.1367	0.7847
F + and A –	1.1732***	0.2186	2.1277	0.2930	0.0546	0.5314
F + and F –	1.4797***	0.3638	2.5957	0.3696	0.0909	0.6483
Au and A –	1.7189***	0.2677	3.1701	0.4293	0.0669	0.7918
Au and F –	2.0255***	0.4634	3.5875	0.5059	0.1157	0.8961
Au and M –	1.7210***	0.0147	3.4273	0.4299	0.0037	0.8561

Thus the ANOVA supported the hypothesis with the exception of not indicating any differences between the positive identities other than that between positive androgyny and positive masculinity. In addition, negative masculinity did not differ significantly from both positive femininity and positive masculinity. Undifferentiated was also positioned higher and significantly differently to *all*

the negative identities. The implications of these findings will be outlined further in the discussion (Chapter 9).

8.7.2.3 Sex role identity and partner support

The overall grand mean for partner social support across all identities was 14.76. The means obtained by each specific sex role identity group are presented in Table 48 and Figure 23 below. Those who were positively androgynous had the highest mean score on partner support (15.67), followed by undifferentiated (15.24), positively masculine (15.26), and positively feminine (14.94). Thereafter those who were negatively androgynous had a lower mean score (14.34), followed by those who were negatively masculine (13.77), with those who were negatively feminine having the lowest mean score (13.76).

Table 48

Descriptive statistics – sex role identity and partner support

SRI Categories	N	Partner Support	
		Mean	Standard Deviation
A +	321	15.67	4.92
A –	315	14.34	5.22
F +	297	14.94	4.96
F –	180	13.76	5.16
M +	68	15.26	4.90
M –	112	13.77	5.19
Au	84	15.24	4.87

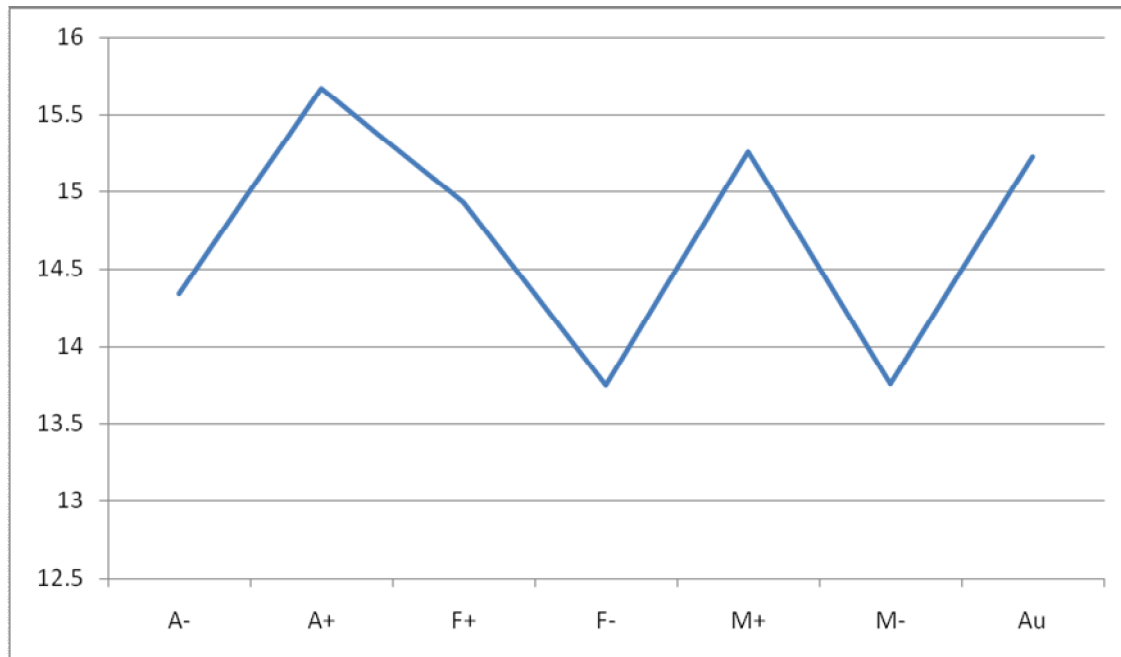


Figure 23

Plotted means -Sex Role identity and partner support

As presented in Table 49 below, the overall model for the ANOVA was significant, indicating that there were significant differences in the mean scores of partner support on the basis of the various sex role identities.

Table 49

One way ANOVA – sex role identity and partner support

Source	DF	MS	F-Value	p-Value
Model	6	110.15	4.32	0.0003
Error	1370	25.49		

In order to identify specific differences between the groups, post-hoc tests were conducted (See Table 50 below). With regard to significant differences between the means, only those who were positively androgynous had a significantly higher mean score on partner support than those who were negatively androgynous, negatively masculine, and negatively feminine. No other significant differences were observed.

Effect sizes for significant ANOVA results were calculated using Cohen's D (Huck, 2009). As can be seen from Table 47 the effect sizes were small for the difference between positive and negative androgyny and small to moderate for the differences between positive androgyny and negative femininity and positive androgyny and negative masculinity.

Table 50

Tukey's Post hoc tests – sex role identity and partner support

Group Comparison	Difference	Simultaneous 95% Confidence Limits		Cohen's D	LCL	UCL
A + and A –	1.3324***	0.1501	2.5147	0.2639	0.0297	0.4981
A + and F –	1.9169***	0.5287	3.3050	0.3797	0.1047	0.6546
A + and M –	1.9073***	0.2712	3.5433	0.3778	0.0537	0.7018

Thus the hypothesis was partly supported in that positive androgyny was significantly different to all the negative identities. However there were no differences between the positive identities more specifically, positive femininity was not significantly different to positive masculinity as proposed in the specificity hypothesis. In addition, negative masculinity did not differ from the positive identities with the exception of positive androgyny. These significant and non-significant findings will be discussed in greater detail in Chapter 9.

An important consideration was the extent to which respondents distinguished between different sources of support, which was indicated by the degree of correlation between the five support sources. Thus the correlations between the different sources of support were examined (see Table 51 below).

Table 51

Inter-correlations between the five sources of social support

	Colleague	Family	Friend	Partner	Supervisor
	1.0000				
Colleague	1382				
	0.2260	1.0000			
Family	<0.0001				
	1378	1378			
	0.3226	0.7192	1.0000		
Friend	<0.0001	<0.0001			
	1378	1377	1379		
	0.1589	0.4907	0.3826	1.0000	
Partner	<0.0001	<0.0001	<0.0001		
	1376	1373	1374	1377	
	0.5087	0.1611	0.1802	0.1204	
Supervisor	<0.0001	<0.0001	<0.0001	<0.0001	
	1380	1377	1378	1375	1382

Pearson's Correlation Coefficients indicated that while all sources of support showed some degree of correlation, the coefficients were moderate to low. Work sources of support, that is colleague and supervisor support, showed a significant, moderate correlation to one another (0.51) however the correlations between each of these sources and non-work sources were relatively low (although still significant). Supervisor social support indicated significant, weak, positive correlations with family support ($r = 0.16$; $p < 0.0001$), friend support ($r = 0.18$; $p < 0.0001$), and partner support ($r = 0.12$; $p < 0.0001$) respectively. Similarly a pattern of relatively weak, significant, positive correlations between colleague support and family support ($r = 0.23$; $p < 0.0001$), friend support ($r = 0.32$; $p < 0.0001$), and partner support ($r = 0.16$; $p < 0.0001$) was indicated. Of these, the inter-correlation between colleague support and friend support was higher suggesting that individuals do establish relationships with colleagues that extend outside of the work domain and that some colleagues may

well be regarded as friends too. However, family, friend, and partner inter-correlations were significantly higher indicating that respondents perceived support from their family and partner in similar ways to that of their friends. The correlation between family and friend support was significantly high ($r = 0.72$; $p < 0.0001$) and between family and partner support was moderate ($r = 0.49$; $p < 0.0001$). Consequently, in terms of the ANOVA results, the pattern of social support perceptions across all seven identities in relation to these three sources of support was closely replicated.

An examination of the mean scores for each sex role identity across all five sources of support indicated that all of the mean scores were the highest for both work sources of support, that is colleague and supervisor social support. In all seven identities these two work sources had the highest mean score as compared to non-work sources of support, with both work sources being ranked in the top three. In all but two sex role identities these two were ranked as the top two sources of support. Exceptions were with positive androgyny where colleague support had the highest mean score followed by family support and then supervisor social support; and positive masculinity where partner support had the highest mean score followed by colleague support and then supervisor support. Furthermore, in all seven identities family support was ranked as the third highest source of support with the exception of positive androgyny where it was ranked second and positive masculinity where it was ranked fourth. Partner social support was ranked fourth in all identities with the exception of positive masculinity where it ranked first. Lastly, friend support was ranked the lowest across all categories. For the pattern of observed means, see Table 52 below.

Table 52

Comparison of average social support based on sex role identity

Sex Role Identity	A +	A –	F +	F –	M +	M –	Au
Social Support							
Source							
Colleague	16.00	14.49	15.38	14.81	14.90	15.62	15.49
Supervisor	15.77	14.69	15.48	15.19	14.86	14.99	15.71
Friend	15.31	13.47	14.64	13.16	13.62	13.47	15.19
Partner	15.67	14.34	14.94	13.76	15.26	13.77	15.24
Family	15.95	14.54	15.09	14.26	14.63	14.17	15.38

8.7.3 Conclusion and summary of the social support ANOVAs

The ANOVA's for sex role identity and the five sources of social support indicated that in all instances those who were positively androgynous were significantly different to those who were negatively androgynous. In all instances, with the exception of supervisor support, positive androgyny was significantly different to negative femininity. With regard to non-work sources of support, that is family, friend, and partner, in all instances positive androgyny was significantly different to negative masculinity as well as to negative androgyny and negative femininity. Thus, overall the hypotheses proposing significant differences between positive androgyny and the negative identities, with a few exceptions, were supported.

No significant differences were observed amongst the positive identities with the exception of friend support where there was a significant difference observed between positive androgyny and positive masculinity. In addition, those who were positively feminine were not significantly different to those who were positively masculine. With regard to the positive femininity and the negative identities, the only significant difference observed was between positive femininity and negative androgyny for colleague and friend support and positive femininity and negative femininity for friend support.

As discussed, no a priori predictions were made for the undifferentiated identity. In all instances undifferentiated had higher means on all sources of social support than the negative identities though there were only significant differences between undifferentiated and all the negative identities, that is, negative androgyny, negative masculinity, and negative femininity, for friend support. Finally, and counterintuitively, there was an observed significant difference between negative masculinity and negative androgyny for colleague support. In addition, in *all* instances of social support, positive masculinity and positive femininity *did not differ significantly* from negative masculinity. A point form summary is illustrated below.

To summarise, significant differences that were observed were:

- (i) positively androgynous and negatively androgynous, negatively feminine (colleague)
- (ii) positively feminine and negatively androgynous (colleague)
- (iii) negatively masculine and negatively androgynous (colleague)
- (iv) positively androgynous and negatively androgynous (supervisor)
- (v) positively androgynous and negatively androgynous, negatively feminine and negatively masculine (for friend, partner and family)
- (vi) positively androgynous and positively masculine (friend)
- (vii) undifferentiated and negatively androgynous, negatively feminine and negatively masculine (friend)
- (viii) positively feminine and negatively androgynous, negatively feminine (friend)

To summarise, non-significant differences:

- i) Positive femininity was not significantly different to positive masculinity. That is, in no instances did positively feminine individuals enjoy any advantage over their positively masculine counterparts with regard to perceptions of social support. Although positive femininity did fare significantly better than negative androgyny on colleague support and better than negative femininity and negative masculinity on friend support. Thus while there appeared to be some advantage for positive femininity over the negative identities in a few instances, this advantage over positive masculinity was not observed.

- ii) Positive masculinity did not fare significantly better than any of the other negative identities in all instances. Although it was expected that the positive identities would fare better than the negative identities, in no instances was this observed for positive masculinity.
- iii) Negative masculinity did not fare significantly poorer than any of the positive identities. With the exception of positive androgyny on non-work sources of support, negative masculinity was not significantly worse off in terms of perceptions of support as compared to the positive identities.

A discussion of all of the above findings for social support is undertaken in the discussion (Chapter 9).

8.8 RESULTS OF THE MODERATED MULTIPLE REGRESSIONS

8.8.1 Results of the assumption tests

Before computing moderated multiple regressions to assess the relationships proposed in Hypothesis 6, a number of assumptions regarding the data need to be satisfied. These assumptions were as follows:

- (i) That the biographical variables were not related to the dependent variables. The statistical procedures used to determine if any such significant relationships existed are t-tests for categorical biographical variables with two levels, one-way ANOVAs for multiple-level categorical biographical variables and Pearson's Correlation Coefficients for continuous biographical variables (Bernstein 1992; Bluen, 1986).
- (ii) That the relationship between the independent and dependent variable(s) was linear
- (iii) That there were no outliers
- (iv) That no measurement error existed, represented by Cronbach Alpha Coefficients higher than 0.70
- (v) That there was an absence of multicollinearity, that is, an absence of a relationship between the independent variables. This was assessed by examining the Pearson's Correlation Coefficients between the independent variables, with a correlation of less than 0.50 being deemed acceptable; and by examining the multicollinearity index

generated by the regression equation, with an index of less than 0.30 (30) being deemed acceptable.

- (vi) That there was random sampling and that the observations were independent
- (vii) That the distribution of the data was normal
- (viii) That there was equality of variance

With regard to the relationships between the biographical variables and dependent variables One-way ANOVA's were conducted as the dependent variables were multiple level categorical variables. No significant relationships were identified; and there was therefore no need to include any biographical variables as covariates in the regression equations. See Table 53 below.

Table 53 *One way Anovas of the demographic variables for the dependent variables*

		Race	Education	Marital Status	Children	Language	Job Level
Psychological	F	0.08	0.60	0.32	0.54	0.19	0.22
Wellbeing	Df	4	4	4	5	3	2
Self-Esteem	F	0.18	0.36	0.21	0.21	0.26	0.33
	Df	4	4	4	5	3	2

Furthermore, with regard to determining linear relationships between the independent and dependent variables and eliminating outliers, an inspection of the scatterplots of the relationships between the independent and dependent variables revealed that the relationships were all linear and that there were no significant outliers.

An examination of the Cronbach Alpha Coefficients of all the measurement scales utilised within the study indicated that they could all be regarded as relatively free from measurement error, as all scales yielded internal consistency estimates above 0.70. See Table 54 below.

Table 54

Cronbach Alpha Coefficients- Internal consistency reliabilities for all measuring instruments

Variable	Cronbach Alpha Coefficient
Positive Masculinity	<i>0.83</i>
Negative Masculinity	<i>0.85</i>
Positive Femininity	<i>0.85</i>
Negative Femininity	<i>0.81</i>
Work Stress	<i>0.88</i>
Psychological wellbeing	<i>0.89</i>
Self Esteem	<i>0.76</i>
Colleague Social Support	<i>0.84</i>
Supervisor Social Support	<i>0.90</i>
Family Social Support	<i>0.87</i>
Friend Social Support	<i>0.86</i>
Partner Social Support	<i>0.92</i>

Italicized Alphas represent acceptable internal consistency reliability

Table 55, Table 56, and Table 57 below present the correlations between sex role identity, work stress, and social support, as well as the inter-correlations between the sex role identity subscales and different sources of support. From these results, it is apparent that all of the correlations between the independent variables, that is between sex role identity, social support and work stress (in Tables 56 and 57) are less than 0.80. Furthermore, the multicollinearity indices within each regression were all below the cut-off point of 0.3 (30). Therefore the assumption of absence of multicollinearity was assumed to be met.

Table 55

Correlations between sex role identity (four subscales) and work stress

	F –	F +	M –	M +	Work Stress
	1.0000				
F –	1477				
	0.1383	1.0000			
F +	<0.0001	1477			
	0.2381	-0.3839	1.0000		
M –	<0.0001	<0.0001	1477		
	-0.4619	0.0369	0.1704	1.0000	
M +	<0.0001	0.1560	<0.0001	1477	
	0.3367	0.0233	0.1080	-0.2070	1.0000
Work Stress	<0.0001	0.4042	0.0001	<0.0001	1285
	1285	1285	1285	1285	1285

Table 56

Correlations between sex role identity (four subscales), work stress, and social support

	F –	F +	M –	M +	Work Stress
	-0.1313	0.0730	-0.0439	0.1203	-0.3006
Colleague	<0.0001	0.0066	0.1032	<0.0001	<0.0001
Support	1382	1382	1382	1382	1283
	-0.0477	0.0543	-0.0513	0.0669	-0.4453
Supervisor	0.0761	0.0435	0.0568	0.0129	<0.0001
Support	1382	1382	1382	1382	1284
	-0.0903	0.1823	-0.0602	0.1281	-0.1238
Friend	0.0008	<0.0001	0.0253	<0.0001	<0.0001
Support	1379	1379	1379	1379	1281
	-0.0533	0.1241	-0.0583	0.1568	-0.0854
Partner	0.0480	<0.0001	0.0305	<0.0001	0.0022
Support	1377	1377	1377	1377	1280
	-0.0565	0.1609	-0.0804	0.1008	-0.0919
Family	0.0361	<0.0001	0.0028	0.0002	0.0010
Support	1378	1378	1378	1378	1280

Table 57

Correlations between sources of social support and work stress

	Work Stress	Colleague Support	Supervisor Support	Friend Support	Partner Support	Family Support
	-0.3006	1.0000				
Colleague Support	<0.0001					
	1283	1382				
	-0.4453	0.5087	1.0000			
Supervisor Support	<0.0001	<0.0001				
	1284	1380	1382			
	-0.1238	0.3226	0.1802	1.0000		
Friend Support	<0.0001	<0.0001	<0.0001			
	1281	1378	1378	1379		
	-0.0854	0.1589	0.1204	0.3826	1.0000	
Partner Support	0.0022	<0.0001	<0.0001	<0.0001		
	1280	1376	1375	1374	1377	
	-0.0919	0.2260	0.1611	0.7192	0.4907	1.0000
Family Support	0.0010	<0.0001	<0.0001	<0.0001	<0.0001	
	1280	1378	1377	1377	1373	1378

As discussed previously, an inspection of the skewness coefficients and Levene's Tests of equality of variance revealed that the data was normally distributed and that there was equality of variance. In addition, while the present research did not use pure random sampling, out of a population of 7800 every individual with access to a computer and the Internet had an equal chance of choosing to participate in the study. Furthermore, no individual was sampled more than once, that is, no single individual had more than one set of scores. Thus the assumptions of random sampling and independence of observations were deemed to be met. Finally, with regard to the dependent variables, both self-esteem and psychological wellbeing were interval in measure.

As all the assumptions for running moderated multiple regressions (MMR) were met, regressions between work stress, social support, and the dependent variables of psychological wellbeing and self-esteem were computed.

8.8.2 Results of the Moderated Multiple Regression analyses

Moderated multiple regressions (MMRs) were computed to examine the moderating role of the five sources of support in the relationship between work stress and psychological wellbeing and work stress and self-esteem. As with the ANOVAs, effect sizes were calculated within the context of the regression equations. These effect sizes were examined by inspecting the standard error estimates and r-squared values, and calculating the differences in the r-squared values as each independent variable and the interaction term were removed or added to the equation in a step-wise fashion. Results of the individual regressions are outlined below.

8.8.2.1 Psychological wellbeing

8.8.2.1.1 Psychological wellbeing, work stress, and colleague social support

The results for the MMR predicting psychological wellbeing based on work stress and colleague social support are presented in Table 58 below. The multicollinearity index for this analysis was 15.36, which was below 30 and thus acceptable.

Table 58

Moderated multiple regression – work stress, colleague social support, and psychological wellbeing

Variable	DF	Parameter Estimate	Standard Error	t-Value	p-Value	Beta Value
Intercept	1	13.5851	1.1115	12.22	<0.0001	0
Work Stress	1	0.3463	0.0165	20.97	<0.0001	0.5128
Colleague Support	1	-0.1773	0.0482	-3.68	0.0002	-0.0901
Work Stress *	1	-0.3222	0.1476	-2.18	0.0292	-0.0511
Colleague Support						

Findings indicated a significant main effect for work stress and psychological wellbeing ($t_{(1)} = 20.97, p < 0.0001$), suggesting that the higher work stress was, the higher the scores on psychological wellbeing were. As high scores on the GHQ scale for psychological wellbeing indicates poor mental health, while low scores indicate good mental health, a positive relationship between these two variables was expected. In addition, colleague social support had a significant inverse main effect on psychological wellbeing ($t_{(1)} = -3.68, p < 0.0002$), suggesting that the higher the colleague social support was, the lower the score on psychological wellbeing. As a low score on the GHQ indicates good mental health, it was expected that the relationship between colleague social support and wellbeing would also be inverse. A significant inverse interaction effect between work stress and colleague social support was also identified ($t_{(1)} = -2.18, p < 0.0292$), indicating that colleague social support moderated the impact of work stress on psychological wellbeing. This suggests that colleague social support could ameliorate the impact of work stress on wellbeing.

The overall r-squared obtained was 0.3062, indicating 30.62% of the variance in psychological wellbeing was explained by work stress, colleague social support, and the interaction between work stress and colleague social support. In order to ascertain the contribution to the variance of each of these independent variables and the interaction between the two, further regression analyses were conducted in which each variable was taken out of the regression to determine the individual contribution of each variable/term to the variance. Results of this procedure indicated that work stress on its own added 22.90% to the variance explained, while colleague social support increased this variance to 29.67%, and the interaction term increased the variance explained to 30.62%

8.8.2.1.2 Psychological wellbeing, work stress, and supervisor social support

The results for the MMR predicting psychological wellbeing based on work stress and supervisor social support are presented in Table 59 below. The multicollinearity index for this analysis was 15.77, which was below 30 and thus acceptable.

Table 59

Moderated multiple regression – work stress, supervisor social support, and psychological wellbeing

Variable	DF	Parameter Estimate	Standard Error	t-Value	p-Value	Beta Value
Intercept	1	14.9483	1.1173	13.38	<0.0001	0
Work Stress	1	0.3153	0.0174	18.16	<0.0001	0.4681
Supervisor Support	1	-0.2022	0.0422	-4.80	<0.0001	-0.1250
Work Stress * Supervisor Support	1	-0.6691	0.1440	-4.65	<0.0001	-0.1101

Findings indicated a significant main effect for work stress and wellbeing ($t_{(1)} = 18.16$, $p < 0.0001$), suggesting that the higher work stress was, the higher the scores on psychological wellbeing were. As high scores on the GHQ scale for psychological wellbeing indicate poor mental health, a positive relationship between these two variables was expected. In addition, supervisor social support had a significant inverse main effect on psychological wellbeing ($t_{(1)} = -4.65$, $p = 0.0001$), suggesting that the higher the social support was, the lower the score on psychological wellbeing. As a low score on the GHQ indicates good mental health, it was expected that the relationship between supervisor social support and wellbeing would be inverse. A significant inverse interaction effect between work stress and supervisor social support was indicated ($t_{(1)} = -4.80$, $p < 0.0001$), indicating that supervisor social support moderated the impact of work stress on psychological wellbeing. This suggests that supervisor social support could ameliorate the impact of work stress on psychological wellbeing.

The overall r-squared obtained was 0.3230, indicating 32.30% of the variance in psychological wellbeing was explained by work stress, supervisor social support, and the interaction between work stress and supervisor social support. In order to ascertain the contribution to variance of each of these independent variables and the interaction between the two, further regression analyses were conducted in which each variable was taken out of the regression to determine the individual contribution of each variable/term to the variance. Results of this procedure indicated that work

stress on its own added 12.64% to the variance explained, while supervisor social support increased this variance to 27.49%, and the interaction term increased the variance explained to 32.30%.

8.8.2.1.3 Psychological wellbeing, work stress, and family social support

The results for the MMR predicting psychological wellbeing based on work stress and family social support are presented in Table 60 below. The multicollinearity index for this analysis was 11.79, which was below 30 and thus acceptable.

Table 60

Moderated multiple regression – work stress, family social support, and psychological wellbeing

Variable	DF	Parameter Estimate	Standard Error	t-Value	p-Value	Beta Value
Intercept	1	11.0801	0.8781	12.62	<0.0001	0
Work Stress	1	0.3652	0.0159	22.93	<0.0001	0.5405
Family Support	1	-0.0536	0.0375	-1.43	0.1525	-0.0338
Work Stress * Family Support	1	0.0824	0.1484	0.56	0.5788	0.0131

Findings indicated a significant main effect for work stress and psychological wellbeing ($t_{(1)} = 18.16$, $p < 0.0001$), suggesting that the higher work stress was, the higher the scores on psychological wellbeing were. As high scores on the GHQ scale indicate poor mental health, a positive relationship between these two variables was expected. No main effect for family social support on psychological wellbeing was identified, nor was there any significant interaction between work stress and family social support on psychological wellbeing.

The overall r-squared obtained was 0.2952, indicating that 29.52% of the variance in psychological wellbeing was explained by work stress.

8.8.2.1.4 Psychological wellbeing, work stress, and friend social support

The results for the MMR predicting psychological wellbeing based on work stress and friend social support are presented in Table 61 below. The multicollinearity index for this analysis was 11.89, which was below 30 and thus acceptable.

Table 61

Moderated multiple regression – work stress, friend social support, and psychological wellbeing

Variable	DF	Parameter Estimate	Standard Error	t-Value	p-Value	Beta Value
Intercept	1	11.1128	0.8843	12.57	<0.0001	0
Work Stress	1	0.3629	0.0160	22.73	<0.0001	0.5383
Friend Support	1	-0.0533	0.0386	-1.38	0.1671	-0.0328
Work Stress *	1	0.0442	0.1521	0.29	0.7713	0.0068
Friend Support						

Findings indicated a significant main effect for work stress and psychological wellbeing ($t_{(1)} = 22.73$, $p < 0.0001$), suggesting that the higher work stress was, the higher the scores on psychological wellbeing were. As high scores on the GHQ scale indicate poor mental health, a positive relationship between these two variables was expected. No main effect for friend social support on psychological wellbeing was identified, nor was there any significant interaction between work stress and friend social support on psychological wellbeing.

The overall r-squared obtained was 0.2938, indicating that 29.38% of the variance in psychological wellbeing was explained by work stress.

8.8.2.1.5 Psychological wellbeing, work stress, and partner social support

The results for the MMR predicting psychological wellbeing based on work stress and partner social support are presented in Table 62 below. The multicollinearity index for this analysis was 10.86, which was below 30 and thus acceptable.

Table 62

Moderated multiple regression – work stress, partner social support, and psychological wellbeing

Variable	DF	Parameter Estimate	Standard Error	t-Value	p-Value	Beta Value
Intercept	1	12.1905	0.7970	15.30	<0.0001	0
Work Stress	1	0.3605	0.0158	22.85	<0.0001	0.5352
Partner Support	1	-0.1206	0.0305	-3.95	<0.0001	-0.0927
Work Stress * Partner Support	1	-0.2415	0.1518	-1.59	0.1119	-0.0372

Findings indicated a significant main effect for work stress and wellbeing ($t_{(1)} = 22.85$, $p < 0.0001$), suggesting that the higher work stress was, the higher the scores on psychological wellbeing were. As high scores on the GHQ indicate poor mental health, a positive relationship between these two variables was expected. In addition, partner social support had a significant inverse main effect on psychological wellbeing ($t_{(1)} = -3.95$, $p < 0.0001$), suggesting that the higher partner social support was, the lower the score on psychological wellbeing. As a low score on the GHQ indicates good mental health, it was expected that the relationship between partner social support and wellbeing would be inverse. No significant interaction effect between work stress and partner social support was identified.

The overall r-squared obtained was 0.3053, indicating that 30.53% of the variance in psychological wellbeing was explained by work stress and partner social support. In order to ascertain the contribution to variance of each of these independent variables, further regression analyses were conducted in which each variable was taken out of the regression to determine the individual contribution of each variable to the variance. Results of this procedure indicated that work stress on its own added 27.63% to the variance explained, while partner social support increased this variance to 30.53%.

8.8.2.2 Self-esteem

8.8.2.2.1 Self-esteem, work stress, and colleague social support

The results for the MMR predicting self-esteem based on work stress and colleague social support are presented in Table 63 below. The multicollinearity index for this analysis was 15.35, which was below 30 and thus acceptable.

Table 63

Moderated multiple regression – work stress, colleague social support, and self-esteem

Variable	DF	Parameter Estimate	Standard Error	t-Value	p-Value	Beta Value
Intercept	1	4.5653	0.7149	6.39	<0.0001	0
Work Stress	1	0.1996	0.0106	18.78	<0.0001	0.4699
Colleague Support	1	-0.1817	0.0309	-5.88	<0.0001	-0.1472
Work Stress * Colleague Support	1	0.0370	0.0946	0.39	0.6960	0.0094

Findings indicated a significant main effect for work stress and self-esteem ($t_{(1)} = 18.78$, $p < 0.0001$), suggesting that the higher work stress was, the higher the scores on self-esteem were. As high scores on the self-esteem scale indicate low self-esteem, while low scores indicate high self-esteem, a positive relationship between these two variables was expected. In addition, colleague social support had a significant inverse main effect on self-esteem ($t_{(1)} = -5.88$, $p < 0.0001$), suggesting that the higher the colleague social support was, the lower the score on self-esteem was. As a low score on the self-esteem scale indicates high self-esteem, it was expected that the relationship between colleague social support and self-esteem would be inverse. No significant interaction effect between work stress and colleague social support was identified.

The overall r-squared obtained was 0.2833, indicating that 28.33% of the variance in self-esteem was explained by work stress, colleague social support, and the interaction between work stress and colleague social support. In order to ascertain the contribution to variance of each of these independent variables and the interaction between the two, further regression analyses were

conducted in which each variable was taken out of the regression to determine the individual contribution of each variable to the variance. Results of this procedure indicated that work stress on its own added 20.02% to the variance explained, while colleague social support increased this variance to 28.33%.

8.8.2.2.2 Self-esteem, work stress, and supervisor social support

The results for the MMR predicting self-esteem based on work stress and supervisor social support are presented in Table 64 below. The multicollinearity index for this analysis was 15.77, which was below 30 and thus acceptable.

Table 64

Moderated multiple regression – work stress, supervisor social support, and self-esteem

Variable	DF	Parameter Estimate	Standard Error	t-Value	p-Value	Beta Value
Intercept	1	4.7018	0.7283	6.46	<0.0001	0
Work Stress	1	0.1870	0.0113	16.51	<0.0001	0.4382
Supervisor Support	1	-0.1640	0.0275	-5.97	<0.0001	-0.1602
Work Stress *	1	-0.1714	0.0939	-1.83	0.0680	-0.0446
Supervisor Support						

Findings indicated a significant main effect for work stress and self-esteem ($t_{(1)} = 16.51$, $p < 0.0001$), suggesting that the higher work stress was, the higher the scores on self-esteem were. As high scores on the self-esteem scale indicate low self-esteem, a positive relationship between these two variables was expected. In addition, supervisor social support had a significant inverse main effect on self-esteem ($t_{(1)} = -5.17$, $p < 0.0001$), suggesting that the higher supervisor social support was, the lower the score on self-esteem was. As a low score on the self-esteem scale indicates high self-esteem, it was expected that the relationship between supervisor social support and self-esteem would be inverse. No significant interaction effect between work stress and supervisor social support was identified.

The overall r-squared obtained was 0.2926, indicating that 29.26% of the variance in self-esteem was explained by work stress, supervisor social support, and the interaction between work stress and supervisor social support. In order to ascertain the contribution to variance of each of these independent variables, further regression analyses were conducted in which each variable was taken out of the regression to determine the individual contribution of each variable to the variance. Results of this procedure indicated that work stress on its own added 15.26% to the variance explained, while supervisor social support increased this variance to 26.68%. Although the interaction term was not significant the interaction increased the total variance to 29.26%.

8.8.2.2.3 Self-esteem, work stress, and family social support

The results for the MMR predicting self-esteem based on work stress and family social support are presented in Table 65 below. The multicollinearity index for this analysis was 11.74, which was below 30 and thus acceptable.

Table 65

Moderated multiple regression – work stress, family social support, and self-esteem

Variable	DF	Parameter Estimate	Standard Error	t-Value	p-Value	Beta Value
Intercept	1	2.8796	0.5622	5.12	<0.0001	0
Work Stress	1	0.2137	0.0102	20.88	<0.0001	0.5031
Family Support	1	-0.1095	0.0240	-4.55	<0.0001	-0.1099
Work Stress *	1	0.0115	0.0951	0.12	0.9041	0.0029
Family Support						

Findings indicated a significant main effect for work stress and self-esteem ($t_{(1)} = 20.88$, $p < 0.0001$), suggesting that the higher work stress was, the higher the scores on self-esteem were. As high scores on the self-esteem scale indicate low self-esteem, a positive relationship between these two variables was expected. In addition, family social support had a significant inverse main effect on self-esteem ($t_{(1)} = -4.55$, $p < 0.0001$), suggesting that the higher family social support was, the lower the score on self-esteem was. As a low score on the self-esteem scale indicates high self-esteem, it was expected that the relationship between supervisor social support and self-esteem

would be inverse. No significant interaction effect between work stress and family social support was identified.

The overall r-squared obtained was 0.2748, indicating that 27.48% of the variance in self-esteem was explained by work stress, family social support, and the interaction between work stress and family social support. In order to ascertain the contribution to variance of each of these independent variables, further regression analyses were conducted in which each variable was taken out of the regression to determine the individual contribution of each variable to the variance. Results of this procedure indicated that work stress on its own added 25.12% to the variance explained, while family social support increased this variance to 27.48%.

8.8.2.2.4 Self-esteem, work stress, and friend social support

The results for the MMR predicting self-esteem based on work stress and friend social support are presented in Table 66 below. The multicollinearity index for this analysis was 11.85, which was below 30 and thus acceptable.

Table 66

Moderated multiple regression – work stress, friend social support, and self-esteem

Variable	DF	Parameter Estimate	Standard Error	t-Value	p-Value	Beta Value
Intercept	1	2.2577	0.5700	3.96	<0.0001	0
Work Stress	1	0.2160	0.0103	20.93	<0.0001	0.5062
Friend Support	1	-0.0752	0.0249	-3.02	0.0026	-0.0731
Work Stress * Friend Support	1	0.2199	0.0981	2.24	0.0251	0.0539

Findings indicated a significant main effect for work stress and self-esteem ($t_{(1)} = 20.93$, $p < 0.0001$), suggesting that the higher work stress was, the higher the scores on self-esteem were. As high scores on the self-esteem scale indicate low self-esteem, a positive relationship between these two variables was expected. In addition, friend social support had a significant inverse main effect

on self-esteem ($t_{(1)} = -3.02, p < 0.0001$), suggesting that the higher friend social support was, the lower the score on self-esteem was. As a low score on the self-esteem scale indicates high self-esteem, it was expected that the relationship between friend social support and self-esteem would be inverse. A significant interaction effect between work stress and friend social support was also identified ($t_{(1)} = 2.24, p < 0.0251$), indicating that friend social support moderated the impact of work stress on self-esteem. *However, this relationship was positive*, indicating that in the presence of work stress, friend support actually *exacerbates* the relationship between work stress and self-esteem producing a negative impact, that is, friend support leads to a decline in self-esteem when work stress is experienced.

The overall r-squared obtained was 0.2745, indicating that 27.45% of the variance in self-esteem was explained by work stress, friend social support, and the interaction between work stress and friend social support. In order to ascertain the contribution to variance of each of these independent variables, further regression analyses were conducted in which each variable and the interaction term was taken out of the regression to determine the individual contribution of each variable/term to the variance. Results of this procedure indicated that work stress on its own added 24.82% to the variance explained, while friend social support increased this variance to 27.04%, and the interaction term increased the total variance explained to 27.45%.

8.8.2.2.5 Self-esteem, work stress, and partner social support

The results for the MMR predicting self-esteem based on work stress and partner social support are presented in Table 67 below. The multicollinearity index for this analysis was 10.82, which was below 30 and thus acceptable.

Table 67

Moderated multiple regression – work stress, partner social support, and self-esteem

Variable	DF	Parameter Estimate	Standard Error	t-Value	p-Value	Beta Value
Intercept	1	2.3642	0.5157	4.58	<0.0001	0
Work Stress	1	0.2174	0.0102	21.23	<0.0001	0.5095
Partner Support	1	-0.0857	0.0198	-4.34	<0.0001	-0.1042
Work Stress * Partner Support	1	-0.0685	0.0984	-0.70	0.4863	-0.0167

Findings indicated a significant main effect for work stress and self-esteem ($t_{(1)} = 21.23$, $p < 0.0001$), suggesting that the higher work stress was, the higher the scores on self-esteem were. As high scores on the self-esteem scale indicate low self-esteem, a positive relationship between these two variables was expected. In addition, partner social support had a significant inverse main effect on self-esteem ($t_{(1)} = -4.34$, $p = 0.0001$), suggesting that the higher partner social support was, the lower the score on self-esteem. As a low score on the self-esteem scale indicates high self-esteem, it was expected that the relationship between partner social support and self-esteem would be inverse. No significant interaction effect between work stress and partner social support was identified.

The overall r-squared obtained was 0.2794, indicating that 27.94% of the variance in self-esteem was explained by work stress, partner social support, and the interaction between work stress and partner social support. In order to ascertain the contribution to variance of each of these independent variables, further regression analyses were conducted in which each variable was taken out of the regression to determine the individual contribution of each variable to the variance. Results of this procedure indicated that work stress on its own added 25.80% to the variance explained, while partner social support increased this variance to 27.94%.

8.9 MMR Results Summary

In summary for psychological wellbeing:

- i) Work stress had a significant main effect on psychological well being with work stress impacting negatively on wellbeing, that is, the higher the work stress the lower the psychological well being (as represented by higher scores on the GHQ). As low scores on the wellbeing scale indicated higher well being while higher scores indicate poor wellbeing, the relationship between high work stress and poor wellbeing was a positive relationship.
- ii) With regard to psychological wellbeing three sources of support had a main effect on wellbeing, that is when support was high wellbeing scores were low. As a low score on wellbeing indicated good mental health these relationship were all inverse. The three sources to have a main effect on psychological wellbeing were colleague, supervisor and partner support. Friend and family support did not have a main effect on psychological wellbeing.
- iii) Both colleague and supervisor support interacted with work stress to moderate the relationship between work stress and psychological well being, that is, to reduce the impact of work stress on wellbeing.
- iv) None of the non-work sources of support interacted to moderate the effect of work stress on wellbeing.

In summary for self-esteem:

- i) Work stress had a significant main effect on self-esteem with work stress impacting negatively self-esteem, that is, the higher the work stress the lower self-esteem (as represented by high scores on the self-esteem scale). As low scores on the self-esteem scale indicated higher self-esteem while higher scores indicated lower self-esteem, the relationship between high work stress and low self-esteem was a positive relationship.
- ii) With regard to self-esteem all five sources of support had a main effect on self-esteem, that is when support was high self-esteem scores were low. As a low score on self-esteem indicated high self-esteem all these relationships were inverse.
- iii) Only friend support moderated the relationship between work stress and self-esteem, however this was in an unexpected 'positive' direction, in that friend support exacerbated this relationship.

- iv) No interaction effects were observed for any other sources of support in the relationship between stress and self-esteem.

8.10 Conclusion

Chapter 8 has outlined the results of the current study throughout the two studies, that is, Study One - Pilot Study 1 & Pilot Study 2 which consisted of the validation and refinement of the EPAQ-R and Study Two which consisted of further validation of the EPAQ-R and testing of the various research questions and hypotheses proposed. The following chapter, Chapter 9 – Discussion, will be devoted to a discussion of the both the significant and non-significant findings of the present research and the extent to which these findings have contributed to a greater understanding of variations in sex role identities and their implication for the wellbeing of South African female managers. In addition the discussion will focus on counterintuitive findings.

CHAPTER 9: DISCUSSION

9.1 INTRODUCTION

The aim of the present study was to explore and examine the relationship between variations in patterns of sex role identity and perceptions of work stress, psychological wellbeing, self-esteem and social support amongst South African female managers. In this regard the present study intended to make a number of contributions to the theory on sex role identity, wellbeing indicators and social support. These contributions are outlined under six broad headings below and in detail in later sections referred to within the chapter.

9.2 CONTRIBUTIONS TO THEORY

9.2.1 The development of the EPAQ-R: A psychometrically valid instrument for assessing the differentiated model of sex role identity.

The study contributed to theory by establishing a measure that demonstrated sound psychometric properties with regard to measuring a differentiated model of sex role identities that is a measure that can assess both the proposed positive and negative sex role identities within a South African sample. Although the intention was to use the EPAQ in its original format, as it had demonstrated poor internal consistency in all previous studies where its reliability was reported, its internal consistency reliability as a measure had to be assessed first before it could be used to assess any of the proposed hypotheses. Thus, the present researcher was aware that there was a possibility that the instrument would have to be refined and reformulated in order to ensure that it was a reliable and valid measuring instrument. As discussed in the results section of Study One and Two the EPAQ had to be refined and reformulated with this refinement and reformulation finally providing the only known instrument that can reliably and validly assess the differentiated identities as proposed by the Differentiated model of Sex Role Identity. Within Pilot study 2 of Study 1 and the Study Two, the four subscales of the EPAQ-R demonstrated a high degree of internal consistency and an exploratory factor analysis indicated that the instrument met the four factor structure proposed theoretically by the test developers, that is, Spence and colleagues (1979; 1981). While a number of instruments have been developed to assess both positive and negative sex role identities, e.g. the EPAQ (Spence et al., 1979; 1981) The HUC (Helgeson et al., 1998) and the Australian Sex Role Inventory (ASRI) (Anthill et al., 1984), none of these instruments have demonstrated satisfactory

psychometric properties particularly with regard to internal consistency. In addition, some of these instruments, for example, the HUC only measure mitigated and unmitigated communion, that is, positive and negative femininity. Thus, the present study has made a major contribution to future research, in that it has, in the first known attempt, provided an instrument that reliably and validly assesses both positive and negative sex role identities, as proposed within the Differentiated Model of SRI.

9.2.2 Positive and negative sex role identities and wellbeing

In the first known attempt within an occupational setting this study also intended to *move beyond* an examination of previous research that had only examined the relationship of positive socially desirable sex-typed behaviours to work stress, health and wellbeing. More specifically, within the present study the relationship of positive, socially desirable and negative, socially undesirable sex-typed behaviours to stress, health and wellbeing was examined within an occupational setting on a multicultural sample of South African female managers. The findings of the current study thus contribute to a unique exploration of differentiated sex role identities by capturing the distinctions between gender associated strengths and weaknesses within a South African occupational setting.

9.2.3 Positive and negative sex role identities and social support

In the first known attempt the study also intended to explore the relationship between various sex role identities, both positive and negative, and social support from five sources (both work and non-work), that is, colleagues, supervisors, family, friends and partner/spouse. Previous research on social support has only examined biological sex differences in perceptions of and utilisation of social support or only examined socially desirable sex role identity differences in relation to social support. Thus, in this regard the present study further contributed to theory by examining social support from a number of sources and the relationship of this support to positive and negative sex role identities and wellbeing indicators.

A discussion of these contributions in relation to the hypotheses tested is outlined below. In Hypotheses 1 to 6 it was predicted that variations in sex role identity would lead to variations in perceptions of work stress (Hypothesis 1); variations in perceptions of self-esteem (Hypothesis 2) and variations in perceptions of psychological wellbeing (Hypothesis 3). Within Hypothesis 4,

work stress was divided into high, medium and low stress conditions to determine if there was any variation in perceptions of psychological wellbeing and self-esteem amongst the different sex role identities as a function of the high, low and medium stress conditions. In this regard, the intention was to examine whether work stress moderated the relationship between sex role identity and psychological wellbeing and sex role identity and self-esteem. Within Hypothesis 5 it was predicted that variations in sex role identity would lead to variations in perceptions of social support. Hypothesis 6 predicted that social support would moderate the relationship between work stress and wellbeing.

Within Hypotheses 1 to 5 a specific order of prediction was proposed. It was proposed that those that were positively androgynous would have the lowest perception of stress and highest perception of psychological wellbeing and self-esteem, followed by those that were positively masculine and those that were positively feminine. Higher levels of perceived stress and lower sense of psychological wellbeing and self-esteem would be reported by those that were negatively androgynous, negatively masculine and negatively feminine. No a priori prediction was proposed for the undifferentiated sex role identity as this identity has been referred to as one in which the individual either scores low on all of the proposed identities and/or has unclear stable preferences with regard to the behaviours described within each identity (Woodhill & Samuels, 2003). The order of the predictions in relation to wellbeing, were based on that proposed by Woodhill and Samuels in their study of college students (2003). While they proposed that wellbeing for those that were positively androgynous would always be higher than negatively androgynous they specifically noted that positive androgyny would be followed by the remaining positive identities and thereafter the negative identities “with masculinity always coming first” (Woodhill & Samuels, 2003; p. 561). Thus, their assumed order was positively androgynous, masculine and feminine, followed by negatively androgynous, negatively masculine and negatively feminine.

Overall, within the present study it was expected that the positively valenced identities would fare better than the negatively valenced identities. However, the order predicted for sex role identities and social support within the present study was slightly different and is contained within the specificity hypothesis outlined below.

9.2.4 The specificity of the wellbeing domain of social support in relation to sex role identities

The inclusion of a specificity hypothesis in relation to social support was a further contribution to theory. This specificity hypothesis is based on research that has suggested that the relationship between sex role identities and wellbeing may be dependent upon the type of domain these identities are predicting. For example, researchers have noted that although positive masculinity has generally predicted better on indicators of wellbeing, this may be due to fact that such wellbeing indicators are related to instrumental domains (Flaherty & Dusek, 1980; Marsh & Byrne, 1991; Ward 2000; Yarnold, 1990). If wellbeing indicators are related to expressive domains those that are feminine may well fare better on these indicators (Ward, 2006; Yarnold, 1990). As social support may be regarded as an expressive domain, the specificity hypothesis proposed was that positively feminine females would have an advantage over positively masculine females with regard to perceptions of and utilisation of social support. This specificity hypothesis was also based on past research that has extensively shown that biological females or those that are more feminine or are far more likely to seek out and utilise social support and to do so more effectively than those that are biologically male or more masculine (Belle, 1982; Ghaed & Gallo, 2006; Neff & Karney, 2005; Reevy & Maslach, 2001). Thus, with regard to social support the order of predictions in the present study was slightly altered in that it was predicted that those that were positively androgynous, *positively feminine* and positively masculine would have the highest perceptions of available social support while those that were negatively androgynous, negatively masculine and negatively feminine would have the lowest perceptions of available social support.

9.2.5 Positive and negative valences and support for the differentiated androgyny model

While results of this study tend to support the order of predictions described above with some slight variations in this order, what was apparent is that overall those with positive identities did have better outcomes than those with negative identities. Thus, the study contributed to theory in that it indicated that positively valenced identities do seem to bode better for health and wellbeing than negative identities. Therefore, if one examines sex role identities in terms of *positive and negative valences*, a more clear and distinct pattern of effect could be observed. Positively valenced identities refer to positive androgyny, positive masculinity and positive femininity while negatively valenced identities refer to negative androgyny, negative masculinity and negative femininity (Wajsblat, 2001). In this regard, in virtually all the hypothesised tests of relationships between sex role

identity and work stress, psychological wellbeing, self-esteem and social support; sex role identities that had a positive valence perceived less stress, had better health outcomes and had higher perceptions of social support from all sources. The inverse was largely evident for those with sex role identities that had a negative valence. More especially, those that were negatively androgynous and negatively feminine perceived more stress, indicated poorer health outcomes and had lower perceptions of social support. The findings thus contribute to a greater knowledge in that they clearly indicate strong support for the differentiated model of sex role identity which argues that one must consider both socially desirable and socially undesirable sex base behavioural traits. For a more detailed discussion of findings supporting this model see Section 9.3.1 below.

9.2.6 The positive effects of negative masculinity

The present study also contributed to and expanded knowledge on sex role identity, more particularly negative masculinity as a unique pattern of effect for negative masculinity emerged within the present study. In this regard, while negative masculinity did tend to have higher perceptions of stress and lower psychological wellbeing, self-esteem and social support than the positive identities in most instances; this particular identity did not fare as poorly as predicted. Thus, while the general pattern for positive versus negative valences for most relationships was evident, there was an exception to this at times, particularly for negative masculinity. The findings for negative masculinity is thus a further contribution as this finding indicates that within a South African sample, negative masculinity which within most international studies has been associated with poor health outcomes, may in South African populations be associated with slightly better health outcomes than expected. This finding is discussed in greater detail in Section 9.4.1 below.

9.2.7 The variation in patterns of effect for the masculinities under varying conditions of stress.

Another significant contribution of the present studies findings relate to the masculinities under varying conditions of stress. In particular this study showed that positive masculinity for females may not have the positive healthy effects associated with masculinity in most international research (see discussion within Section 9.6 below). In this regard the masculinities within a South African context and on a sample of South African females within specific types of organisations showed unique patterns of effect that can contribute to a greater understanding of the health benefits or lack

thereof of masculinity in specific situations. This finding is discussed in greater detail in Section 9.6 below.

Also to follow is a discussion of the findings for each hypothesis within the study, examining the relationship between sex role identities and work stress, psychological wellbeing, self-esteem and social support. Within the discussion of each hypothesis the ‘patterns of effect’ for each relationship are outlined in terms of the order of highest to lowest means. The purpose of this examination is to delineate and explore the possible pattern of effect that they appear to suggest. However, the differences between these means were not always significant. Therefore the discussion first focuses on order of means and then *highlights specifically* where significant differences between these group means occurred.

Thereafter, the discussion focuses on non-significant and at times counterintuitive significant differences between means. For example, there were often no significant differences between negative masculinity and the positive identities, and in fact at times negative masculinity fared significantly better than both negative femininity and negative androgyny.

There were also, in the main, no significant differences between positive masculinity and positive femininity. While it was expected that those that were positively masculine would fare better in terms of having lower perceptions of work stress and higher self-esteem and psychological wellbeing, these significant differences were not observed. In addition, while it was expected that positively feminine individuals would fare significantly better than positively masculine individuals on perceptions of social support, these significant differences too, were not observed. Lastly, some significant and unexpected observations for the undifferentiated identity were reported. These findings are discussed below. The findings are divided into four sections:

- (i) Discussion of the one way ANOVA’s for sex role identity and work stress, self-esteem and psychological wellbeing,
- (ii) Discussion of the two-way ANOVA’s for differing levels of work stress, sex role identity psychological wellbeing and self-esteem,

- (iii) Discussion of the one way ANOVA's for sex role identity and five sources of social support, and
- (iv) Discussion of the moderated multiple regressions for work stress, social support and self-esteem and psychological wellbeing.

Furthermore, where and when these findings add to and therefore advance theory and knowledge on sex role identity research are described in finer detail in sections 9.3.1 to 9.3.5; 9.4.1; 9.4.2; 9.5.1 and 9.6.

9.3 ONE WAY ANOVA'S: SEX ROLE IDENTITY AND WORK STRESS, SELF-ESTEEM & PSYCHOLOGICAL WELLBEING

9.3.1 Sex role identity and work stress

Females that were positively masculine (M+) reported the lowest level of stress, followed by those that were undifferentiated (Au), positively androgynous (A+) and positively feminine (F+). Higher stress was reported by those who were negatively masculine (M-) and negatively androgynous (A-) with the highest perception of stress reported by those who were negatively feminine (F-). In terms of the hypothesised order of predictions, positive masculinity and undifferentiated were not entirely consistent with the order proposed in Hypothesis 1. However, an examination of Figure 24 below does indicate that overall sex role identities with a positive valence predicted lower stress while sex role identities with a negative valence predicted higher stress.

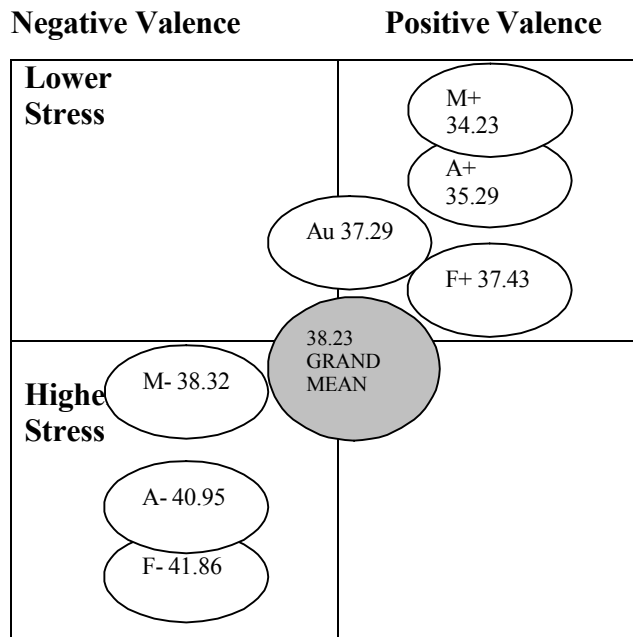


Figure 24
Pattern of means for sex role identity and work stress

With regard to significant differences between these means, negative femininity had a significantly higher mean than positive masculinity, positive androgyny, undifferentiated and positive femininity respectively. In a similar vein, negative androgyny had a significantly higher mean than positive masculinity, positive androgyny, undifferentiated and positive femininity respectively. As a higher mean on work stress indicates higher levels of stress, these identities, that is, negative femininity and negative androgyny fared significantly worse on perceptions of stress.

The finding that the positive identities, that is, positive androgyny, positive masculinity and positive femininity fared significantly better than the negative identities of negative androgyny and negative femininity was in line with the hypothesis. This finding supports the differentiated model that proposes that both positive socially desirable and negative socially undesirable sex role identities must be examined when one undertakes to research the relationship between sex role identity and wellbeing. In particular, this finding for a differentiated model, within an occupational managerial setting is the first known observation, and therefore enhances the understanding of sex role identity within both an occupational and a managerial setting.

However, there were no significant differences between negative masculinity and any of the positive identities on work stress, nor were there any significant differences between the positive identities. In addition, those with an undifferentiated sex role identity had significantly lower perceptions of stress than negative femininity and negative androgyny. A more detailed discussion of the significant and non-significant findings along with the finding for the undifferentiated identity will be discussed in Sections 9.4 and 9.5 below.

9.3.2 Sex role identity and self-esteem

The highest self-esteem was reported for those that were positively androgynous (A+), positively masculine (M+), undifferentiated (Au), and positively feminine (F+). Lower self-esteem was reported for negative masculinity (M-), negative androgyny (A-) and the lowest for negative femininity (F-). Thus, the only variations to the predicted order were undifferentiated (Au) and negative masculinity (M-). As with work stress, sex role identities with a positive valence predicted higher self-esteem while sex role identities with a negative valence predicted lower self-esteem. See Figure 25 below.

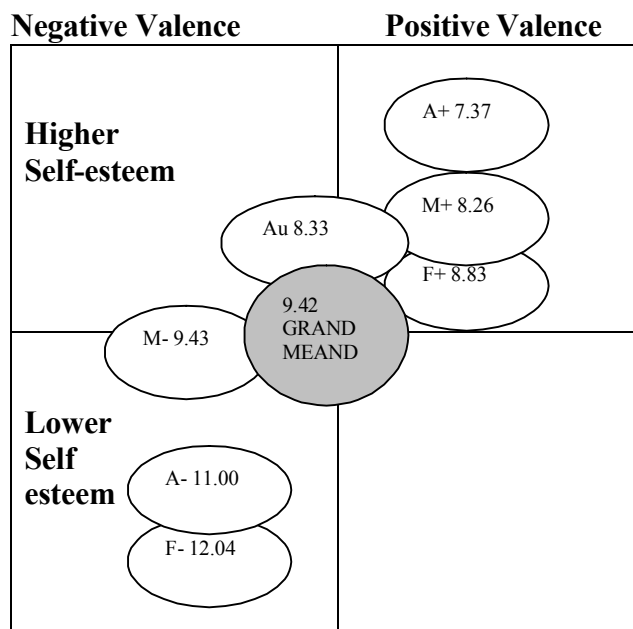


Figure 25
Pattern of means for sex role identity and self-esteem

With regard to significant differences, negative femininity had a significantly higher mean (therefore lower self-esteem) than positive androgyny, positive masculinity, undifferentiated, positive femininity *and* negative masculinity respectively. Similarly, negative androgyny had a significantly higher mean than positive androgyny, positive masculinity, undifferentiated, positive femininity *and* negative masculinity. Both negative masculinity and positive femininity had a significantly higher mean than positive androgyny and therefore lower self-esteem than positive androgyny. However, there were no significant differences between negative masculinity and positive femininity and positive masculinity. Furthermore, there were no significant differences between positive androgyny and positive masculinity.

The finding that negative femininity and negative androgyny had lower self-esteem than all the positive identities was expected and in line with the hypothesis. Similarly, the finding that negative masculinity and positive femininity had lower self-esteem than positive androgyny was in line with the hypothesis. Such findings support both the differentiated model and the androgyny model, the former as mentioned proposing an examination of both positive and negative sex role identities in relation to self-esteem and the latter proposing that those that are positively androgynous will enjoy the greatest self-esteem as compared to all other identities. Again as mentioned this research was the first known attempt to explore the differentiated model within an occupational setting and as such the findings evidenced add to the body of knowledge on the undifferentiated model within the work context. The finding that those with an undifferentiated sex role identity had significantly lower self-esteem than negative femininity and negative androgyny was not entirely expected. In addition, the finding that negative masculinity did not fare significantly worse as compared to positive masculinity and positive femininity while faring significantly better than negative androgyny and negative femininity was unexpected and once again indicates a different pattern of effect for South African samples in relation to unmitigated agency. A more detailed discussion of significant and non-significant findings along with the finding for the undifferentiated identity will be discussed in Sections 9.3 and 9.4 below.

9.3.3 Sex role identity and psychological wellbeing

The highest well being was reported by those that were positively androgynous (A+), positively masculine (M+) and positively feminine (F+). Lower wellbeing was reported for negative

masculinity (M-), undifferentiated (Au) and negatively androgynous (A-) with the lowest wellbeing reported by those who were negatively feminine (F-). Once again sex role identities with a positive valence reported higher wellbeing while sex role identities with a negative valence reported lower wellbeing. See Figure 26 below.

With regard to significant differences, negative femininity had a significantly higher mean score on the psychological wellbeing than positive androgyny, positive masculinity and positive femininity. In addition negative femininity scored significantly higher on psychological wellbeing than negative masculinity and undifferentiated. As a high score on the GHQ indicates poor wellbeing, those that are negatively feminine thus fared the worst on psychological wellbeing. Similarly negative androgyny had a significantly higher mean than positive androgyny, positive masculinity, positive femininity, and negative masculinity.

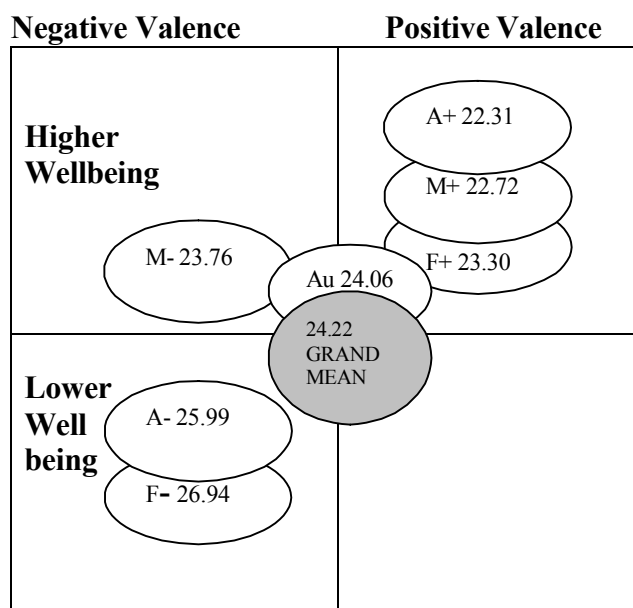


Figure 26
Pattern of means for sex role identity and psychological wellbeing

The finding that the positive identities fared significantly better on psychological wellbeing than the negative identities of negative femininity and negative androgyny are in line with the hypothesis and support the differentiated model of sex role identity. However, no significant differences were observed between the positive identities; nor were there any significant differences between

negative masculinity and the positive identities. In addition the undifferentiated sex role identity enjoyed significantly greater psychological wellbeing than negative femininity. A more detailed discussion of significant and non-significant findings along with the finding for the undifferentiated identity will be discussed in Sections 9.4 and 9.5 below.

To summarise and conclude on the above relationships, the results indicate that overall the order of means supports previous research that has demonstrated that those that are positively androgynous or positively masculine enjoy the greatest health benefits followed by those that are positively feminine. In addition the findings indicate that those with positively valenced identities fare better than those with negatively valenced identities. Thus, this research clearly distinguished, in terms of significant differences, between the socially desirable positively valenced identities and the socially undesirable negatively valenced identities, lending support to the differentiated model of sex role identity. In all instances, positively valenced sex role identities perceived the least stress and had the highest level of psychological wellbeing and self-esteem as compared to the negatively valenced identities, more particularly negative androgyny and negative femininity.

Furthermore, the undifferentiated identity was always clustered with the positively valenced identities with the exception of for psychological wellbeing where it clustered with the negative identities. Moreover, negatively masculine individuals tended to fare better than those that were negatively androgynous as opposed to the order proposed in the hypotheses, that is, of negatively androgynous faring better than negatively masculine followed by negative femininity last. See Table 68 below.

Table 68 *Overall pattern of sex role identity means for the dependent variables*

Stress	Psychological Wellbeing	Self-esteem
M+	A+	A+
Au	M+	Au
A+	F+	M+
F+	M-	F+
M-	Au	M-
A-	A-	A-
F-	F-	F-

Highlighted identities indicate those that fell below the Grand Mean for each variable.

With regard to significant differences, clearly, those with negative identities, more specifically those that were negatively feminine or negatively androgynous were consistently and significantly worse off in terms of health and wellbeing than those with positive or undifferentiated identities.

However, as described above, the present research did not demonstrate significant differences between positive androgyny, positive masculinity and positive femininity with the exception of self-esteem where significant differences were observed between positive androgyny and positive femininity. In addition, the research did not demonstrate that those that were negatively androgynous fared better than those that were negatively masculine. In fact, noticeably, in all instances negative masculinity fared significantly better than negative androgyny and negative femininity. Further, negative masculinity showed no significant differences to the positive identities with the exception of a significant difference between negative masculinity and positive androgyny on self-esteem. Below follows a more detailed discussion of these significant and non-significant findings.

9.4 STATISTICALLY SIGNIFICANT FINDINGS

9.4.1 Support for the Androgyny Model and the Differentiated Model of sex role identity

Overall the results from this study support contributed to theory in that it provided clear support for both the androgyny model and the differentiated model of sex role identity within an occupational setting on a sample of female managers. Findings clearly demonstrate that androgynous female managers who combine virtues from masculine and feminine gender roles will have the best health outcomes with regard to work stress, self-esteem, psychological wellbeing and social support. In all instances those that were positively androgynous fared significantly better than those with negative identities of negative androgyny and negative femininity. In addition, those that were positively masculine and positively feminine in all instances fared significantly better than these negative identities. Thus, these findings lend support to both the androgyny and differentiated model of sex role identity, the latter which embraces both positive socially desirable and negative socially undesirable sex-based personality traits.

Further support for examining both positive and negative identities is evidenced by the extent to which these identities were distributed in the present sample. Below follows a presentation of the distribution of identities within the sample (See Figure 27 below) and a discussion of the distribution of identities within the present sample. This is followed by a discussion of the distinction between health and wellbeing outcomes for those that are positively valenced in terms of their sex role identity versus those that are negatively valenced.

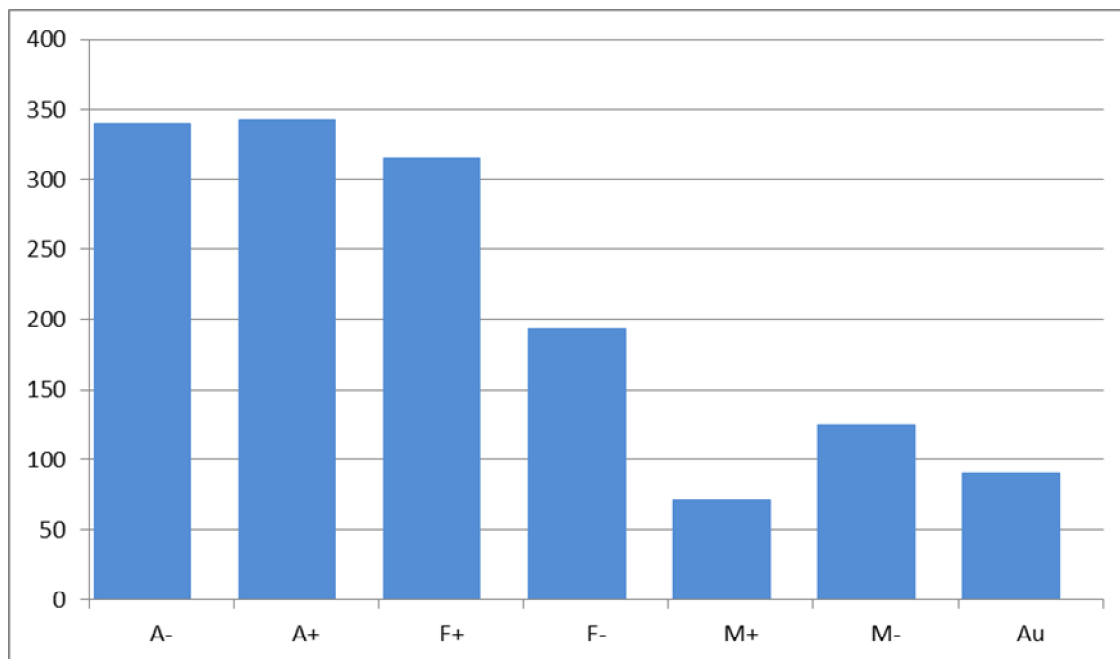


Figure 27
Distribution of sex role identities within the present sample

With regard to distribution of the sex role identities approximately 23% of the sample of female managers was classified into the negatively androgynous category and 23% were classified as positively androgynous. This indicates that the majority of women transcended traditional gender-roles by incorporating sex role traits from both sex types. These findings are reflective of the social-constructionist and gender-schemata theories employed in this study as they specify that individuals adopt gender-roles based on societal and cultural prescriptions. In contemporary South African society there has been an emphasis on establishing greater equality and less power distance between the sexes and although this move towards greater equality has been slow there is some evidence that gender-role disparities are being reduced. Therefore, females have adapted and responded to changing gender norms by embracing masculine and androgynous traits in addition to their feminine sex-roles.

With regard to positive femininity the proportion of the sample embracing this identity was also high (21%) with 13% embracing negative femininity; thus a total of 34% adopting feminine identities. These findings also align with previous research that suggests that females tend to score

typically higher on communion and unmitigated communion than on the other sex role identity traits (Smit, 2005). These findings further align to the significant, albeit slow move, towards greater gender equality between males and females within South Africa, as many females still seem to be bound to and are adopting traditional gender roles.

Based on these findings, while it is apparent that a significant proportion of females remain loyal to feminine stereotypes there are still a significant amount of females that embrace androgynous sex-roles, albeit both positive and negative androgynous roles, as a total of 46% were androgynous. Therefore, a large proportion of women drew virtues from masculine and feminine gender-roles by incorporating both aspects into their personality as represented by positive androgyny and a large proportion incorporated the detrimental traits or vices of both masculinity and femininity as represented by negative androgyny.

Very few women (approximately 13%) adopted predominantly masculine sex-roles alone, be they socially desirable or undesirable in nature. The small number of respondents that were categorised into these positive and negative masculine categories (4.81.% and 8.46 % respectively) reflects Woodhill and Samuel's finding in which only 8% of the respondents (of whom the majority were females) were considered negatively masculine and 11% positively masculine. In addition, in both the current research and Woodhill and Samuel's (2003) study there were a minimal amount of females who were classified into an undifferentiated gender-role (6.09%).

Perhaps the most noteworthy finding from this sex role identity dispersion is almost 45% of the women reported having socially undesirable sex role identities and accordingly approximately 52% of the sample embraced positive gender-roles. In the light of this finding, it is surprising that the vast majority of previous research has completely neglected the presence of these undesirable personality traits in individuals by only assessing for desirable sex-role traits within the vast body of research on sex role identity. There are only a few other studies that stress the need to distinguish between these sex role identities, e.g. Aube, 2008; Korabik and McCreary, 2000; Woodhill and Samuels, 2003 and Ricciardelli and Williams, 1995. Studies that only look at socially desirable sex role identities may therefore be theoretically and methodologically unsound. The present research's findings on South African female managers is thus unique in that it examines the differentiated

model in an organisational setting and it clearly indicates the import of distinguishing between socially desirable and socially undesirable sex-role personality traits in theory and practice, providing strong support for a differentiated model of sex role identity that considers positive and negative gender-roles as distinct entities.

9.4.2 The health outcomes for positively versus negatively valenced identities.

Underpinning the hypotheses proposed within the present study was the expectation that those with positively valenced identities would fare better than those with negatively valenced identities. Indeed, in all instances, that is, work stress, self-esteem and psychological wellbeing, the positive identities were significantly different to the negative identities, more specifically significantly different to negative androgyny and negative femininity. This expectation and the results of the present study's findings were aligned to previous research findings on the positive and the negative socio-emotional correlates of the positive and negative identities observed in research conducted on agency and unmitigated agency and communion and unmitigated communion (referred to in the present study as positive masculinity, negative masculinity, positive femininity and negative femininity). However, it must be noted that previous research has not examined this model within an organisational setting and thus this research was uniquely positioned in terms of its contributions to theory and knowledge of sex role identity within an organisational psychology context.

More specifically, research conducted by Aube (2008); Fritz (2000); Gallo and Smith (1998, 1999); Gallo, Smith and Ruiz (2003); Ghaed and Gallo (2006); Helgeson (1993, 1994) and Helgeson and Fritz (1996; 1998; 1999; 2000), all indicate that agency, unmitigated agency, communion and unmitigated communion have specific socio-emotional correlates that are, in turn, related to specific health outcomes.

In the more recent Ghaed and Gallo (2006) study, utilising the Interpersonal Circumplex Model (ICM) proposed by Wiggins (1996) and the Five Factor Model (FFM) proposed by Costa and McCrae (1992), distinctions between the social-emotional correlates of positive masculinity, positive femininity, negative masculinity and negative femininity were made. The Circumplex model, as described by Wiggins (1996), consists of two major dimensions, dominance-

submissiveness and hostility-friendliness, with eight octant scales contained between these dimensions. See Figure 28 below adapted from Ghaed and Gallo (2006).

Within this model the dominance-submissiveness continuum intersects with the hostility-friendliness continuum. Thus, dominance can tend towards two extremes. On the one extreme, that is, dominance- hostility; the dominance-hostile octants would indicate behaviour that would tend towards arrogance, behaviour that is cold and calculating, quarrelsome, argumentative, critical and/or self enhancing. On the other extreme, that is, dominance-friendliness; the dominance-friendliness octants would indicate behaviour that is imbued with leadership qualities including warmth, agreeableness and nurturance along with gregariousness and extraversion.

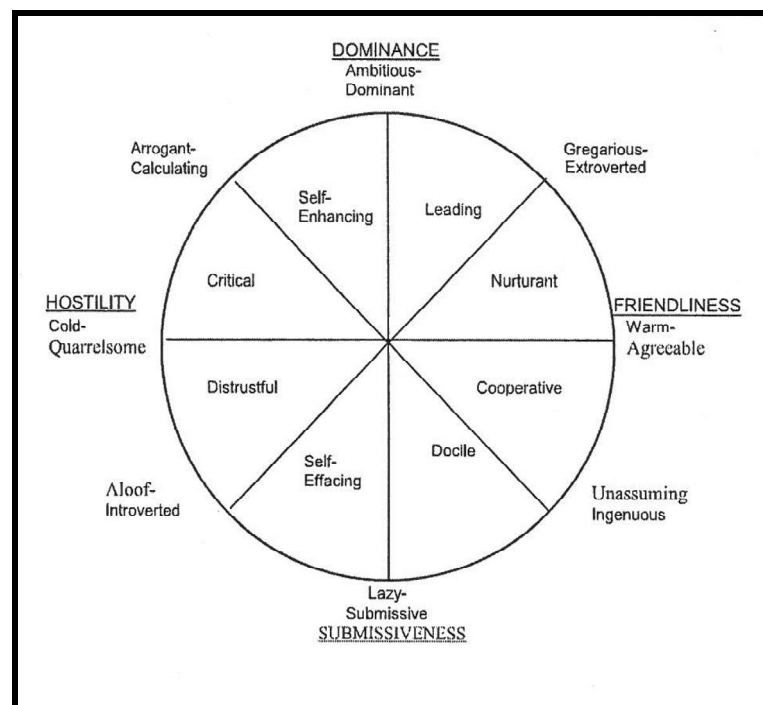


Figure 28

The Interpersonal Circumplex Model (Adapted from Wiggins, 1996)

Similarly with regard to submissiveness, this too can tend towards the extremes, that is, hostility and friendliness. The submissive-hostile octants indicate behaviour that may be passive yet aggressive, quarrelsome yet submissive and distrustful and/or shy. The submissive-friendly octants indicate behaviour that is docile, unassuming, cooperative, overly agreeable, and overly trusting, that is trusting to the point of being gullible, naive and submissive in terms of totally subsuming one's own needs to those of others.

Adopting this model, previous research on sex role identity has indicated that agency, that is, positive masculinity correlates with dominance in the "circumplex space" of the ICM, though more towards the friendliness end of the hostility-friendliness continuum; while also being associated with lower neuroticism, higher extraversion and conscientiousness that are characteristics contained within the Five Factor Model (FFM). Ghaed and colleagues (2006) further note that this research indicates that communion, that is, positive femininity tends to be highly correlated with agreeableness and conscientiousness within the FFM, along with the warmth, nurturance and cooperativeness outlined within the 'friendliness' circumplex octants (Aube, 2008; Fritz 2000; Gallo & Smith 1998, 1999; Gallo, Smith & Ruiz, 2003; Helgeson, 1993; 1994; Helgeson & Fritz 1996; 1998; 1999; 2000).

Although there is less research on negative masculinity and negative femininity and their socio-emotional correlates that which has been conducted indicates that unmitigated agency would be more highly associated with the hostile-dominant dimensions while unmitigated communion would show a greater association with both or either the hostile-submissive dimension (referred to as 'passive-aggressive' within the EPAQ) and the submissive (overly) agreeable dimension within the circumplex space (Ghaed & Gallo, 2006). Furthermore, both unmitigated agency and unmitigated communion have demonstrated associations with neuroticism, as described in the Five Factor Model, and thereby, greater associations with depression, anxiety and poor interpersonal relations, though these negative associations appear to be far greater for unmitigated communion as compared to unmitigated agency (Aube, 2008).

In both the Aube (2008) and Ghaed and Gallo (2006) studies these specific sex role identity-socio emotional correlates and specific outcomes were evidenced. Ghaed and Gallo (2006) predicted that

unmitigated agency or negative masculinity would be associated with a “blend of hostility and dominance” within the circumplex space and would further be associated with lower conscientiousness and higher neuroticism. Unmitigated communion would be associated with greater submissiveness and higher neuroticism. In terms of negative outcomes, they proposed that unmitigated agency would be associated with hostility, anger, aggression and poor social and emotional adjustment. Unmitigated communion would also be associated with hostility and anger and poor social and emotional outcomes though it would not be associated with the aggressive behaviours that would be manifested by those with unmitigated agency.

Ghaed and Gallo (2006) also made predictions relating the sex role identities to various types of attachment behaviour. Negative sex role identities would be likely to have anxious and/or avoidant attachment behaviours while positive sex role identities would be likely to have secure attachment behaviours. In relation to the present research these attachment behaviours and their association with specific identities seemed to have had implications for social support perception and utilisation (discussed in Sections 9.6 below).

In terms of their findings, Ghaed and Gallo (2006) demonstrated that in relation to the Circumplex Model, positively masculine or agentic individuals did display dominance, however, this dominance was of a constructive form and was associated with leadership, independence and assertiveness. Positively masculine individuals also tended to channel anger in a manner that was constructive. Furthermore, they tended to display secure attachment, the ability to establish secure social support networks and were generally well embedded within a network of supportive attachments. They also experienced less emotional distress and were lower in anxious attachment. These findings are aligned to the healthy dependency (HD) attachment described in the study by Bornstein and colleagues (2004) which was noted to be associated with masculine and androgynous individuals.

With regard to negative masculinity, negatively masculine individuals demonstrated greater hostile-dominant behaviours and were significantly more aggressive, both verbally and physically. They tended to use anger in destructive ways, suffered greater emotional distress and tended to perceive a greater degree of social conflict. Negatively masculine individuals also displayed greater destructive rumination which, as noted by Addis (2008) and Nolen-Hoeksema (2008), is associated with greater

depression and anxiety. In addition, negatively masculine individuals perceived far less social support and did not consider themselves to be embedded within a network of supportive relationships. This constellation of behaviours could also be aligned to the destructive detachment behaviour (DD) described by Bornstein and colleagues (2004).

For negative femininity, it was demonstrated that the outcomes for such individuals were even more deleterious than for those that were negatively masculine (Ghaed & Gallo, 2006). Negatively feminine individuals reported the greatest emotional distress, tended to be more fearful and mistrustful in interpersonal relationships and displayed attachment that was characteristically avoidant and/or anxious, much like the insecure attachment of destructive overdependence (DO) described by Bornstein and colleagues (2004). In addition, negatively feminine individuals could also show feelings of anger and hostility though this was rarely associated with physical aggression. Ghaed and Gallo (2006) further noted an association with interpersonal submission and verbal aggression which would coincide with the passive aggressive behaviour identified by Spence et al (1979) in the F_{VA} component of the negative feminine subscale of the EPAQ. Furthermore, negatively feminine individuals were greatly predisposed to anger rumination which, as mentioned previously, is linked to greater depression and anxiety (Addis, 2008; Nolen-Hoeksema, 2008).

Negatively feminine individuals could also use their anger in a destructive fashion within interpersonal contexts. Thus, although these overly independent (DO) individuals would likely wish to maintain social ties, as they do tend to manifest neediness in their interpersonal relationships the way in which they engage with others could tend to be destructive and therefore, may have the unintended consequence of impairing those very social relationships that they wish to 'cling' onto.

With regard to positive femininity, Ghaed and Gallo (2006) noted that those that were positively feminine were low on aggression and avoidant attachment, were unlikely to be hostile in their interpersonal interactions and tended to enjoy significantly more supportive relationships than their less communal counterparts, even their positively masculine counterparts (Ghaed & Gallo, 2006). These findings provided further support for the specificity hypothesis for social support, suggesting that those high on communion would be more likely than those that are positively masculine to have stronger social support networks.

In relation to the Five Factor Model, both positive masculinity and positive femininity were both related to higher conscientiousness, with masculinity being associated with lower neuroticism and higher extraversion and femininity being associated with higher agreeableness. While no significant findings for unmitigated agency and unmitigated communion in relation to the FFM were reported within the Ghaed and Gallo study (2006), previous and later research has indicated associations of both with higher neuroticism, particularly for unmitigated communion or negative femininity (Aube, 2008; Fritz, 2000; Helgeson & Fritz, 1998).

Aube (2008) in her study on communion (C) and unmitigated communion (UC) specifically focused only on the socio-emotional correlates of these two sex role identities. She demonstrated that not only was unmitigated communion associated with higher levels of depression and poorer subjective wellbeing (the converse being demonstrated for communion); but that UC or C respondents' own ratings of lower or higher wellbeing corresponded to ratings provided by the peers of these respondents. Furthermore, Aube (2008) attempted to unravel the association between neuroticism and UC and depression. It has been suggested that UC may simply be a closely-mirrored reflection of the neuroticism personality trait. It is therefore neuroticism that contributes to depression not UC and UC in essence is not measuring that which is much different to the neuroticism construct. The unravelling of this association is thus of import as it provides evidence that unmitigated communion and neuroticism are separate albeit related constructs. In this regard Aube (2008) did a longitudinal evaluation of individuals over a ten year period in which they were measured for neuroticism, UC and depression at two specific points in time (age 31 and age 41 years). Within this longitudinal study it was demonstrated that UC at Time 1 was related to poor psychological adjustment and was positively associated with depression ten years later. In addition although UC and neuroticism were positively correlated, UC was found to contribute significantly to depression *after* controlling for the contribution of neuroticism to depression.

Consequently in the light of the *all* of above findings on the negative identities within all the above studies, the findings within the present research which indicated that those with negative identities perceived greater work stress and suffered poorer health outcomes in relation to this stress, were congruent.

However, as previously mentioned in the present research's findings, there was *one stark exception* within the findings for the negative identities and this was evidenced in relation to negative masculinity. In almost all instances within the present study; with the exception of self-esteem and non-work sources of support where positive androgyny and negative masculinity were significantly different; there were *no significant differences* between any of the positive identities and negative masculinity. Those that were negatively masculine did not, in most instances, fare significantly more poorly on wellbeing indicators as compared to those with positive identities. In addition, in some instances negative masculinity fared significantly better than negative androgyny and negative femininity (as seen in relation to self-esteem and wellbeing) and fared better than negative androgyny (as in relation to colleague support).

Thus, although the numerous studies outlined above indicate that negative masculinity or unmitigated agency would be a poor predictor for health and wellbeing this was not entirely evident in the present study. There are a number of possible explanations for the lack of significant differences between negative masculinity and the positive identities which may be specific to the sample under study and the socio-cultural context within which this sample resides. These explanations are outlined below.

9.5 STATISTICALLY NON-SIGNIFICANT AND COUNTERINTUITIVE FINDINGS

As noted in the hypotheses those that were negatively androgynous were expected to fare slightly better than those that were negatively masculine, followed by those that were negatively feminine. However, this was not the case. Within the present study the findings were not consistent with this order of predictions and these findings contribute to theory in that they suggest that within South African culture and society slightly different predictions with regard to negative masculinity may indeed be evident. Although negative masculinity fared less well than the positive identities in terms of order of means; in virtually all instances, negative masculinity *did not* fare significantly worse than negative androgyny and *did not* fare significantly worse than the positive identities, more specifically positive masculinity and positive femininity. Thus, a degree of specificity with regard to negative masculinity and the sample and the socio-cultural context within which these negatively masculine individuals resided may have been of import. An explanation of these findings is detailed below.

9.5.1 When negative masculinity is a ‘positive’: The counterintuitive findings for negative masculinity

Alternative explanations for the unexpected non-significant findings between negative masculinity, negative androgyny and the positive identities may possibly lie in an examination of where this identity lies within the circumplex space of Wiggins’ (1996) model; the extent to which individuals’ identities may be *blended* and the extent to which negative masculinity traits correlate with those of social dominance.

With regard to positioning within the circumplex space and blended identities: Across the continuum, between hostility and friendliness within the circumplex space it is possible that negatively masculine females may have had *a range of traits* that lie somewhere between the ends of the continuum, that is mainly left (dominance-hostility), but with some tendencies slightly to the right (dominance-friendliness) (See Figure 30 above). In such an instance, while negatively masculine females may have traits that are predominantly dominant and hostile they may also be prepossessed of a modicum of cooperative and friendly traits. This shift along the continuum may therefore have accommodated a *blend of behaviours* within some of the sample’s negatively masculine females which could have served to advantage their wellbeing.

The occurrence of blended identities may be a product of the use of ‘measures of central tendency’ utilised in all scoring methods of sex role identity scales. As mentioned previously, the z-score method was utilised in the present study. This method categorises individuals according to which subscale they have the highest positive z-score value for. Woodhill and Samuels note that while this method represents some improvement on previous methods of scoring in which raw scores are simply summed and not converted to z-scores, this method is not without its limitations. They note (p. 559) that the categorical method of classification according to scores relative to a mean is “arguably a less than perfect way” of identifying sex role types. This method is still “insensitive in that members within a category are treated as though they have the same scores and it does not account for the variation expected in the strength of people’s [sex role] identities” (p.559). Although this method is the most commonly used to date as it conveniently allows researchers to establish groups that can link their results to the larger body of literature, it “does not allow the examination of the variation expected in the strength” of people’s sex role identities, that is it does not allow for

the examination of *within-sex role group differences* (p. 559). Therefore, while some respondents may well have had a categorisation of negative masculinity the strength of their identity may have varied. In addition, they may still have been prepossessed of a sufficient level of positive masculine and/or feminine traits, albeit of insufficient strength to provide them with a categorisation for one of these positive identities. In such an instance this may have provided them with *some* advantage over those that were predominantly or *strongly* negatively androgynous or negatively feminine, who may *not* have had a sufficient prepossession of positive identity traits ‘blended’ within their negative identities.

Accordingly, while one is categorised as negatively masculine utilising the z-score method this does not take into account the ‘strength’ of one’s categorisation and does not mean that one is *not* possessed of *some* degree of positive masculinity and/or positive femininity. Negatively masculine individuals may have scored below the cut-off point for either or both positive masculinity and positive femininity but this is not to say they are ‘absent’ of such traits. If indeed there were instances where negatively masculine females were possessed of a sufficiently high enough level of positive identity traits, albeit not sufficient for a categorisation, they would enjoy some of the health benefits of the positive identities.

Alternatively, those categorised as negatively masculine may have been prepossessed of levels of negative femininity that were *so low* that they did not suffer the drawbacks of either negative androgyny or negative femininity. As negative femininity has been the identity which has been consistently associated with the worst health outcomes, having no or very low negative feminine traits, as contained in the negatively feminine or negatively androgynous categorisation, may be health-optimising. Therefore, those that were negatively masculine combined with an absence or only the slightest level of negative feminine traits, insufficient to exert a deleterious influence, would be better off.

Furthermore, if one examines the possibility of blended identities in relation to theories of social dominance, where negative masculinity is blended with a measure of some positively valenced identities then the absence of significantly poorer health outcomes experienced by negatively masculine females as compared to those with positive sex role identities and the significantly better

outcomes for negative masculinity as compared to negative androgyny and/or negative femininity can be further explained. In this regard, one also needs to examine social dominance within the socio-cultural context of South Africa where it is possible that negatively masculine traits may not always be conceived of as undesirable with values of dominance and aggression, at times, being perceived of as advantageous and even ‘prized’.

According to Hawley (1999) social dominance, which occurs within the context of the group, can be defined as a “differential ability to control resources using pro-social or coercive strategies” (Hawley, 1999, p. 105). This approach notes that “survival, growth and development oblige resource acquisition and resource acquisition compels competition” (Hawley 1999 p. 97). The roots of such social dominance are established in early childhood with much of the literature on social dominance examining children’s behaviour within the classroom as they compete for resources within their peer group and learn to get their needs met through the use of either or both pro-social or aggressive strategies (Braza, Azurmendi, Munoz, Carreras, Braza, Gracia, Sorozaabal & Sanchez-Martin, 2009; Choi, Johnson & Johnson, 2011; Kalma & Peeters, 1993; Roseth, Pellegrini, Bohn, Van Ryzin & Vance, 2007).

Hawley (1999) notes that this social dominance developed in early childhood has relevance for the social organisation of adult individuals. However, the “demeanour” of the social dominance behaviour of early childhood changes dramatically in adulthood as children realise that aggression, which is a central feature of dominance, is unacceptable and that they need to learn to behave more pro-socially (Hawley, 1999 p. 98). To the extent that children learn the precise and socially desirable combination of pro-social and coercive strategies to utilise through positive and negative reinforcement so will they be able to successfully gain resources for themselves, thereby successfully attaining satisfaction of their own needs. Successful dominance strategies thus become embedded into one’s behavioural repertoire and are “refined and finessed” into adulthood with individuals utilising these strategies in a combination of cooperativeness and competition within their social environment (Hawley 1999, p. 98). The acquisition of such ‘successful’ strategies implies a social intelligence which enables general effectiveness and adaptation in the environment. Thus, while children are learning socially appropriate gender behaviour (as described in the theories of gender development in Chapter 5), so too are they learning what behaviours are

appropriate and socially acceptable in order to gain control of resources they deem necessary to satisfy their needs.

In fact, the literature on social dominance acknowledges that there are gender differences with regard to strategies utilised to gain dominance and control of resources (Charlesworth, 1988). With regard to gender, developing males/boys may be more prone to 'surgent' coercive strategies while developing females/girls are more likely to use more subtle forms of pro-social coercion. Charlesworth (1988) notes that behaviours that are surgent, that is, agonistic, coercive and overly self-oriented, ultimately jeopardise relationships. Such behaviour, if one examines the scales that measure social dominance, are similar in content to the aggressive, dominant, unprincipled behaviour of negatively masculine individuals (Kalma & Peeters, 1993). The alternative to this exploitative behaviour identified in the social dominance literature is that which is more cooperative and pro-social. Accordingly, behaviours that are more communal in terms of pro-social cooperativeness are seen as a means to attain dominance while still preserving relationships within the group. Though specifically, such communal behaviours should not be overly self-sacrificing as would be seen in those that are negatively feminine who may be overly nurturant and concerned with the welfare of others. In such an instance the individual would not attain dominance and in fact would be regarded to be submissive.

Hawley (1999) notes that successful dominance, and thereby successful adaptation to one's environment, would require the acquisition of behaviours that "delicately balance" coercion with cooperativeness, which she refers to as "competing with finesse" (Hawley, 1999, p. 105). Such competing with finesse requires a subtle balance between coercion and a range of cooperative behaviours from the more socially acceptable forms of ingratiation, reciprocity or the promise thereof and the forming of alliances to those that may be less socially acceptable, that is, manipulation and deception (Hawley 1999). Thus, the approach is one that is 'strategy based' allowing individuals to meet their own needs, utilising complex and flexible strategies that may range from coercive to cooperative enabling the individual "to navigate their way through the complex social landscape" within which one finds oneself grouped (Humphrey, 1976, cited in Hawley 1999, p.107).

An examination of the surgent and cooperatively coercive behaviours described in the literature on social dominance, the behaviours described within the literature on sex role identity and the behaviours described within the Wiggins ICM (1996) reveals that there is an *alignment or intersect* between these sets of behaviours. Thus, those that are negatively masculine are more likely to display behavioural traits that are coercively surgent, agonistic and aggressive while those that are positively masculine and positively feminine are more likely to display behaviours that are pro-social and cooperative. Though there would likely be a greater degree of cooperativeness amongst those that are positively feminine than those that are positively masculine, as the latter would be likely to display *more* dominance, albeit in a pro-social fashion. It is therefore possible, within this study's sample, that negatively masculine individuals, may have been prepossessed of some blend of socially desirable masculine and/or feminine traits, and thus may have been able to 'navigate their way through their social landscape' with 'slightly more finesse' than those that were negatively androgynous or negatively feminine, who may not have been prepossessed of a sufficient level of these traits. In addition, this may account for negative masculinity *not* faring significantly worse than those with positive sex role identities.

Another possible explanation as to why negative masculinity did not differ significantly from the positive identities and at times did differ significantly from the remaining two negative identities may be due to a shift in social and cultural perspectives, particularly within South African culture where there may be perceived 'value' towards being dominant and aggressive (Cornwall, 1997; Groes-Green, 2009; Pratto, Liu, Levin, Sidanius, Shih, Bachrach & Hegarty, 2000; Strebel, Crawford, Schefer, Cloete, Dwadwe-Henda, Kaufman, Simbayi, Magome, & Kalichman, 2006).

In the study conducted by Strebel and colleagues (2006) with Coloured and Black communities in South Africa on social constructions of gender and gender based violence, the social systems that influences access to power, material resources and status were examined. In particular, this study noted that South African men within these communities possess greater control and power in their relationships with women. Behaviours that characterise this control and power are those of emotional and physical dominance and aggression with women expected to "abide by (men's) law" (Strebel et al., 2006, p. 519). Within these communities it appears, that values that exalt men's status to being "the man in charge" normalise the dominance and aggression that men exert over

women (Strebel et al., 2006, p.519). Strebel and colleagues (2006) note that these traditional gender power relations are recognised, accepted and customary. Such hegemonic values, appear to be representative of the negative masculinity constellation of traits, described within the EPAQ, namely that of aggression, toughness, arrogance, entitlement, dominance, hostility, dictatorialness, and in general the superiority of males over females. If indeed these traits are representative of traditional culture and values in terms of gender relations, it offers some explanation as to why individuals with such values appear to have health outcomes that are not as negative as expected.

How does this masculine behaviour as evidenced within South African males relate to females within the present study? Boonzaier (2005) and Strebel and colleagues (2006) note that the discourse around gender relations in South Africa has undergone a shift, emphasising the enhanced power and dominance of women in both economic and domestic spheres. In recent years as government imperatives emphasise gender equality and women's rights, while traditional hegemonic roles are still very much in evidence, there has been a shift in the power balance between men and women. As more and more women enter employment, are promoted by affirmative action and equity imperatives and gain positions of power, the balance of economic power has shifted. Although traditional gender roles of male dominance and a limited sphere of influence for women is still the norm, this shifting of the balance of power, albeit a moderate shifting, has seemed to have imbued women with a sense of 'retaliatory' power over men, with women taking on the hegemonic characteristics of their former 'exploiters' (Boonzaier, 2005; Strebel et al., 2006). Thus, women in their ascendancy to positions of power within the economy and within the home seem to be taking on the self same characteristics of aggressively dominant males; becoming far more dominant, aggressive and assertive in their behaviour. Such behaviour appears to be not only on the increase amongst women but is also seen as acceptable and socially desirable. Strebel and colleagues (p. 520, 2006) note this shift has manifested in the form of women "challenging" gender role stereotypes and "fighting back"; asserting their power and dominance over men and considering that such "retaliatory" behaviour is perfectly justified and acceptable. This evidence of shift, albeit a moderate shift, in which values centred around dominance appear to be respected and valued and are being adopted by females offers a possible explanation as to why negatively masculine female managers within the present study 1) did not suffer significantly poor or poorer outcomes as compared to those that had positive identities and 2)

fares significantly better than those female managers that were negatively feminine and /or negatively androgynous. It also offers a unique understanding of the extent to which outcomes for negatively masculinity may be slightly nuanced and in this regard slightly more beneficial within South Africa.

Although not in specific reference to South Africa, Ghaed and Gallo (2006) also comment on the possible self-enhancement of those that are negative masculine which could lead to them seeing themselves in a more idealised light and having an inflated sense of self. Such negatively masculine individuals, in times of stress, may thus have the capacity to inure themselves to some extent from harm which manifests in less impaired health and wellbeing as compared to other identities lacking in such 'toughness'.

9.5.2 The health benefits of the undifferentiated identity

As discussed within the hypotheses no order of effect was predicted for the undifferentiated identity. It has been suggested that those that are undifferentiated may have a sex role identity that is 'unpredictable' or lacking in terms of any 'clear preference' with regard to sex-based traits (Spence, 2000 as cited in Woodhill and Samuels, 2003). Spence (2000) in fact notes that such individuals would score below the mean or median on all identities. It may therefore be possible that such individuals would fare worse on health and wellbeing than the positive identities; and possibly slightly better on health and wellbeing than the negative identities. Thus, it was not entirely unexpected, within the present study that this identity did fare significantly better than the negative identities on wellbeing indicators, more specifically those that were negatively feminine and/or negatively androgynous. What was somewhat more unexpected was that this identity did not fare significantly worse on wellbeing than the positive identities.

By examining and understanding what the undifferentiated identity represents, both theoretically and empirically, some explanation of the possible health benefits that may be associated with the undifferentiated sex role identity are suggested. Theoretically, one would be categorised as undifferentiated in terms of sex role identity if one's score on masculinity and femininity were below the measure of central tendency utilised to categorise respondents, most commonly, the mean or the median or, as in the case of the present study, the z-scoring method. Thus, those that were

lower on positive masculinity and positive femininity and/or lower on negative masculinity or negative femininity would be categorised as positively and/or negatively undifferentiated. While the health benefits of being low on negative traits are clearly evident, particularly for negative femininity; scoring low on traits that enhance competence and social relationship skills would not be advantageous. Having low scores on positive masculinity and/or femininity would imply that one has less in terms of ‘competency cluster’ traits and/or less in terms of social interpersonal traits which could impair one’s ability to adapt to and cope with stressors.

Empirically, however, with regard to those that may have been positively undifferentiated, the possibility exists within the z-score scoring method that these individuals may still have been possessed of both positive masculine and positive feminine traits albeit to a slightly lower level, perhaps even ‘just below’ the cut-off point. The presence of these positive feminine and/or masculine traits, although not of a sufficiently high enough level to categorise the individual into one or more of the positive identities individually may have exerted *some* positive effect on perceptions of stress, self-esteem and psychological wellbeing. This would serve as some explanation as to why those who were undifferentiated often did not fare significantly worse than those with positive identities.

Conversely, those that were negatively undifferentiated would be prepossessed of lower levels of negative traits as compared to those categorised as negatively androgynous or negatively feminine and would therefore be expected to fare better with regard to perceptions of stress and wellbeing than those whose traits on the these negatively valenced identities were high enough for a categorisation.

9.6 TWO-WAY ANOVA’S: WORK STRESS, SEX ROLE IDENTITY, PSYCHOLOGICAL WELLBEING AND SELF-ESTEEM.

When the relationship of the sex role identities to psychological wellbeing and self-esteem were examined under low, medium and high stress conditions a slightly different pattern of effect was observed. What was particularly anomalous were the means for positive and negative masculinity under varying conditions of stress. Although those that were positively masculine had the lowest perception of work stress in general as evidenced in the one way ANOVA of work stress and

perceptions of negative masculinity for work stress was higher, the pattern of effect for the masculinities altered within the two-way ANOVA's

The lowest perceptions of stress for positive masculinity within the one way ANOVA was not entirely surprising given the extensive argument proposed in the literature on the Masculinity Model (Smiler, 2006; Smiler & Epstein, 2010). The Masculinity Model argues that it is masculinity, which is associated with a number of competency cluster traits that will predict the best possible health outcomes, in this instance lowered perceptions of work stress and thereby lesser impact on health and wellbeing (Orlofsky & O'Heron, 1987; Whitley, 1983). As discussed in Chapter 6, the traits described in many masculine inventories and certainly within the EPAQ positive masculine subscale, are associated with traits described within the competency cluster, that is, traits of independence, assertiveness, self-esteem, self-efficacy, hardiness, mastery, ambition, internal locus of control, initiative and pro-activeness (Gerdes et. al, 1980). Meta-analytic studies have in fact indicated that overall, on subjective indicators of wellbeing, it is masculinity that has demonstrated consistent positive outcomes (Bassoff & Glass, 1982; Orlofsky & O'Heron, 1987; Taylor & Hall, 1982; Whitley, 1983; 1985; Wajsblat, 2011) Consequently this finding was not entirely unexpected and lends further support to the Masculinity Model.

However, within the Two-way ANOVA this pattern was not replicated and the change in pattern of effect for positive masculinity and negative masculinity under varying stress conditions that was observed was unexpected. As can be seen in Tables 30 and 34 and Figures 17 and 18 in Chapter 8, the order of means for the masculinities did not replicate those evidenced in the one way ANOVA's. That is, all identities *with the exception of negative masculinity* showed significantly poorer outcomes under varying stress conditions. While within-group differences on group means under high-low, high-medium and/or medium-low stress conditions were evidenced for all of the remaining identities, that is, positive and negative androgyny, positive and negative femininity, positive masculinity and undifferentiated, on both psychological wellbeing and self-esteem; this was not the case for negative masculinity.

Of note were the findings that positive masculinity, under the high stress condition had the lowest level of psychological wellbeing and the third lowest level of self-esteem; while negative

masculinity had the highest level of wellbeing and the second highest level of self-esteem under the self-same condition. These findings were contrary to most research evidence on the masculinities (as discussed in the literature review chapters) and may be contextually bound to both the South African setting, the sample under study and the organisational context within which this sample was employed. As such these findings expand the theory and knowledge on sex role identity by indicating that within specific cultures and contexts different patterns of effect in relation to particular identities may emerge.

With regard to positive masculinity these counterintuitive findings may be explained if one takes into account the *three-way intersect* between the Differential Exposure Hypothesis (discussed in Chapter 3); the link between masculinity and Type A behaviour and the male-dominated work environment in which masculine females managers may find themselves.

According to the differential exposure hypothesis it is noted that women in general are exposed to more stressors by virtue of their ‘sex’, that is, they are expected to take on more roles pertaining to work and family. Thus, women may have their work stress compounded by the family roles that they have to deal with. In terms of the Conservation of Resources Model, women consequently may experience a greater erosion of their personal resources as they are required to deal with role demands on both home and work fronts. The Conservation of Resources Model (Hobfoll, Freedy & Geller, 1990) notes that an individual has both personal and social resources and that in times of stress these resources are drawn upon in order to help the individual cope with demands. However, these resources are not infinite, and if the individual is overburdened by excessive demand these resources can be depleted. Women, who may be faced with greater demands than men as they have to manage both work and family roles, may consequently find that their resources are depleted more rapidly.

Furthermore, research on masculinity and Type A behaviour has indicated that the “aggression-hostility, hard-driving, time-urgency and speed-power” (Dohi, Yamada & Asada, 2001, p. 84) of Type A’s may be correlated with many of the traits found in masculinity inventories of masculine behaviour (De Gregoria & Carver, 1980; Dohi, Yamada & Asada, 2001; Stevens, Pfof and Ackerman, 1984). Such traits are competitiveness, ambition, dominance, self reliance, and

decisiveness, that is, traits of positive masculinity (M+) and aggression and hostility, that is, traits of negative masculinity (M-). Consequently, in spite of the plethora of evidence relating positive masculinity to beneficial health outcomes, this masculine response style for females, already under the oppression of differential exposure, may be problematic in relation to wellbeing (Stevens et al., 1984).

In fact, research has indicated that female managers may, in certain circumstances, display higher levels of Type A behaviour than their male counterparts; such a pattern of behaviour arising not only out of the characteristically greater ambition associated with Type A but also out of the additional time pressures, that is, the differential exposure to stressors that women face as a result of the work family interface (Davidson & Cooper, 1987; Fielden & Cooper, 2001; Rees & Cooper, 1990). Therefore, if there is an intersect between masculine females and Type A behaviour; women with a masculine, highly competitive, ambitious orientation, driven to succeed in the workplace alongside having to deal with greater home and family demands could become overwhelmed. Elliot (1995) notes that such women could be at the greatest risk for coronary heart disease, more especially, if they are married and have young children. Thus, positively masculine females may experience health effects that are the most deleterious as compared to those that are less masculine and more feminine in high stress conditions. In fact, contrary to the masculinity hypothesis, research has indicated that femininity may actually moderate the deleterious impact of Type A personality on wellbeing (Dohi et al, 2001). Therefore, for women with a more feminine orientation, the impact of Type A behaviour upon them may be less.

The extent to which the organisations within which masculine females are employed are male-dominated or within which the cultural values are masculine may also be implicated in the present study's findings. In male-dominated domains, in order to be successful and accepted within the circles of power, women may often feel the need to be more masculine in their gender-role orientation. However, this adoption of masculinity is a double-edged sword in that it forces a compromise on the part of women to be more assertive while at the same time exposing them to agentic backlash from both their male *and* female counterparts. Agentic backlash occurs when masculine females encounter hostility and resentment from their colleagues for being too tough and 'manly' (Korabik, 1990; Rudman & Glick, 1999, 2001; Rudman & Phelan, 2007). This enforced

compromise with the ensuing agentic backlash that it can incur can lead to women experiencing a degree of alienation and isolation from their colleagues and places undue pressure on them while they are trying to succeed (Marshall, 1995). Furthermore, lack of success or failure has far greater ramifications for women competing in a male-dominated world than their male counterparts. Male resistance to women within managerial roles may make failure all the harder, inevitably impacting upon the self-esteem of the female manager who is less than successful or fails at her role within a male-dominated – think manager- think male culture (Schein & Muller, 1992). Smith, Loving, Crockett and Campbell (2009) note that for males, cortisol response increases in situations where they are exposed to achievement-based stressors. While their study examined the cortisol responses of biological males and females it is possible that masculine females may experience the same or similar negative physiological responses in achievement-based pressure situations.

Within the present study females were predominantly sampled from the financial sector and as this environment continues to be one that is characteristically male-dominated, masculine females in this study may well have been subjected to the aforementioned pressures which would have exacerbated their experience of stress, both psychologically and physiologically, increasing negative impact on their self-esteem and wellbeing.

However, the pattern for negatively masculine females did not manifest in the same way as for those that were positively masculine under varying stress conditions. Negative masculinity had the lowest mean on psychological wellbeing under conditions of high stress indicating that those that were negatively masculine had the greatest sense of wellbeing in this condition. In addition, there were *no within group significant differences* amongst the means for negative masculinity on psychological wellbeing under low, medium and high stress conditions. These findings seem to suggest that negatively masculine individuals may be less emotionally labile or responsive as compared to positively masculine females under conditions of stress. They may have the capacity to detach themselves to a greater extent from external stressors and are thus able to inure themselves to some extent from the threat that these stressors should pose. This ability to detach aligns with the DD attachment described by Bornstein et al., (2004). Although referred to as destructive detachment it appears in certain instances that the ability to detach can serve as a protective defence.

A similar pattern of effect for the masculinities was observed for self-esteem under varying stress conditions. Although the model for self-esteem, with regard to the interaction term *was not* significant within the two-way ANOVA, significant main effects were observed. Under the high stress condition positive masculinity had the third lowest level of self-esteem; while negative masculinity had the second highest level of self-esteem. In addition, positively masculine individuals seemed to suffer greater deleterious impact upon their self-esteem under increasing levels of stress (as did all the other identities) while no significant differences were observed between the means for negative masculinity across the low, medium and high stress conditions.

As explained previously, the compounded conditions of differential stress exposure, the association of masculinity with Type A characteristics for masculine females; possible experience of agentic backlash and fear of failure in a male-dominated work culture; could manifest in a more severe impact on self-esteem for positively masculine females. Although negatively masculine individuals may experience similar compounding conditions, their ability to detach themselves may protect them from the negative impact of these compounding demands. In addition, their ability to dominate and accrue resources for themselves may have served to protect them to some degree.

To summarise and conclude on the two-way ANOVA findings, the present research made a further contribution by identifying *specific conditions* which may alter the relationship between sex role identity and wellbeing indicators. In this regard there was a degree of specificity for positively and negatively masculine females under varied conditions of stress. Thus, while the literature suggests that masculinity is often associated with the greatest wellbeing, in certain instances masculinity, specifically for females, can have costs as well as benefits. While positive masculinity is associated with competency cluster traits that facilitate higher self-esteem, enhanced coping with stress and greater wellbeing, in excessively high demand situations where a masculine female is expected to deal with work and home demands, is competing within a male-dominated work environment where she may receive less support at work from male counterparts in times of stress and may further be critiqued for her masculine tough and assertive manner; all of these factors can compound and can act as a drawback or a counter to the supposed benefits of masculine women's wellbeing. Future research may therefore need to examine the specific environmental conditions within which females are operating in order to determine which sex role identity will predict the greatest health outcomes,

remaining cognisant that the ‘usual’ sex role identities, that is, masculinity and/or androgyny may not always be the most predictive of health, depending on the circumstances.

Furthermore, with regard to negative masculinity this identity may not predict as poorly on outcomes as the literature proposes. The present research suggests that negatively masculine individuals seem to be inured to some extent to variations in stress conditions, in that they do not seem to suffer any increasing deleterious outcome as stress conditions become more extreme. In this regard negative masculinity fared better than all the other identities, all of whom show significantly poorer wellbeing and lowered self-esteem as stress exposure becomes greater. As discussed previously, negative masculinity is correlated with dominance and if this dominance is blended with some pro-social cooperative strategies this may even serve to advantage negatively masculine individuals in certain instances and protect them from worsening demand situations.

Thus, while there appears to be a general “holding pattern” with regard to the sex role identities and health outcomes, there does, nevertheless, seem to be a ‘specificity hypothesis’ operating that indicates that there may be variations in this pattern depending on the characteristics of individuals concerned, the circumstances within which they find themselves and the type of stressors that they are exposed to.

Overall the lack of significant differences between negative masculinity and the positive identities may possibly be a function of individuals within this identity still being prepossessed of some positive masculinity and femininity which seemed to advantage them as compared to those that were *purely* negatively masculine or negatively androgynous or negatively feminine, with regard to health and wellbeing outcomes. The association of negative masculinity traits with those of social dominance also appears to play a beneficial role. Furthermore, there seems to be some socio cultural shift in terms of the extent of deleterious drawbacks regarding the negative masculine identity and it is possible, given these societal and cultural shifts; that negative masculinity traits may in fact be perceived of as advantageous. Previous research conducted by the current researcher on sex role identities and wellbeing amongst male and female first year University students also indicated that those that are negatively masculine do not experience significantly different high levels of academic stress and low self-esteem as do the other negative identities when compared to

the positively valenced identities (Chemaly and Bernstein, 2011). While it is clear that the positive identities certainly seem to have better health outcomes, negative masculinity may not be as strong a predictor of poor or poorer health outcomes as previously expected. (It is also important to note that the findings in the aforementioned study did indicate that the EPAQ-R evidences internal consistency and the four factor structure *between* sampling, that is on both the all female managerial sample within the present study and the male and female sample of first year students utilised in the Chemaly and Bernstein (2012) study).

While much has been made of the findings for negative masculinity in both the one-way and two-way Anova's for work stress, psychological wellbeing and self-esteem, the findings for social support differed with regard to this identity. The social support findings in relation to the all of the sex role identities and the specificity hypothesis that emerged are discussed in detail below.

9.7 ONE WAY ANOVA'S: SEX ROLE IDENTITY AND SOCIAL SUPPORT

As previously discussed in Hypothesis 5, the intention was to examine whether the various sex role identities differed in terms of perception of sources of available social support. It was expected that those who had positive sex role identities would perceive the greatest amount of social support, while those who had negative identities would perceive the least amount of support. However, as social support is an expressive domain it was expected that those who were positively feminine would fare better than those that were positively masculine. Thus the order of prediction was altered slightly to that of A+, F+, M+ followed by the negative identities. Once again no prediction was proposed for undifferentiated (Au). With regard to positive identities, this expectation was based on research that has indicated that those with positive sex role identities tend to display "positive and pro-social personality traits" (Bornstein et al., 2004; Ghaed & Gallo, 2006; Kitamura et al., 2002; Monnier et al., 1998).

The positive identities would be likely to have more positive personality traits, greater social competence and would be more able to build and utilise intimate interpersonal networks of support as opposed to those with negative personality traits contained within the negative sex role identities. For example, positive personality traits such as being high on extraversion and low on neuroticism are associated with more extensive and more robust networks and with greater pro-social support

utilisation. Such pro-social engagement would further bolster one's network, enabling one to build and consolidate interpersonal relationships and increase the availability of future potential support (Bornstein et al., 2004; Ghaed & Gallo, 2006; Kitamura et al., 2002; Monnier et al., 1998). Negative personality traits such as high neuroticism and aggression are associated with smaller and more ineffectual networks and antisocial support utilisation. Anti-social engagement could, in turn, deplete or exhaust the lesser or limited resources available in one's network to such an extent that it could even eliminate the possibility of future potential support. Antisocial support utilisation could thus *alienate* supporters, to the point that they disengage and withdraw from the recipient's network altogether (Bornstein et al., 2004; Ghaed & Gallo, 2006; Kitamura et al., 2002; Monnier et al., 1998).

With regard to the feminine sex role identity, more particularly the positively feminine identity, the expectation that positively feminine females would fare better than positively masculine females was based on research that has predominantly indicated that those that have been socialised in a feminine way or those who have adopted more feminine traits would be better able to seek out and utilise support as opposed to those whose socialisation has been more masculine or those who have adopted more masculine traits (Belle, 1982; Neff & Karney, 2005; Reevy & Maslach, 2001; Smith et al., 2009). Those who adopt more positively feminine sex roles which specifically emphasise caring, kindness and warmth and a high concern for the welfare of others are far more capacitated in terms of establishing networks of support in which there is social engagement characterised by reciprocal concern. Positively feminine individuals are socialised to engage in a more intimate fashion with significant others and not only are able to provide more caring for others but are able to elicit the same in return (Belle, 1982; Reevy & Maslach, 2001; Smith et al., 2009).

Attachment behaviour is also implicated in the ability to develop and effectively utilise social support networks, with attachment behaviour, in turn, being linked to positive and negative sex role identities (Bornstein et al., 2004; Ghaed & Gallo, 2006; Kitamura et al., 2002; Monnier et al., 1998). More specifically, research on attachment behaviour that is secure versus avoidant, anxious and/or insecure has indicated that those with secure attachment would be more likely to engage in more pro-social social support while those with avoidant, anxious and/or insecure attachment would more likely engage in antisocial social support. Blain, Thompson and Wiffen (1993) specifically

indicated that pro-social support and antisocial support were correlated with patterns of attachment behaviour with those who engage in pro-social support more likely to have secure attachment and positive models of the self as opposed to those who engage in antisocial support who are more likely to have insecure attachment and negative models of the self. These forms of attachment behaviour do have associations with various sex role identities. Androgyny and the positive identities are associated with healthy dependence (HD) and secure attachment; negative masculinity is associated more with DD, that is, detached dependence and avoidant attachment while negative femininity is associated with DO or destructive overdependence and anxious or insecure attachment (Bornstein et al., 2004). Thus, in terms of a specificity hypothesis for sex role identities and social support it was proposed that those with positive sex role identities, more particularly those that are positively androgynous and positively feminine, followed by those who were positively masculine would be most likely to perceive the greatest amount of social support and be best able to seek out and utilise social support. Such individuals would presumably have greater secure attachment and healthy dependence (HD), as compared to those who had more negative identities and would therefore possibly have less secure, that is insecure, anxious and/or avoidant attachment styles (DD or DO).

In deriving the specific order of effect it was also expected that those who were positively androgynous, combining the benefits of caring, nurturance and ability to establish intimacy (feminine expressive traits) along with the social competence of the masculine traits, would have the highest degree of perceived social support and pro-social engagement. Positively feminine individuals would still have contained within them the essential elements of caring, nurturance and ability to establish intimacy and would therefore have the second highest degree of social support. Those that were simply positively masculine, while still socially competent, would be less advantaged as they would have less of an ability to establish and engage in the caring, nurturance and intimacy that is so typical of the positively feminine identity.

Those that were negatively androgynous, negatively masculine and negatively feminine would fare the worst in terms of their lesser social competence, lesser ability to build secure social networks and their lesser ability to effectively mobilise and utilise the social support within these networks. As discussed previously, the association of these identities with negative socio-emotional correlates

would also impair their social interactions (Aube, 2008; Fritz 2000; Gallo & Smith 1998, 1999; Gallo, Smith & Ruiz, 2003; Helgeson, 1993; 1994; Helgeson & Fritz 1996; 1998; 1999; 2000). Furthermore, the possibly insecure, avoidant and/or anxious attachment styles and anti-social modes of engagement of the negative identities could detract from the stability and security of their networks.

The present study examined this slightly modified social support hypothesis in relation to perceptions of both work sources of support (colleague and supervisor) and non-work sources of support (family, friends and partner/spouse). Once again, as with the hypotheses on sex role identities and work stress, psychological wellbeing and self-esteem; no specific order of effect was proposed for those that possessed an undifferentiated sex role identity. In terms of findings, in all instances those that were positively androgynous fared the best. In almost all instances those that were undifferentiated and positively feminine followed. In addition, in all instances the mean scores of positive masculinity and the negative identities were below the sample mean for each type of support. Exceptions to these patterns were only observed for colleague and partner support. See Table 69 below.

Table 69 *Overall pattern of means for sex role identity on five sources of social support*

Colleague	Supervisor	Friend	Partner	Family
A+	A+	A+	A+	A+
M-	F+	Au	M+	Au
Au	Au	F+	Au	F+
F+	F-	M+	F+	M+
M+	M-	M-	A-	A-
F-	M+	A-	M-	F-
A-	A-	F-	F-	M-

Highlighted identities mean scores were below the sample mean for each type of support

However the differences between these means were not always statistically significant. A detailed discussion of each of these patterns for each source of support and where the differences between the means are statistically significant is outlined below.

9.7.1 Sex role identity and work sources of support

9.7.1.1 Sex role identity and colleague support

With regard to order of means for colleague support the highest means scores were: Positive androgyny (16) followed by negative masculinity (15.62), undifferentiated (15.48) and positive femininity (15.38). Lower means were obtained by positive masculinity (14.89), negative femininity (14.81) and negative androgyny (14.48). Thus, the order of these means was not entirely in the direction outlined in the hypothesis for social support. In addition the clear pattern of positive and negative valences reported in relation to work stress, psychological wellbeing and self-esteem was less apparent for colleague support with negative masculinity clustering with the positively valenced identities and positive masculinity clustering with the negative identities. See Figure 29 below:

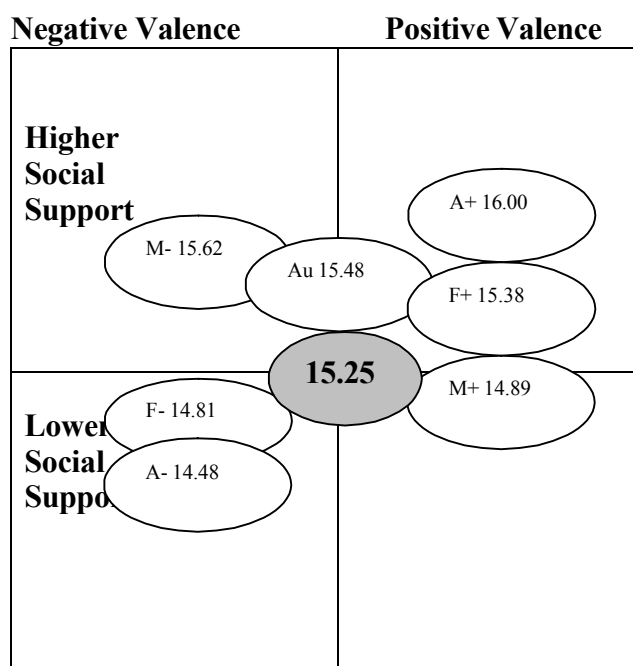


Figure 29

Pattern of means for sex role identity and colleague support

However, significant differences were only observed between positive androgyny and negative androgyny and negative femininity. Those that were positively androgynous reported significantly higher mean scores than those that were negatively androgynous and negatively feminine which was in the expected direction of the proposed hypotheses. Furthermore, significant differences were observed between negative masculinity and negative androgyny and positive femininity and negative androgyny. While positive femininity being significantly different to negative androgyny was expected, the finding for negative masculinity in relation to negative androgyny was not. No significant differences between the positive identities were observed nor were there any significant differences between negative masculinity and the positive identities. Furthermore, positive femininity did not enjoy any significant advantage over positive masculinity.

9.7.1.2 Sex role identity and supervisor social support

With regard to supervisor support, once again the order of effect produced some unexpected variations. Those that were positively androgynous (15.76) had the highest mean followed by undifferentiated (15.70) and positive femininity (15.47). Lower means were reported by those who were negatively feminine (15.19), negatively masculine (14.99), positively masculine (14.86) and negatively androgynous (14.69).

Significant differences were only observed between those that were positively androgynous and those that were negatively androgynous. No significant differences between the positive identities were observed and there were no significant differences between positive femininity and positive masculinity and all of the negative identities. Furthermore, positive femininity did not enjoy any significant advantage over positive masculinity. See Figure 30 below.

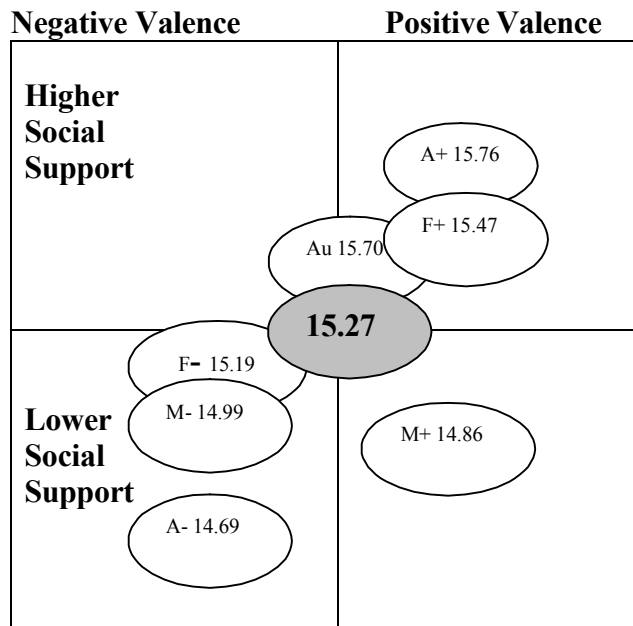


Figure 30

Pattern of means for sex role identity and supervisor social support

9.7.2 Sex role identity and non-work sources of support

More significant differences between the various sex role identities on non-work sources of support were observed. The pattern of results was also more apparent in terms of being in the direction proposed by the hypothesis. In all instance positive androgyny was followed by undifferentiated, positive femininity and positive masculinity, with the exception of partner support. In addition, with the exception of partner support positively masculinity clustered with the negatively valenced identities, all having means below the sample mean for each source of support (See Table 69 above).

9.7.2.1 Sex role identity and family support

With regard to family support those that were positively androgynous had the highest mean score (15.95) on family support, followed by undifferentiated (15.37), positively feminine (15.09) and positively masculine (14.62). Thereafter those that were negatively androgynous (14.53), had a lower mean score, followed by those that were negatively feminine (14.26) with negatively masculine (14.16) having the lowest means score on family support. See Figure 31 below.

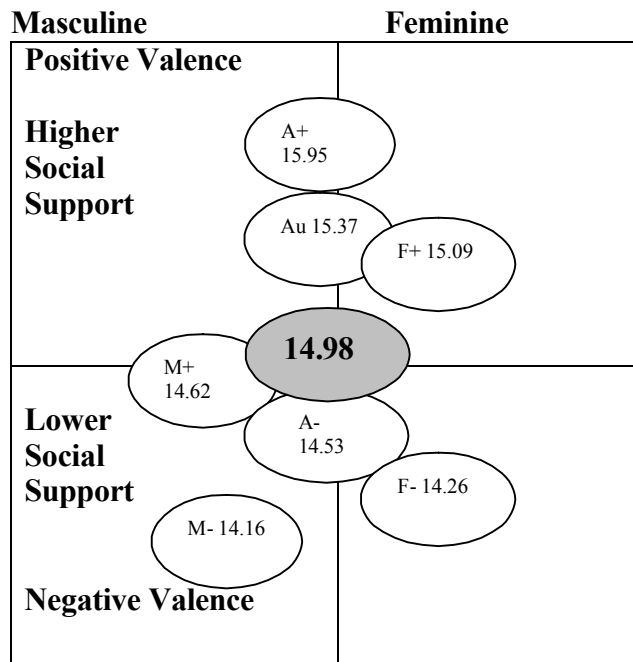


Figure 31
Pattern of means for sex role identity and family Social Support

Significant differences were only observed between positive androgyny and negative androgyny, negative masculinity and negative femininity. No significant differences were observed between the positive identities, positive femininity enjoyed no advantage over positive masculinity and negative masculinity did not differ from the positive identities with the exception of positive androgyny.

9.7.2.2 Sex role identity and friend support

With regard to friend support positive androgyny had the highest means score (15.31), followed by undifferentiated (15.18), positive femininity (14.64) and positive masculinity (13.62). Thereafter negative androgyny (13.468) had a lower mean score, followed with the slightest discrepancy by negative masculinity (13.466), with negative femininity having the lowest mean score (13.16).

See Figure 32 below.

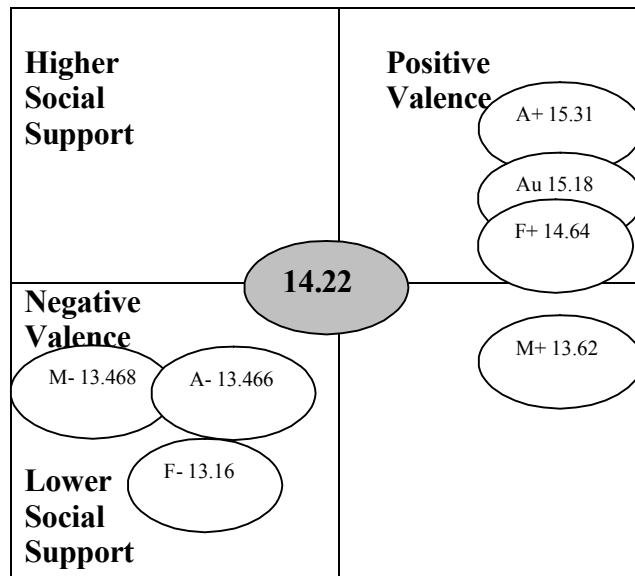


Figure 32
Pattern of means for sex role identity and friend social support

Significant differences were observed between positive androgyny and positive masculinity, negative androgyny; negative masculinity and negative femininity respectively. In addition, undifferentiated also had a significantly higher mean as compared to negative androgyny, negatively masculinity and negative femininity. Positive femininity scored significantly higher than negative androgyny and negative femininity. No significant differences were observed between the positive identities, with the exception of positive androgyny and positive masculinity. No significant differences were observed between negative masculinity and positive femininity and positive masculinity. In addition, the mean for positive femininity was not significantly higher than positive masculinity.

These results were as expected and in line with the proposed hypothesis with a few exceptions. Those that were positively androgynous were expected to enjoy greater support than all the negative identities. In addition the difference between positive androgyny and positive masculinity was expected as the hypotheses did propose significant differences *between* the positive identities. Positive femininity being significantly different to negative androgyny and negative femininity was also expected. As mentioned previously, the greater expressiveness and communion that positively feminine individuals are imbued with may enable them to have some advantage in establishing

networks of support and in seeking out social support as compared to those with negative personality traits who may be less able to establish robust networks and whose traits may even alienate the ‘supporters’ within their networks. Unexpectedly, although negative masculinity was significantly different to positive androgyny it was not significantly different to positive femininity or positive masculinity. Although no order was proposed for undifferentiated, in line with the discussion in on the health benefits of the undifferentiated identity above, it was not entirely unexpected to observe significant differences between those that were undifferentiated and all the negative identities.

9.7.2.3 Sex role identity and partner support

With regard to partner support positive androgyny had the highest mean score (15.67) followed by positive masculinity (15.26), undifferentiated (15.23) and positive femininity (14.93). Thereafter negative androgyny had a lower mean score (14.34), followed by negative masculinity (13.76), with negative femininity having the lowest means score (13.75). See Figure 33 below.

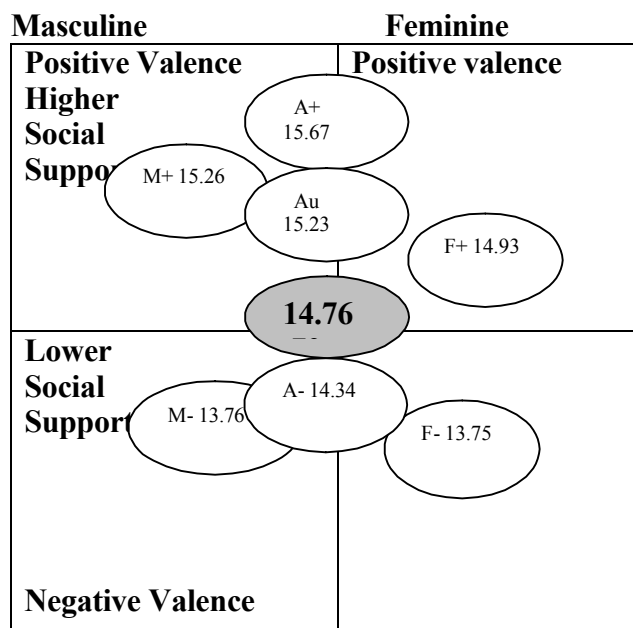


Figure 33
Pattern of means for sex role identity and partner social support

Significant differences between means were observed for positive androgyny and negative androgyny, negative masculinity and negative femininity. There were no significant differences between the positive identities and positive femininity had no advantage over positive masculinity. In addition, negative masculinity did not differ from the positive identities with the exception of the difference between positive androgyny and negative masculinity. (For a summary of the social support ANOVA results refer to page 238). Both the significant and non-significant findings for the various sex role identities and social support are elaborated on in further detail below.

9.8 STATISTICALLY SIGNIFICANT FINDINGS

9.8.1 The significant findings for positive androgyny

Those that were positively androgynous reported significantly higher mean scores than those that were negatively androgynous, negatively feminine and/or negatively masculine on all sources of support, with these findings being in the expected direction of the proposed hypotheses. These findings for positive androgyny in all instances lend support to the androgyny model that proposes that those who are positively androgynous, combining both positively feminine and positively masculine traits, will enjoy the greatest health benefits. In addition, these findings lend support to the differentiated model as the distinctions observed were between those that were positively androgynous and the negative identities, that is, the identities that consist of socially undesirable feminine and/or masculine traits.

9.8.2 The significant findings for positive femininity

Similarly the few significant findings for positive femininity lend support to the specificity hypotheses for positive femininity, indicating that on the expressive dimension of social support those that are positively feminine will be better able to establish stronger networks of social support. Although positive femininity was only significantly different to negative androgyny for colleague support and negative androgyny and negative femininity for friend support, these findings provide some, albeit moderate, support for positive femininity within the context of the differentiated model. They suggest that positively feminine individuals may have an advantage over individuals whose identities are constituted of socially undesirable traits. That is, positively feminine individuals who are higher on communal expressive traits will fare better in terms of harnessing social support networks as compared to identities characterised by a combination of unmitigated

agency and unmitigated communion or those that are dominantly negatively feminine and therefore overly nurturant, needy, demanding and even passive aggressive.

9.8.3 Significant findings for the undifferentiated identity

While no proposed order of difference between means was hypothesised for undifferentiated this identity did fare better in terms of order of means across all sources of social support. That is undifferentiated individuals had slightly higher perceptions of social support than both positive femininity and positive masculinity and all the negative identities with the exception of colleague support where it was superseded by negative masculinity and partner support where it was superseded by positive masculinity. However, significant differences were only observed for the undifferentiated as compared to all the negative identities on friend support. The general pattern of higher means and this particular significant observation may have been evident due to the possible health benefits of this identity discussed previously in Section 9.4.2 above.

Although the undifferentiated individual is low on all identities they may be sufficiently imbued with *both* positive masculinity and positive femininity which, while not of high enough a level to be categorised as positively androgynous, is still of a sufficient level to approximate an androgynous identity and all the benefits thereof. As mentioned previously, in terms of the z-scoring method those that were undifferentiated may simply have fell just below the cut-off for either or both a categorisation on positive masculinity, positive femininity or both. Alternatively, it is also possible that the undifferentiated would fare better than the negative identities as to be negatively undifferentiated implies that the one has lower levels of socially undesirable masculine and/or feminine traits.

9.9 STATISTICALLY NON-SIGNIFICANT EFFECTS AND COUNTERINTUITIVE FINDINGS

9.9.1 Non-significant findings for negative masculinity

Unexpectedly negative masculinity was not significantly different to any of the positive identities with the exception of positive androgyny on non-work sources of support. Within the context of the present study this particular non-significant finding must be viewed in relation to all the other non-significant findings for negative masculinity. As discussed in Section 9.4.1 above, this could

possibly be explained in terms of blended identities, within category differences with regard to the strength of the identity and in terms of social dominance theory. In addition, the literature on personality and charismatic leadership may offer some explanation as to why negative masculinity did not fare worse than the positive identities in relation to social support.

9.9.1.1 Negative masculinity, dominance theory and the blended identity

The non-significant finding for negative masculinity may have been due to the positioning of negative masculinity within the circumplex space described within the Interpersonal Circumplex Model. Examining negative masculinity from this perspective, it is possible that within the workplace the dominance of negatively masculine individuals may still enable them to gather a cohort of supportive colleagues around them who may admire their “show” of strength and power. According to dominance theorists, individuals that are high on dominance and aggression (as evidenced with negatively masculine individuals) may be able to use aggression, *along with pro-social behaviours*, to win over those within their social group. They may be imbued with *some* positively valenced pro-social traits (masculine and/or feminine) that enable them to get what they want. Thus, their aggressive, hostile and greedy traits, along with some manipulatively used cooperative pro-social traits, may serve as resources which help them to acquire even more resources. Even though their highest level of traits are those that are negatively masculine in the event of a ‘blend of traits’, negatively masculine individuals can use aggression and pro-social behaviour to consolidate their status and reconcile foes, drawing a cohort of sufficient and substantial support around themselves (Choi, Johnson & Johnson, 2011). Hawley (1999) in fact refers to “variant behavioural strategies” and “learning where you stand” with regard to attaining dominance. “The adaptive rule of thumb in [certain social group] encounters would be, depending on who your opponent is, assert when you can prevail and yield when you cannot” (Hawley, 1999, p.101-102). Within the context of the work environment in the present study the negatively masculine female manager may have been sufficiently socially aware and skilled enabling her to ‘know’ when she can prevail, make alliances and gain a followership with its concomitant support.

9.9.1.2 Negative Masculinity, Social Dominance and Charismatic Leadership

Associated to the research on social dominance is that of charismatic leadership. Research on charismatic leadership behaviours indicates that such leaders may be either personalised or

socialised. Both types are able to impact upon their followers in such a way that they “transform the self-interests of their followers into a collective interest that is aligned to the mission of the leader him/herself” (House & Howell, 1992, p. 82). Socially dominant individuals are socially central and are often attractive or charismatic individuals who are able to use their personality resources to obtain what they see as fit for themselves. These individuals may be influential in the work domain and may therefore be effective at their work. In fact, many of their colleagues may gravitate towards them, praise them, learn from them and even imitate them (Seyfarth, 1977). Work experiences are likely to be positive for these individuals as they will get what they want even if it is at the expense of others. Such individuals are often defined as personalised leaders and are characterised by stereotypical traits of aggression and dominance and are perceived to be demanding and critical while socialised leaders are characterised by traits of sensitivity, nurturance, supportiveness and consideration. If one examines these traits against those described within the circumplex space of the Interpersonal Circumplex Model (Wiggins, 1996) (See Figure 28 above), it appears that personalised leaders would likely occupy traits slightly towards the top left quadrants while socialised leaders would likely occupy traits within the top right quadrants. Extending the analogy further, if those that are negatively masculine tend to have traits aligned with the top left quadrant but still possess a degree, albeit a lesser degree, of positively masculine traits aligned with the right quadrants of dominance and friendliness; it is possible that negatively masculine females managers within the present study may have been prepossessed of a leadership capacity that sufficiently enabled them to utilise strategies that have elements within it of cooperativeness, thereby enabling them to persuade their cohorts to support them (House & Howell, 1992).

While the intention of the present research was not to examine the leadership capacity contained within the different identities, it is possible that negatively masculine individuals were possessed of traits described above within personalised leadership but still had *a blend of traits*, that is, some degree of those traits described within socialised leadership. In such an instance negatively masculine female managers would be able to harness the support of those around them, that is, their cohort of colleagues, which serves to offer a possible explanation as to why they garnered such a high mean level of colleague support and were not significantly different from the positive identities on all other sources of support.

9.9.2 Non-significant differences between positive masculinity and the negative identities

A further unexpected finding was that positive masculinity was not significantly different to the negative identities and in fact in terms of order of means, with the exception of partner support, always clustered lower with the negative identities. As proposed by the hypothesis it was expected that positive masculinity would be significantly different to the negative identities but this difference was never evidenced. However, as discussed in the findings on positive masculinity within the two-way ANOVA's, positive masculinity in certain specific instances may have drawbacks for females. In specific situations masculine females as mothers and wives may still find themselves exposed to the double burden of dealing with work and family demands. Competing in a male-dominated work environment where they may receive less support at work from male counterparts in times of stress and may further encounter agentic backlash for their masculine behavioural traits from both male and female colleagues can all serve to exacerbate their stress experience. All of these factors, compounded, can act as a drawback or a counter to the 'supposed benefits' of masculine women's wellbeing. In particular with regard to seeking support from colleagues, friends and even more so from supervisors; admitting to 'needing' support may be perceived of as weakness and this may inhibit the individual from seeing such sources as support terminals. Seeking out and utilising support from such sources may in fact serve to damage the self-esteem, particularly for masculine females who may have to ensure, in terms of impression management, that they are always perceived of by others outside of the confines of their family as 'totally together', that is, strong, fully competent at all times and able to weather any difficult work circumstances.

It has been noted in the literature (See discussion in Section 9.10.2.6 below), that admitting to a need for support in times of stress, especially to colleagues and supervisors, can pose a threat to one's sense of self-esteem and identity (Fisher, Nadler & Whitcher-Alagna, 1982; Gleason, Iida, Bolger & Shrout, 2003; Hobfoll, Nadler & Lieberman, 1986; Jung, 1989; Nadler & Mayseless, 1983; Seidman et al., 2006; Shrout et al., 2006). To have to admit to colleagues and supervisors that one needs help may imply a lack of competence in dealing with work-related problems and may thus go too far against the grain of a masculine female who feels bound to be tough, strong and decisive in the face of adversity. Seeking help from colleagues and supervisors could be perceived of as *too much* of a threat to one's standing in the work place and therefore masculine females could

feel that seeking out and utilising these specific sources of support would not be helpful and in fact could be harmful. This may, in part, account for the fact that positively masculine females perceived these sources of support at such a low level. The fear of being negatively evaluated at work by both colleagues and supervisors may thus alter or redefine one's perceptions of these sources as sources of 'support'. This fear may be particularly pertinent in the work setting where to be labelled incompetent and to show signs of weakness can threaten one's career opportunities (Marcelissen et al 1988). Masculine females may also be reluctant to seek out non-work sources of support as, once again, admitting to family and friends that one is experiencing work-related problems is too damaging to one's self-esteem and image of being totally competent and fully in control.

Thus, a further specificity hypothesis may be operating here for social support in that for positively masculine females, within the context of the work environment, such masculinity may be a handicap to health outcomes in that it detracts from one's feelings of comfort regarding using work sources as a form of assistance in times of stress. In such an instance positive masculinity, always deemed to be the most optimal health identity after positive androgyny and, in fact, the most optimal identity in terms of the masculinity model, would not differ significantly from any of the negative identities.

9.9.3 Non- significant differences between positive femininity and positive masculinity

No significant differences between positive femininity and positive masculinity as proposed in the 'specificity' hypothesis on social support were observed. This contrary finding can possibly be explained by the fact that the entire sample was biologically female; the breakdown of categories was predominantly feminine (34.40%) or androgynous (46.24%) and despite the categorical breakdown, because of subtle weaknesses in the cut-off scoring of the z-score method, some of those that were masculine or even feminine may have had blended identities to a varying degree.

If one adopts the argument of biological determinism, to some extent all these females may have had contained within them a degree of femininity prescribed by their biological constraints. McCreary, Newcomb and Sadava (1998), note that while biological sex does not totally determine sex role identity, sex role identity is not entirely independent of biological sex. They further note

that in terms of societal constraints which specify what is stereotypically appropriate for a specific biological type, males and females are 'aware' of the sex role components stereotypic for their biological sex. But it is the extent to which they are prepared to differentially endorse them into their self-concept and sex role identity that will determine whether or not they display those traits that are *only* characteristic to their stereotypic sex or those that are characteristic to the opposite sex too, that is, those that are retrotypic for their biological gender (Norlander et al., 2000). Consequently, it is possible that even those that were females that were categorised as masculine would have contained within them 'some' feminine prescription with regard to sex-typed traits and therefore this may have *blurred* the distinction between these sex role categories. Furthermore, the greatest proportion of the sample was possessed of feminine traits or a combination of feminine and masculine traits as represented by the androgynous identity. A very small number of respondents were categorised as masculine be it positively or negatively masculine (13.27%). This disparity between those that were feminine and those that were masculine may have also to some extent masked the differences between these two identities.

Moreover, if one examines models that propose that masculinity and/or femininity contribute to wellbeing in an additive fashion it is proposed here that if an individual has a dominant identity as defined by the categorical cut-off point but there is still some blend of identity, that is feminine individuals still have some masculinity and masculine individuals still have some femininity the combination of traits, additively, would make positively masculine and positively feminine females more homogenous and would thus blur any possible distinctions between the two categories.

9.10 CONCLUSION

While there were few significant differences between the seven identities on means of social support, the study did contribute to the theory in that it did demonstrate a specific pattern of perception for both positive and negative identities across a number of sources of social support. More specifically, the study demonstrated that in almost all instances those with positively valenced identities had differing perceptions of social support availability than did those with negatively valenced identities. In addition, although not significantly different, positively feminine individuals did have higher means than positively masculine individuals with the means of the latter across all sources of support clustering lower with the negative identities.

A consistent observation was that those that were positively androgynous perceived the greatest level of social support and that in terms of significant differences in all instances those that were positively androgynous were significantly different in terms of mean social support than the other identities particularly the negatively valenced identities. As mentioned this consistent finding provides support for both the androgyny model and the differentiated model of sex role identity. In addition, these findings are aligned to the literature that has linked androgyny to *'positive'* personality attributes. Bornstein and colleagues (2002; 2003; 2004) in their description of the 'healthy dependency' (HD) individual note that such individuals who are HD tend to score high on Bem's (1974) index of androgyny and reflect a complex array of pro-social traits that would most likely be associated with high perceptions of social support. Such traits are a lack of anxiety regarding abandonment, confidence in others and comfort with closeness. These traits are also typical of individuals with secure attachment behaviour. Furthermore, HD individuals have a strong sense of identity, high satisfaction with life, the ability to modulate affect and thereby reduce internal tensions and the ability to verbalize their feelings (therefore low alexithymia as compared to High DD individuals). In addition HD individuals show relational and interdependent self-construal. Such traits would enable individuals to be more proficient in establishing secure support networks and to be more competent in seeking out and utilising social support effectively. Though it is important to note that such individuals, by virtue of their ability to modulate their affect internally; may have less of a need for social support.

Overall with regard to Sections 9.7 to 9.9, it seems possible that depending on the source of support and the circumstances, certain identities may prefer or be better able to establish support from different sources. This variation suggests that there are further specificity hypotheses that need to be defined and their segregation examined in future research on the topic of sex role identity and social support.

However, the pattern of effect for each sex role identity across all five sources of social support cannot be seen in isolation. What the ANOVAs indicated are *perceptions of social support availability*. They do not necessarily indicate the effect that these types of support have on health and wellbeing when they are *mobilised and utilised* in the event of the experience of stress. In order

to determine this effect, moderated multiple regression analyses which examines utilised social support in relation to stress and wellbeing indicators were applied to the data.

9.11 DISCUSSION OF MODERATOR EFFECTS: SOCIAL SUPPORT AS A MODERATOR BETWEEN WORK STRESS AND PSYCHOLOGICAL WELLBEING & SELF-ESTEEM

In the present study a number of moderator hypotheses were formulated which were empirically tested with the MMR statistical technique. Although social support clearly showed a main effect on psychological wellbeing and self-esteem; from a potential ten moderating effects, only three were observed and of these, one was in a counterintuitive direction. Statistically significant main and moderator effects, non-significant moderator or counterintuitive moderator effects are discussed below.

9.11.1 STATISTICALLY SIGNIFICANT MAIN AND MODERATOR EFFECTS

9.11.1.1 Psychological wellbeing - Main effects

Work stress had a significant positive main effect on psychological wellbeing, that is, the higher the work stress scores the higher the psychological wellbeing scores. As low scores on the wellbeing scale indicate higher wellbeing while higher scores indicate lower wellbeing, the positive relationship between high work stress scores and high wellbeing scores (therefore poorer wellbeing) was expected. In addition, colleague, supervisor and friend support had an inverse main effect on psychological wellbeing, that is, when support was high wellbeing scores were low. As mentioned a low score on wellbeing indicates good mental health, therefore this inverse relationship was expected. However, family and partner support did not have a main effect on psychological wellbeing.

9.11.1.2 Psychological wellbeing - Moderating effects:

Both colleague and supervisor support interacted with work stress to reduce the impact of work stress on wellbeing. None of the non-work sources of support interacted to moderate the effect of work stress on wellbeing.

9.11.1.3 Self-esteem - Main effects

Work stress had a significant positive main effect on self-esteem with work stress impacting negatively on self-esteem, that is, the higher the work stress scores the higher the self-esteem scores. As low scores on the self-esteem scale indicated higher self-esteem while higher scores indicated lower self-esteem, the positive (and therefore non-beneficial) relationship between high work stress and high self-esteem scores was in the expected direction. Furthermore, all five sources of support had an inverse main effect on self-esteem, that is, when support was high self-esteem scores were low. As a low score on self-esteem indicated high self-esteem and a high score indicated low self-esteem, this inverse relationship was expected.

9.11.1.4 Self-esteem - Moderating effects

Only friend support moderated the relationship between work stress and self-esteem. However this was in an unexpected positive and therefore non-beneficial direction, indicating that friend support exacerbated this relationship. The direction of effect thus suggests that the presence of such “support”, in the event of stress experienced, would actually increase the negative effect of work stress on self-esteem; that is, lowering self-esteem as indicated by higher self-esteem scores.

9.11.2 STATISTICALLY NON-SIGNIFICANT MODERATOR EFFECTS

With regard to statistically non-significant moderator effects, none of the non-work sources of support moderated the relationship between work stress and psychological wellbeing and only friend support moderated the relationship between work stress and self-esteem, albeit in a counterintuitive direction.

Although unexpected, the absence of a moderating effects have been widely observed in the social support-stress literature (Crockett & Neff, 2012; Croezen et al., Gleason et al., 2008; Jungwa Ha, 2009; Kappes & Shrout, 2011; Lincoln & Chae, 2010; O'Reilly, 1988; Siewert et al., 2011). A number of researchers have noted that although the moderating hypothesis has been prevalent in the work stress-social support literature for decades, evidence for the moderating effect of social support is decidedly mixed, with there being as many if not more examples of researchers who have *failed* to find moderating effects as there have been those who did find such effects (Ganster & Victor, 1988, Haines et al, 1990; Seidman et al., 2006; Shrout et al., 2006). The absence of

moderating effects in the event of the experience of stress may be attributable to a number of factors. One strong possibility explaining lack of moderating effects relates to the temporal dimension of social support. In addition, the occupational stress-social support literature clearly indicates that the utilisation of social support may be dependent on the ‘types’ of support on offer. Socio-demographic differences such as sex and, in the case of this study, sex role identity are also of import in terms of whether or not social support would be mobilised and utilised. Furthermore, individual personality characteristics of social support recipients, the relationship between provider and recipient and past experience with social support could all have influenced perceptions of and utilisation of this resource. A discussion of these possible explanations in relation to non-significant findings is outlined below.

9.11.2.1 The temporal dimension of social support

With regard to the temporal dimension of social support, numerous researchers have noted that social support has different patterns of temporal influence and that these temporal patterns may confound the observation of moderating effects in the relationship between stress and strain, particularly within the context of a cross sectional research design (Barling, 1990; House, 1981; Jacobson, 1986; O’Reilly, 1988). Furthermore, Schwarzer and Leppin (1990) and Thoits (1982) note that different types of social support may operate over different time periods. They distinguish between ‘critical times’ support and ‘long term’ support. They also note that there are different types of support contained within the overall construct, namely, emotional, instrumental, informational and appraisal support (House, 1981).

According to House (1981) emotional support is defined as that which entails the provision of empathy, caring, love and trust. Instrumental support is defined as that which involves behaviours that directly help the person in need. For example, helping others do their work or lending them money. House (1981) stresses, however, that it is important to recognise that a purely instrumental act also has psychological-emotional undertones. From a positive point of view it can imply, for example, in the case of helping one with a loan, that one is cared for and valued to the extent that the provider of such instrumental support will be prepared to lend money in order to help the recipient of such support. However, from a negative point of view, providing instrumental support in the form of lending the recipient money could provide a communication from provider to

recipient that the latter is inadequate in terms of being able to provide for him or herself (House, 1981).

Informational support is defined as that which involves providing a person with information that they can use in coping with personal and environmental problems. For example, informing an unemployed person of existing job opportunities. As opposed to instrumental support, such information in and of itself is not helpful. Rather, it helps people to help themselves. Though in some instances, informational support can constitute instrumental support. For instance, in a case where the person's major need is job training. Informational support can also imply emotional support. This may occur as the individual receiving such support may interpret the provider's offer of information as a sign of the provider's interest and caring for the individual's wellbeing (House, 1981). However, informational support particularly from work sources can be problematic. While providing one with information that assists one in doing his or her job may be positive it can also have drawbacks with the recipient possibly perceiving of it as interference. In recent research on call centre employees, informational support was positively correlated to scores on wellbeing. That is, the more informational support provided the higher the scores and therefore the lower the individual's wellbeing (Liebenberg, 2010; Moeketsane, 2012).

Appraisal support also involves the transmission of information. However, such information does not imply the *affect* of emotional support or the *aid* of informational support. Rather it is relevant to self-evaluation or social comparison, allowing the individual to compare him or herself to others in order to determine how well or how poorly he or she is coping or performing. As such, appraisal support can have both negative and positive consequences depending on the type of feedback it provides (House, 1981).

Despite these distinctions it has been argued that all four types have an emotional undertone in that they all imply that the provider cares for the recipient in order for them to engage in such supply to the recipient of their own personal time and resources (Burlison; 2003). However, the importance of distinguishing between these types relates to the *stability of these types of support over time* (see Figure 34 below).

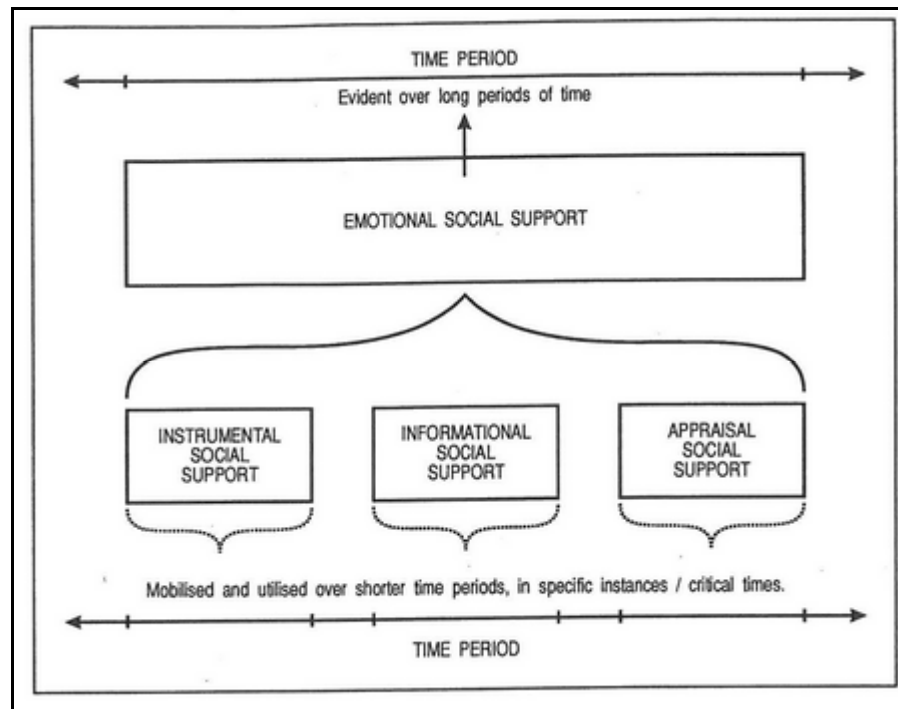


Figure 34 *The time factor of different support dimensions (Taken from Bernstein, 1992)*

Emotional support may be a type of support that is more stable, operating over lengthy periods of time, as it resides in the long-term relationships that one has with individuals in one's network. The long-term stability of this type of support may account for its generalised main effects on health and wellbeing. Informational and instrumental support, that require providers to assist the recipient with the provision of actual information or to engage in supportive tangible acts on behalf of the recipient, may operate over a shorter term as these types of support are mobilised and enacted at a precise point in time when the recipient needs such tangible help (Schwarzer & Leppin, 1990; Thoits, 1982). However, that is not to say that emotional support may not be mobilised at critical times. When stress is a threat to one's feelings of being loved and cared for and to one's sense of self-worth and identity, then emotional support may be critical at that particularly time to buffer the negative impact of the stress on the individual's wellbeing (Schwarzer & Leppin, 1990; Thoits, 1982). Nevertheless, informational and instrumental support are still more likely to be enacted over short time periods only while emotional support is generally more stable, operating over a longer time period.

Appraisal support, which provides positive feedback to the recipient regarding how they are coping with a current negative situation may also overlap with emotional support but may also likely be conceived of as a type that is enacted more at a specific and critical time (House, 1981).

The distinction of ‘critical time support’, in relation to lack of observed moderator effects, becomes important, if the critical time has *passed*. Within these instances of critical times there are distinct phases of operation of social support that can be identified. In these instances, because social support is an external resource, the individual experiencing stress needs time to (i) seek out and mobilise social support resources and (ii) utilise such support once it has been mobilised (Barling, 1990; House, 1981; Jacobson, 1986). Thus social support, although an ongoing resource, in that its presence is acknowledged as ‘being there’, that is, latently residing within the network is, in times of stress, mobilised at a specific point in time, utilised in the period thereafter, and finally its utility (or lack thereof) reaches a stage or state of completion.

When it operates latently it, as mentioned, has a generalised main effect on health and wellbeing. It becomes *manifest* as a moderator when the individual experiences a level of stress that they perceive to be too threatening to manage on their own. At this point the individual will seek out, mobilise, harness and utilise their support resources in order to relieve the stress experience. The quality of the latently existing system and the ability of the individual to mobilise and utilise it will determine to what extent it is effective in moderating any negative impact of perceived stressors on the individual’s wellbeing. The observation of this period of mobilisation and utilisation may thus occur in a vitally short window of time and the likelihood/probability of observing the actual moderation process, in the context of a cross sectional study may consequently be low (Barling, 1990; House, 1981; Jacobson, 1986; O’Reilly, 1988; Schwarzer & Leppin, 1990; Thoits, 1982). See Figures 35.

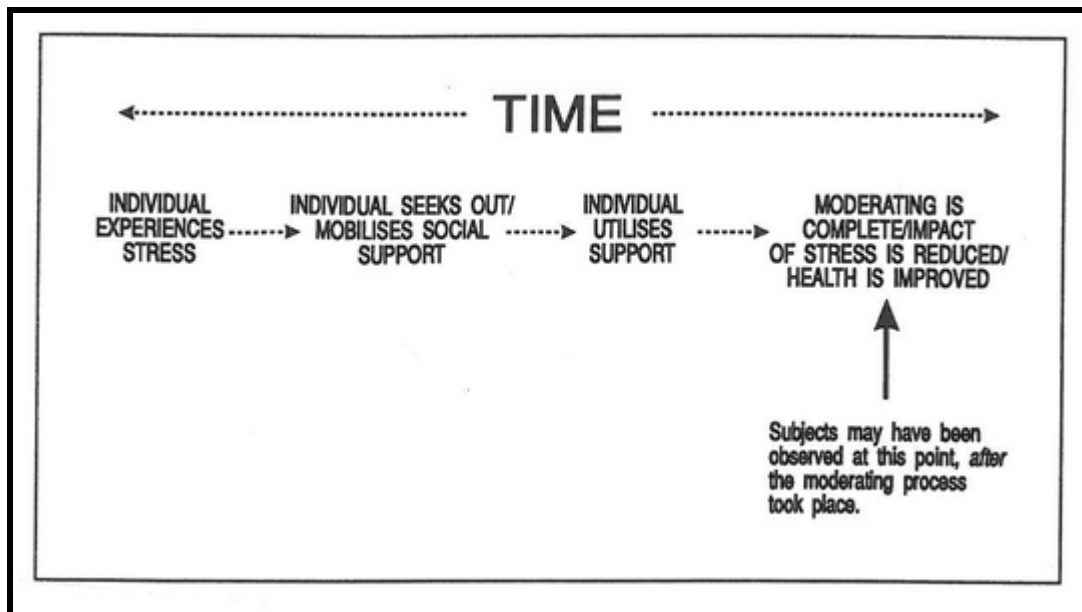


Figure 35 *The timing of the moderating process (Taken from Bernstein, 1992).*

To summarise on the temporal dimension of social support, it can be argued that social support has *a potential* and *actual dimension*, with the former being transformed into the latter by the perception of a stressor or stressors. Furthermore, the former would manifest in generalised main effects while the latter would serve to function as a moderating effect. However, when examining the moderating role of social support one needs to be cognisant of what a cross sectional study is actually measuring. Respondents are asked to what extent *a particular source of support* is indeed beneficial, that is, to what extent a source of support is not only perceived to be available but is also actually helpful in reducing perceptions of stress and in reducing the impact of stress on wellbeing (Barling, 1990; House, 1981; Jacobson, 1986; O'Reilly, 1988; Schwarzer & Leppin, 1990; Thoits, 1982). Thus, a question arises as to what is actually being measured at the actual time of assessment? Is it perceptions of available support resources or is it perceptions of utilised social support, that is, support that has actually been used and has been helpful? These distinctions are important and reflect a timing dimension to social support in that social support may be envisaged as a *potential* or it may be described as a resource that has been *already* utilised and has *already* demonstrated the effects it is supposed to, as evidenced in reduced stress perceptions and increased wellbeing. A cross sectional study which assesses the individual at a single point in time may thus

be unable to 'capture' the moderating process and this therefore may account for no moderation effects being seen (Barling, 1990; House, 1981; Jacobson, 1986; O'Reilly, 1988; Schwarzer & Leppin, 1990; Thoits, 1982). Consequently, if one wishes to observe a moderating effect, the respondents in a sample need to be sampled at the precise time when the coping or re-interpretation involved in the moderating process actually takes place. If individuals are not assessed at this precise time, that is at the exact time when the moderating process is taking place, and they are in fact assessed either before support has been sought out and mobilised or after the moderating process is complete; then a moderating effect will *not* be observed. What may be seen at this point are lower perceptions of a stressor or stressors and/or higher perceptions of wellbeing if moderating has already occurred. As the present study was cross sectional, whether perceptions of stress were lowered from a previous point in time cannot be definitively determined. Furthermore, one may simply have observed improved health (if the moderating effect was positive and had been completed). In other words, *post-moderation*, all that may have been observed were main effects (Barling, 1990; House, 1981; Jacobson, 1986; O'Reilly, 1988; Schwarzer & Leppin, 1990; Thoits, 1982).

While the above section has focused on the absence of observed moderating effects due to timing it is also possible that a recipient may never have sought out and utilised social support available (non-usage) or if they did do so that usage could have been non-beneficial, manifesting in a counterintuitive effect.

As mentioned previously, the quality of the latently operating network and the individual's ability to utilise it will determine the extent to which it is effective in moderating the negative impact of stressors on health and wellbeing. However, there are a number of recipient socio-demographic and personality characteristics, past experience factors and relationship factors between recipient and provider that can undermine and detract from the quality of support offered by providers in a network. These factors may even discourage potential recipients from mobilising and utilising the support they have available and/or lead to negative effects if used. In these instances, again, no moderating could occur or if it did occur it could be in a non-beneficial fashion.

The work stress literature is replete with studies that have reported what appear to be opposite or reverse moderating effects, in that within these studies, social support was found to exacerbate the negative effects of stress on wellbeing (Abdel-Halim, 1982; Kaufmann & Beehr, 1989; Crockett & Neff, 2012; Croezen et al., 2010; Gleason et al., 2008; Jungwa Ha, 2009; Kappes & Shrout, 2011; Lincoln & Chae, 2010; O'Reilly, 1988; Seidman et al., 20; Siewert et al., 2011; Shrout et al., 2006; Smith et al., 2009).

The exacerbating effect of social support was particularly evidenced in the present study in the positive, that is, non beneficial, directionality of friend support as a moderator in the relationship between work stress and self-esteem. In this instance although an actual moderator effect was observed, social support served to lower the self-esteem of individuals utilising this source of support.

A discussion of the possible recipient and relationship characteristics, the influence of past experience and the processes that these may engender follows below. This discussion will consider how such factors can lead to social support not being utilised at all or they how they can lead to exacerbating effects if social support is actually utilised.

9.11.2.2 Recipient Characteristics: Sex, Gender & Personality Characteristics:

As noted previously, there are sex differences in the utilisation and provision of social support. In this regard research has widely indicated that women are more likely to utilise and provide social support as opposed to males (Defares, Brandes, Nass & van der Ploeg, 1985; Fielden & Cooper 2001; Flaherty & Richman, 1989; Gabriel & Gardner, 1999; Nolen-Hoeksema, 2008; Reevy & Maslach, 2001; Rosario, Shinn, Morch & Huckabee, 1988, Smith et al., 2009). However, as mentioned not all males and not all females adopt the same pattern of provision and utilisation when it comes to the resource of social support. Biological sex differences are modified by the sex role identity adopted by biological females and males, that is, the extent to which they have adopted stereotypical or retrotypical sex-based behavioural personality traits. Thus, those who are socialised to be more feminine (independent of their biological sex) would tend to utilise social support more and would likely be more able to do so more effectively than those that are socialised to be more masculine (Reevy & Maslach, 2001). As the purpose of this study was to *go beyond* sex and

examine sex role identity in relation to social support, the study intended to examine both positive and negative sex role identities in relation to perceptions of and utilisation of social support.

While a breakdown of the perceptions of social support by the various sex role identities was possible using the ANOVA technique, an analysis of the moderating role of social support amongst the different sex role identities was not conducted as some sex role identities contained an insufficient number of respondents within groups to do an adequate assessment of the moderation process using the statistical technique of MMR. It is thus possible that evidence of moderation; no moderation or even reverse moderation may have been apparent across the sample due to behavioural and personality-based strengths or weaknesses associated with some of the identities.

As discussed within the previously, the various sex role identities are associated with a number of specific personality characteristics and types of attachment behaviour. These, in turn, may either hinder or foster the establishment of robust social support networks and the seeking out, mobilisation and utilisation of social support. The personality correlates of each of the identities and the impact that they may have had on social support moderation are discussed below.

9.11.2.3 Positive femininity and social support: Weighing up intimacy and reciprocity costs

With regard to positive femininity, those that were positively feminine seemed to have some advantage in certain instances in relation to social support as compared to the negative identities, which may have been due to the ability of such individuals being able to establish intimacy. A number of researchers have identified that the relationship characteristic of ‘degree of intimacy’, that is, the closeness the recipient enjoys with the provider, may be a key determinant to whether the support will be used, the satisfaction with such support and whether indeed the support will effectively moderate the relationship between the recipient’s perceived stress and health outcomes (Cutrona, Cohen & Igram, 1990; Gleason et al., 2003; Hobfoll, Nadler & Lieberman, 1986; Smith et al., 2009). Intimate relationships provide one with a sense of security and safety which may facilitate coping with adverse circumstances and may ensure that one does not feel discomfort in asking an intimate other for support in times of stress. In addition, those that one is intimate with, that is those that one has a close relationship with, are more likely to understand one’s needs and

preferences and can thus provide assistance that is more closely tailored to one's specific situation, as opposed to a less intimate associate (Cutrona et al., 1990; Hobfoll, Nadler & Lieberman, 1986).

Typically women, or those who are more feminine, are more able to establish intimacy with others (Antonucci, Akiyami & Lansford, 1998). As discussed previously, early socialisation encourages women to be more intimate and caring in their relationships and in turn to require more intimacy if they are to consider such relationships as supportive, as opposed to men (Gerdes et al., 1980). Women are encouraged to act in a gentle manner, express their personal feelings and to be warm, nurturant and caring in their behaviour. Being high on such expressive as opposed to instrumental traits predisposes one to more successfully seek out and utilise social support (Nolen-Hoeksema, 2008). Thus, the more an individual is socialised into adopting feminine, expressive roles the more likely they will be to establish intimacy. A higher degree of intimacy can foster establishment of stronger networks and greater usage of social support. Those that are positively feminine (or positively androgynous, both being high on positive feminine traits) would have an advantage and would be more likely to have strong or stronger social support networks. Furthermore, they would be more able to utilise social support effectively, evidencing in moderating effects.

However, there are drawbacks associated with femininity in that those that are more feminine are also more likely to be providers of support than those that are more masculine (Neff & Karney, 2005). Thus, for feminine individuals social support is not only a benefit received. Kessler, McLeod and Wethington (1985) in fact report that in surveys of help seeking behaviour women are thirty to fifty percent more likely to be support providers as opposed to men. In addition, women report providing friends and family with far more emotional support, personal favours and informal counselling about personal problems than do men (Neff & Karney, 2005; Vernoff, Douvan & Kulka, 1981). Antonucci and colleagues (1998, p. 379) specifically note that "the role of the kinkeeper" that is the person responsible for maintaining family ties and remembering and organising family functions "may be more of a burden than a pleasure". It may thus be more likely that women or feminine individuals, high on communion and expressiveness, could become overburdened by the demands placed upon them by their social network. That is, in times when they themselves are experiencing stress the demands of those in their network that concurrently need support, favours and counselling may be a further source of stress to them.

So although feminine individuals do have more available support within their network they may be reluctant to utilise it, as evidenced at times in a ‘no-moderating’ effect. In fact, if their network is adding to their stressor demand this may have a compounding negative effect, evidenced in reverse moderating or counterintuitive exacerbating effects (Antonucci et al., 1998). This may be especially so in the event of their network requiring assistance from them in a time when they, indeed, need assistance themselves.

As noted by a number of researchers (Antonucci et al., 1990; 1998; Bruhn & Phillips, 1988; Gleason et al., 2003; Hobfoll et al., 1990; Rook, 1990; Seidman et al., 2006), recipients of support receive both benefits which may be current and costs which may be incurred in the future or may need to be incurred concurrently. While recipients may benefit from receiving social support, norms of reciprocity and equity, and the general norms that guide ‘female behaviour’ in terms of ‘niceness, helping and caring’ *dictate* that one should, at some stage, repay the support received. This may reduce the probability that one will ask for help, particularly in times of stress when one is already overburdened.

In this regard, the Conservation of Social Support Resources Theory proposed by Hobfoll, Freedy, Lane and Geller (1990) is particularly pertinent. They note that in terms of a resource-identity model, individuals strive to maintain social support both to meet their needs to preserve particular resources and to preserve and maintain their identity as part of network in which they are cared for, esteemed and loved. Furthermore, they propose that individuals possess a given level of personal resources and have access to a given level of social resources, one of which is social support. These resources enable them to offset the stressor demands placed upon them by environmental circumstances. Social support received would be obtained from the social resources reserve while social support provided would be issued from the personal resources reserve. At the same time one may still be using one’s own personal resources to cope with experienced stress. As these reserves are finite they can become depleted especially in the event of excessive demand. Thus, for women (or those more feminine) who are more likely to be providers as well as recipients, their resources are more likely to rapidly deplete, in terms of differential stress exposure and in terms of greater support provision, in times of stress (Hobfoll et al., 1990; Narayanan et al., 1999; McDonough &

Walters, 2001; Misra et al., 2000). When such women are exposed to additional environmental demands they may thus be reluctant to draw on their reserve of social support resources as this may entail that they reciprocate by providing support to the current provider/s at some later stage (or even concurrently), which further takes from their personal resources. The compounded costs entailed in such reciprocity, in the light of already diminishing or depleted personal resources may be perceived to be too great and may, consequently, hinder women's likelihood of utilising this resource even if it is readily available. At this point the decision on whether to conserve personal resources by not engaging in the reciprocity implied by using social resources, or whether to deplete personal resources by using social resources and then having to reciprocate, represents a decisions between two "potential loss spirals" (Hobfoll et al., 1990, p 473).

Thus, one can see that in terms of conservation of resources, women or those who are more feminine, as providers, may be reluctant to draw on social support in times of stress even though it is available as reciprocity, either currently or in the future, will add to their stress experience. This may account for no moderating effect as there may have been *no actual usage*. A further possibility is that if their support network at the time was in fact in need of their support, this may in turn have been a *compounding* demand on top of their own personal stress experience, and in such an event the support network becomes such a burden that it exacerbates the stress experience. In such an instance social support can then 'worsen' the stress experience (Antonucci et al., 1998).

To summarise, although positively feminine individuals do appear to be advantaged in terms of being able to establish intimate relationships and thereby build stronger networks, it is possible that such individuals could have not utilised any available support that they had in times of stress. The demands of reciprocity may have been too great and if used could serve as an exacerbator over time. As a significant proportion of the sample was positively feminine (21.33%) this could offer some explanation as to why no moderating was observed in many of the possible interactions assessed.

9.11.2.4 Negative femininity and social support: The toxic socio-psychological cocktail of negatively feminine traits

With regard to negative femininity, the higher neuroticism and anxiety which are associated with the negatively feminine identity could serve to discourage or reduce the likelihood of establishing and maintaining strong social support networks that one can effectively seek out, mobilise and utilise. As 13% of the sample were negatively feminine and 23% of the sample were negatively androgynous, thus also high on negative feminine traits, this may provide some account as to why no moderating effects were observed.

Negative femininity with its toxic socio-psychological cocktail of adverse behavioural traits, combined with possible differential exposure which is generally the 'lot' of women and the desire to conserve resources, that is, to not deplete or exhaust networks which may already be over-utilised; will reduce the likelihood that negatively feminine individuals will desire to or even be empowered to seek out, mobilise and utilise any social support that they may have. Bornstein and colleagues (2002; 2003; 2004) note that with regard to destructively over-dependent (DO) individuals, their behavioural traits are aligned to those of unmitigated communion, that is negative femininity. Such individuals display characteristics of fear of abandonment and rejection, are low on self-reliance and also tend to lack confidence and trust in others. Thus, although they may desire closeness with and tend to be more reliant on others, they lack the ability to form healthy attachments and tend to have a sense of mistrust regarding the extent to which others can be depended upon for help (Bornstein et al, 2002; 2003; 2004). In addition, they may suffer from affect dysregulation, in that they are unable or less able to modulate their affect and reduce internal tensions effectively. Moreover, they tend to be highly susceptible to external influences and have a high need for approval. These characteristics may explain to some extent why such individuals with such typically antisocial behavioural traits and insecure attachment may have smaller and/or ineffectual networks of support and/or may be less likely to seek out social support. Furthermore, if they do actually seek out support, they may be less likely to adequately harness available support and/or utilise it effectively (Blain et al., 1993; Ghaed & Gallo, 2006; Kitamura et al., 2002; Monnier et al., 1998).

While not specifically focusing on negative gender roles, Nolen-Hoeksema (2008) in support of the Gendered Responding Framework on depression, proposed by Addis (2008), noted that those that are more feminine are more prone to greater rumination in response to negative affect which is associated with a higher degree of depression (Nolen-Hoeksema, 2008). Nolen-Hoeksema (2008) and Nolen-Hoeksema and Jackson (2001) note that one of the ways in which those high on expressiveness or femininity differ from those high on masculinity or agency is in the degree to which they ruminate in response to negative affect situations that provoke distress and that this gender difference in rumination may account at least partially for the greater rate of depression amongst feminine individuals as opposed to masculine individuals. This feminine predisposition to ruminate *combined with the whole gamut of negative feminine traits*, may partially explain why those that were negatively feminine experienced the worst health outcomes within the present study. In addition, this aligns with the lesser ability of negatively feminine individuals to effectively surround themselves and maintain relationships with supportive others, as these others in their network may tend to, over time, disengage from those who are overly demanding and negative in affect (Bornstein et al., 2004; Nolen-Hoeksema, 2008).

To summarise, the negatively feminine identity has a plethora of traits contained within it that would disadvantage such individuals from being able to sustain network support and utilise it effectively and may even lead to counterintuitive, exacerbatory findings. Such individuals, as with their positively feminine counterparts may be burdened by work *and* family stress, that is, differential exposure and/or reciprocity demands. This excessive burden may be further accompanied by feelings of anxiety and nervousness as characterised by the traits contained within their sex role identity. Consequently, they would be even more unlikely to utilise any available support that they have, as they may be unable to manage the reciprocity demands such utilisation may imply in the face of *all their woes*. As noted previously, negatively feminine individuals may already have weak or weakened networks as their very ‘nature’, through insecure attachment and antisocial behavioural engagement, may result in their having poor relationships and networks to begin with. It is also possible that the relationships and networks that they concurrently have may be in a state of deterioration as a result of their nature which may make them overly demanding and needy in stressful times. As mentioned 13% of the sample were negatively feminine, and 23% were negatively androgynous. Thus, 36% of the present sample was prepossessed of a high degree of

negatively feminine traits and consequently, this may have well have accounted for their inability to harness adequate support and therefore no usage, evidencing in an absence of moderator effects.

9.11.2.5 Negative masculinity and social support: The constellation of hostility-aggression traits within negative masculinity

With regard to negative masculinity, the hostility-aggression positioning of such individuals within the circumplex space would not be conducive to the building of *sustainable* social support networks. Although such individuals may be able to gather supportive cohorts around them due to their display of dominance, in the long term such individuals may be unable to sustain and could even alienate their supportive network. Rodin (1985) and De Jong (1987) in fact note that while individuals who display dominance are able to place themselves within the centre of their social networks and will therefore receive more social support and be less vulnerable to stress, one must distinguish between aggressive dominance (AD) that would be more typical of negatively masculinity and social dominance (SD) which would be more typical of positive masculinity. While those that are SD's are more successful at dominating while *maintaining* social relationships those that are AD and who tend to dominate with far less or no consideration for others may, in the long term, jeopardise their relationships within their social group or network (Kalma & Peeters, 1993).

Swann, Rentfrow and Gosling (2003 p. 1095) examined the “precarious couple effect” which explored the “bad chemistry” of so-called socially supportive relationships between verbally inhibited men and critically disinhibited women. They defined disinhibition as the degree to which women may be inclined to be outspoken and not hesitate in voicing their demands and needs. They further noted that disinhibition can provoke withdrawal in those exposed to such demands and possibly even derogation. While Swann and colleagues (2003) focused on couples it is possible that the same negative interaction effects could be observed amongst disinhibited women and their so-called support providers. Women who are negatively masculine are typically outspoken, demanding and critical and they may well behave in such a way with their support providers. By so doing they could provoke negative reactions within their providers that cause them to disengage from interacting with the recipient and from providing the recipient with support. Thus, the verbal dominance of such individuals may, in the long term, threaten and overwhelm the supportive others in their network leading to their withdrawal and therefore a net loss of support (Swann et al., 2003).

Furthermore, the aggression and dominance of this identity, if combined with the detachment and distrust that is characteristic of their identity could preclude them from seeking out help (Bornstein et al., 2004). The self-centeredness of negatively masculine individuals and their egocentric focus on satisfying their own needs to the exclusion of others could also hinder their social support usage as they could be disinclined to engage in any of the required reciprocity. Bornstein and colleagues (2004) specifically note that negatively masculine individuals are high on dysfunctional detachment (DD). This is characterised by a lack of confidence in others, a discomfort with closeness and a preference for maintaining a degree of separateness and isolation. DD individuals may also be characterised by a low need for the approval of others. In some instances there may even be a degree of alexithymia (Parker, Bagby & Taylor 1991; Bornstein et al., 2004). Such individuals would be far less likely to seek out and effectively utilise social support unless, perhaps, it was deemed absolutely necessary for them as in the case of requiring an alliance or coalition to support their own personal agenda.

Also to be noted is some, albeit low degree, of emotional lability for negative masculinity. The cross loadings for negative masculinity on some of the negative feminine items within the factor analyses of the EPAQ such as 'not at all emotional – very emotional'; 'not at all anxious- very anxious', 'does not worry at all - worries a lot' indicates that negatively masculine individuals are not entirely free of negative affect. Overall, the inter-correlation between the two subscales of negative femininity and negative masculinity, although low to moderate do show a degree of correlation, that is, 0.23 (see Table 16, p.184). This suggests that for all the posturing machismo, negative masculine individuals may be partly subject to the worries and insecurities of negatively feminine individuals and this could, in turn, combined with their alienating hostility and aggression, impair their relationships with potential supportive others.

As mentioned previously asking for social support can also negatively impact on self-esteem (Fisher et al., 1982; Gleason et al., 2003; Hobfoll et al., 1986; Jung, 1989; Nadler & Mayseless, 1983; Seidman et al., 2006; Shrout et al., 2006; Smith et al., 2009). The dominance and self-enhancement of negatively masculine individuals along with their desire to maintain an image of strength and power may disincline them to ask for support (Bornstein et al., 2004; Kitamura et al.,

2002). The need for support could imply that they are weak which would be disempowering for them in terms of the strong, tough image they may prefer to portray and they would, therefore, tend to be reluctant to draw on this resource in times of need.

To summarise, negatively masculine individuals may not use social support for a number of reasons. These pertain to their general detachment, their lack of desire to reciprocate, the threat to their self-esteem that usage could imply and the image of superior power that they may wish to portray and maintain. Consequently, if they do engage in usage an exacerbatory, counterintuitive effect could be observed. In addition, over time their aggressive dominance may in fact alienate their supporters and thereby reduce any support they may have previously had on offer. As discussed negatively masculine individuals may also be too selfish to engage in any reciprocity. Over time, if negatively masculine individuals have received support and have not reciprocated their support networks could diminish as ‘short-changed’ providers disengage from supportive interactions with them in the future. Thus, all of their negative personality traits and the contextual possibilities within which they operate may serve to explain why no moderating effect was evidenced or if there was an effect it may not be in the expected ‘beneficial’ direction. While only a small proportion of the sample was negatively masculine (8.46%) a large proportion of the sample were negatively androgynous (23.02%) and therefore prepossessed of a high proportion of negative masculinity. This could have accounted for no usage and therefore no moderation being observed. In addition, it may have accounted for the reverse effect observed for friend support on self-esteem.

9.11.2.6 Positive masculinity and social support: Self-esteem, mastery and the desire to not appear incompetent

With regard to positively masculine individuals, while this identity is associated with numerous beneficial health outcomes, as described within the literature, positively masculine individuals may be ever so slightly less adept and less desirous of utilising the more expressive “female-labelled” domain of social support to cope with stress (Smith et al., 2009, p. 844). This finding is aligned to research that indicates that those that are more feminine will be more likely to avail themselves of social support while those that are more masculine would be less likely to do so (Neff & Karney, 2005; Reevy & Maslach, 2001; Smith et al., 2009). In all of the ANOVAs within the present research, although differences were not significant, positively feminine females perceived more

support than those that were positively masculine. It may thus be possible that, in terms of usage, masculine females would be less likely to use support. Below follows a discussion of why masculine females would possibly not use support, as evidenced in no moderating effect. In addition, the possibility that usage, for masculine individuals, may have even contributed to counterintuitive findings is discussed.

With regard to positive masculinity, while those that are positively masculine do have the social competence to establish networks of social support; contained within this identity are many traits that can serve to inhibit social support usage or lead to counterintuitive effects. For example, the identity's association with traits such as hardiness, internal locus of control, mastery and high levels of self-efficacy, self-confidence and self-esteem may have precluded usage (Fusilier et al., 1987; Hobfoll, 1985; Johnson & Sarason, 1978; Kobasa, 1982; Lefcourt, Martin & Saleh, 1984; Nadler & Mayseless, 1983; Sandler & Lakey, 1982). While those that are positively masculine are imbued to a greater extent with competency cluster traits that enable them to establish robust social support networks on which they can draw in times of need (Gerdes et al., 1980); by virtue of their prepossession of these competency traits they may feel *less of a need* for support. These traits are likely to imbue them with a greater perceived and actual capability to deal with stressors on their own, without having to call on external resources. Positively masculine individuals may exhibit greater autonomy, greater self-reliance and greater independence. They may behave autonomously, be able to repress their emotions more and inhibit their expression of personal feelings, all of which may discourage the seeking out of social support (Bornstein et al, 2004).

With regard to hardiness and internal locus of control, as mentioned hardiness is a construct comprised of a number of dimensions, that is, 1) commitment which is evidenced in individuals who are fully involved in the different spheres of their life; 2) perseverance in the face of stressors which hardy individuals tend to perceive of as more of a challenges and less of threat and 3) control, that is, they perceive themselves to have a sense of control over the occurrence of events in their lives (Kobasa, 1982; 1985). Positive masculinity which manifests in behaviours tapped by the EPAQ such as never giving up (persevering), being decisive and standing up well in the face of pressure represent aspects of personality that may well correlate with those that are correspond to the constructs of hardiness and a sense of being in control. Individuals who are described on the

EPAQ as being high on self-confidence, who tend to speak out and be assertive (very outspoken), are not at all panicked in a crisis and are never or hardly plagued by feelings of inferiority, rather feeling a sense of their own strength and self-efficacy; these individuals may feel sufficiently in control to *not need to seek out social support* (Fusilier et al., 1987; Ganster and Victor, 1988). In the event of stress, such individuals may perceive themselves to have the inner resources that will enable them to fully cope with the demands that the stressor/s impose and therefore may rely on themselves' as opposed to relying on others in order to manage difficulties. Thus, individuals with such characteristics may not seek out mobilise and utilise support, even if they have extensive networks of available support and, consequently, no moderating effect will be evident.

The lack of evidence of moderator effects may also have been a result of moderating not occurring as hardiness and self-control/competency cluster traits may have *conditioned* the usage of the moderator in this study (Barling, 1990). Respondents within the present study, by virtue of the fact that they may have been hardier or had a greater degree of control may have felt less of a need to call on resources of social support. Furthermore, hardiness and control may have acted as a moderator in its own right. Thus moderating may have occurred but not due to social support. Rather hardiness and/or control acted as a moderator leading to reduced perceptions of stress and increased experience of wellbeing.

Similarly those high on self-esteem and mastery could also have been less likely to *need* social support in times of stress, as evidenced in no moderating effects. While a number of researchers have indicated that social support can serve to bolster flagging self-esteem particularly in the case of appraisal and/or emotional support, those prepossessed of high self-esteem and a sense of mastery, prior to the experience stress, may be less likely to draw on this resource (Hobfoll, 1985; Thoits, 1985). Hobfoll (1985), notes that those who have high self-esteem and a sense of mastery appear to have a less of an immediate need for social support in times of stress. Their sense of self-worth and their belief that they can easily or adequately manage the stressor situation, act as internal resources that enable them to cope when confronted with stressors. According to Pearlin, Lieberman, Menaghan and Mullan (1981), mastery or efficacy-based self-esteem arise from perceived above-adequate performance of role-related tasks and successful environmental control. Hobfoll and colleagues (1990) further note that mastery may serve as an *executive resource* which

in turn determines the use of social support resources. Consequently, those high on mastery would utilise social support judiciously if at all. Such individuals would tend to rely far more on their own internal personal resources in times of stress. As masculine individuals enjoyed a high degree of self-esteem this may have preconditioned and limited their usage of or need for social support.

However, despite these individuals being prepossessed of high self-esteem, hardiness, self-efficacy and mastery which may lead to such individuals having less of a need for social support, and while social support can serve to reduce the impact of stress on self-esteem and bolster one's self-esteem in times of stress, it is also possible that social support could act as a *threat* to self-esteem for masculine individuals. As mentioned previously, social support could threaten the self-esteem of negatively masculine individuals. Similarly, the usage of this resource could threaten the self-esteem of positively masculine individuals. Shrout and colleagues (2006) specifically note social support can have a harmful effect with regard to self-esteem, sense of agency and autonomy. Social support can be particularly costly when a supportive act is accompanied by a blatantly or even subtly aversive message. Shrout et al. (2006, p. 116) propose that even if a supportive act is "well intended and pleasantly delivered" it can challenge the receiver's sense of competence by "inducing them to make upward social comparisons [which] thereby take a toll on their self-esteem". Both Shrout and colleagues (2006) and Seidman and colleagues (2006) note that social support by 'drawing attention' to the individual's problem can also worsen the situation. They distinguish between visible and invisible support noting that invisible support tends to have a beneficial effect while visible support, in which attention is drawn to the receiver's problem can exert an opposite effect, that is, one which is harmful. Invisible support may be beneficial as it occurs outside of the recipient's 'awareness' and therefore does not threaten the recipient's self-esteem and sense of self-efficacy. However, if the support is made visible and attention is drawn to the problem the support is intended to resolve then the so-called supportive act may become detrimental. By drawing attention to the problem this may lead to the individual cognitively re-appraising the stressful situation, and by virtue of the fact that the individual perceives that he or she needs support to deal with the problem, this 'need' may leave the individual feeling incompetent and devalued (Shrout et al., 2006). In such an instance supportive activities challenge the recipient's sense of autonomy and agency and can also leave the recipient with feelings of indebtedness towards the provider. In

addition, if the support is being provided to the individual in the midst of performance challenge, the 'supportive act' could heighten performance anxiety.

The discussion of the two-way ANOVA's also highlighted the three-way intersect of differential exposure, Type A personality traits and the demands of working and not failing in a male-dominated work environment. Adding on the burden of possible agentic backlash for masculine females and one could argue that the three-way intersect becomes a four-way affliction for the positively masculine female. In such an instance where the prospect of failure could be felt to be particularly damning, having to ask for support could serve as blight rather than a blessing (Shrout et al., 2006).

Thus, while having a strong network of available supportive and intimate others may enhance self-esteem thereby having a main effect, *having to actually call on this network* for help may impair self-esteem after usage. Dependence on others for aid can imply inferiority and as such may pose a threat to one's self-esteem. The need for support may, in certain instances, imply that the individual is incompetent and unable to solve his/her own problems (Fisher et al., 1982; Gleason et al., 2003; Hobfoll et al., 1986; Jung, 1989; Nadler & Mayseless, 1983; Seidman et al., 2006; Shrout et al., 2006; Smith et al., 2009).

The asking for and accepting of social support can consequently, have two effects. On the positive side, support can enhance self-esteem as by assisting a person to cope with a stressor situation, it can bolster an individual's self-belief in their ability to cope and if they do cope successfully it can then further act to enhance one's belief that one can cope with the same or similar stressor situation in the future. On the negative side, social support may be threatening if it implies a superiority-inferiority relationship. If seeking out and utilising social support conflicts with a recipient's values of self-reliance and independence and/or it requires the recipient to admit to impairment, it can either totally prevent one from utilising any social support resources one has, or if one does utilise, it can leave the recipient with some sense of feeling weak and dependent and therefore, have an exacerbating effect, post-usage (Marcellisen et al., 1988). The more visible the support, the more attention that is drawn to the problem making it noticeable to all, particularly the recipient, and the more indebted the recipient is left feeling the more likely it is that it will have an exacerbating effect

if used or the more likely, it will be that the recipient will not use it at all (Seidman et al., 2006; Shrout et al., 2006).

Individuals may thus be reluctant to seek out support if it entails an admission of weakness, signifying that they are unable to cope with the stressor demands on their own. This may be particularly pertinent in relation to work stress as work is an area in which striving for competence, recognition and promotional opportunities, may often be primary goals. The fear of being negatively evaluated may therefore discourage use of support. Thus if respondents in this study, particularly positively masculine respondents who have a need to compete and succeed, felt in any way that utilisation of support may lead to costs in terms of admitting to weakness and incompetence they may not have drawn on it at all (evidenced in no moderating effects) or they may have drawn on it and experienced the threatening costs (as evidenced in exacerbating, negative moderating effects for friend support) (Fisher et al., 1982; Hobfoll et al., 1986; Jung, 1989; Marcellisen et al., 1988; Nadler & Mayseless, 1983; Seidman et al., 2006; Shrout et al., 2006).

That is not to say that masculine individuals cannot effectively use social support and experience health benefits. The above discussion suggests that their possession of competency traits may shore them up in such a way that they have less of a need for support. However this does not mean that they are immune to the need for support as if the stressors are chronic or if they are in fact extreme, if the individual experiences that over time he/she is not coping adequately then internal resources may begin to deplete. In such an instance social support may be called upon acting as a “buoy to sinking self regard” (Hobfoll, 1985, p.398).

Thus, there may well be times when positively masculine individuals do need support and are able to utilise it without any negative aftermath.

Furthermore, once again, the temporal dimension could have come into play, as only at the point where internal resources do become depleted in such individuals, would moderating be evident. If the present research captured respondents at a time prior to this, when self-esteem and mastery were still high, no moderating would be evident. Likewise, if these individuals were captured after the moderating process had taken place all that would be evident would be main effects in respect of

lower perceptions of stress and/or higher (bolstered) self-esteem and wellbeing. (Alternatively, if reverse moderating took place higher perceptions of stress and lowered wellbeing could be evident).

Although only a small proportion of the sample was positively masculine (4.81%) a large proportion was positively androgynous (23%), thus overall, 27.81% of the sample was prepossessed of a high degree of positive masculinity. This may serve to account as to why so few moderation effects were not detected within the present study and why, as mentioned previously, one of the effects was inverse.

To summarise, to the extent that a significant proportion of respondents in the present study were high on positive masculinity and its associated 'competency cluster' personality traits, so could it have been possible that these individuals would have had less of need to utilise social support in times of stress thus explaining the lack of moderating effects in relation to many of the sources of support under study. The lack of moderation could also relate to the possible usage of visible social support contrarily undermining one's self-esteem. This may have been particularly so for masculine females competing within the context of a male-dominated organisation. If such individuals were cognisant of the threat that asking for help implies or if they had experienced this undermining as a result of past social support usage this would serve to discourage them to use this resource in the present.

Further points of interest pertain to the degree to which support is unsolicited and to the physiological effects of providing and receiving support. Both of these factors could account for no moderating or reverse moderating occurring for all of the above identities.

Gleason and colleagues (2003) distinguish between support that is solicited and that which is not. When the recipient takes the initiative and solicits support from a provider, this social exchange, in which the recipient takes the initiative, making his or her needs known and being specific in terms of the type of help needed, provides the recipient with some measure of control. The recipient can control what is asked for and when, and can frame the support situation in a way that does not leave him or her feeling undermined and indebted (Gleason et al., 2003). However, when support is

provided without being attentive to the real needs and desires of the recipient and if the support is of the wrong type and is not skilfully communicated, it can have harmful effects.

Smith and colleagues (2009) also note that support can also have negative physiological responses. In an examination of the cortisol responses of males and females they distinguished between raised cortisol levels for men and women depending on whether they act as providers or are recipients. They noted that women tend to feel more responsible for the emotional tone of their close relationships than men and that it is this sense of responsibility that prompts them to act as greater providers as compared to men. However, the increased demand and responsibility that this support provision entails manifests in increased cortisol levels amongst women which in turn can manifest in negative physiological health outcomes. The pattern alters somewhat for recipients with research indicating that men feel far less comfortable as support recipients, particularly when support is not being received from a significant other. When support is being received from sources that the recipient feels a lack of intimacy with this can manifest in increased cortisol levels for men. While this research focused on biological males and females, it is possible that extrapolations can be made from these findings to those with feminine or masculine sex role identities within the present study. For masculine females, they may have felt discomfort in seeking out and receiving support because of its feminine label (Smith et al., 2009) and this discomfort may have been particularly elevated during times when the masculine female is undergoing achievement-based stressors (Smith et al., 2009). This finding would explain why masculine females were disinclined to use support and even why feminine females would be disinclined as in the latter instance, usage and the reciprocity it implies for feminine females would lead to increased feelings of dysphoria and concomitant raised cortisol levels (Smith et al., 2009).

A large proportion of the discussion for no moderation has been devoted to the identities of positive and negative femininity and masculinity. However a question still remains regarding the androgynous identities? While those who are positively androgynous may have less of the failings associated with social support usage as outlined above for those that are positively feminine or positively masculine, this is not to say that the positively androgynous are not burdened by the demands of reciprocity or fear of loss to self-esteem. Although they may be better able to manage these demands, in that they are assertive enough to not allow others to overburden them in relation

to reciprocity but sensitive enough to ensure that they do reciprocate and sustain their networks, and although their self-esteem may be of a sufficiently high level to not discourage them to use the resource; they may still have been some level of disinclination on their part to use the resource if they felt the costs were too high. As a significant portion of the sample were positively androgynous (23%) it is possible that the lack of moderating effect may have been due to the influence of factors associated with positive femininity and positive masculinity, both combined within the positively androgynous identity. The same proportion of the sample were negatively androgynous, (23%) and the combined drawbacks of both of these identities contained within may also have acted as a powerful deterrent to usage and therefore no evidence of moderation.

A segregation of each of the identities in relation to social support usage was however not possible as the sample sizes across each identity (particularly the masculine identities) were too small to enable the conducting of MMRs which would have been capable of yielding statistically meaningful results. The segregation of identities within the context of moderated multiple regression analyses in relation to work stress, social support and wellbeing, thus remains a recommended undertaking for future researchers.

9.11.2.7 Provider Characteristics

Provider characteristics can also produce harmful as opposed to beneficial outcomes for recipients in so-called supportive interactions. Seidman and colleagues (2006) note that support behaviours engaged in by providers may be ineffective if they engage in behaviours such as minimising the problem, encouraging suppression or simply giving unsolicited and unwanted 'advice'. Such 'supportive acts' are not helpful and may well be harmful, impairing not only the individual's feelings of competence and self-efficacy but possibly even leaving the individual feeling that he or she is 'over-reacting' to the situation. Also problematic are providers who cannot resist asking for credit for the support provided, thereby increasing indebtedness and making the support provision all the more visible (Gleason et al., 2003). To the extent that providers make the support overly visible to the recipient so does this increase negative affect for the receiver (Gleason et al., 2003, Seidman et al., 2006). Kappes and Shrout (2011) further note that if the provider does not support the goals of the recipient when the recipient requires support then the support provided by the provider may well be harmful.

If the support required relates to an ego-relevant task this can lead to negative self-evaluations more especially if it comes from a friend or colleague (Nadler & Halabi, 2006). Such negative self-evaluations would be particularly pertinent in terms of detrimental affect for masculine females requiring support within the work domain. Another consideration is the motivation of the support provider in providing support to the recipient. If the provider offers support that is controlling as opposed to caring, this will produce a negative affect. Providers who dictate advice to recipients, who do not support the goals that recipients are trying to attain and who may possibly try to dissuade recipients from pursuing the course of action they wish to engage in can obviously impact negatively on the recipient. Alternatively, if the provider is too heavily invested in helping the recipient achieve a goal, they may put undue pressure on the recipient further increasing their stress. Referred to as provider-achievement goals where the provider gains by the recipient achieving, the support offered in this instance can create added pressure (Kappes & Shrout, 2001). Such support often comes from family, a partner or a friend and this excessive pressure that such support may engender could account for why such support is not called upon or if it is, (in the case of friend support) it leads to an exacerbatory effect.

9.11.2.8 Past experience with social support as a usage inhibitor:

Costs of social support link directly into an individual's past experience with support. A detailed discussion of costs has been provided in the sections above. If previous costs were incurred this could serve to explain why social support is not used concurrently or would not be used in the future. Past experience with one's social support network can influence one's current or future perceptions of social support's utility. If one used support previously and it led to the experience of dysphoria after usage, this previous past negative experience could in turn discourage any usage in the present or future. As discussed in Chapter 2 within the transactional model of stress there is a fifth stage within the model, that is, the stage of Feedback or the Feedback Loop. Within this stage the extent to which an individual successfully copes with a stressor or stressors will feedback into the stress process. If there is successful coping so will this influence the individual's ability to cope with the stressor currently if it is a demand situation that is ongoing or to deal with the same or a similar stressor situation in the future. Applying this process to social support, if one's experience of the utilisation of such a resource in the past has been beneficial, so will this influence the extent to which an individual will continue to seek out, mobilise and utilise the resource, in the event of a

similar or the same stressor/s occurring concurrently or in the future. If however, social support utilisation had past negative consequences in that it drained one's personal and social reserves or led to the individual feeling undermined and less competent, so will the individual be reluctant to utilise such a 'resource' presently or in the future in the event of a stress experience. However, if the individual has never experienced the negative aftermath of using social support before and is therefore not cognisant of the threat usage poses, he or she may still mobilise and utilise social support and if in the present instance this leads to feelings of being undermined at all by the process then a counterintuitive exacerbatory moderation effect could be observed.

9.11.2.9 Relationship characteristics - Intimacy: Too much or too little?

It is also possible that relationships could have been *too intimate*, particularly with regard to friends and family (Cutrona et al., 1990; Hobfoll et al., 1986). Family and friends as non-work sources may be spheres that one wants to protect and conserve; by not allowing work related stressors to impinge on one's non-work life. A reluctance to bring work-related problems home and into the relationships that one enjoys with family and friends may have precluded individuals from utilising these sources. In addition, the present study did not assess the extent to which individuals were experiencing non-work sources of stress, that is, family stressors. If family stress was being experienced, despite the perception that family is a source of support, the individual may have been reluctant to impose on an already strained network by asking for assistance on work related matters (Antonucci, 1985; Barrera & Baca, 1990, House et al., 1988). Moreover, if individuals felt that admission to work-related problems would diminish them in the eyes of both family and friends, they may possibly have chosen to conceal any experience of work stress. As non-work sources are not privy to the daily events that occur in the workplace it would be relatively simple for an individual to not divulge any work-related problems to such sources. Thus, individuals would either not use these sources, explaining no moderating effect, or if they did decide to call on these resources and these relationships were already strained, they could have experienced reverse moderating in that the experience left them feeling worse-off; undermined and diminished for their failure to adequately deal with work-related problems (Antonucci, 1985; Barrera & Baca, 1990, House et al., 1988).

Although the interactions were not significant for non-work sources of support, in the case of both psychological wellbeing and self-esteem, the direction of effect for family and friend support was 'positive' indicating that the higher the (so-called) social support the higher the work stress and self-esteem scores; thus indicating the possibility of a counterintuitive effect as higher scores on both the work stress scale and the self-esteem scale indicate a greater degree of work stress and lower self-esteem respectively.

9.11.3 Conclusion of MMR findings

To conclude on the significant findings for social support within the moderated multiple regressions, in all instances of non-work support social support had a beneficial main effect on psychological wellbeing and in all instances social support had a beneficial main effect on self-esteem. Work sources also moderated in some instances and this may have been due to the fact that work sources may be far more instrumental in relieving stress as opposed to non-work sources, as they are in a greater position to be actively involved and on site in alleviating work stressors that the individual may be encountering.

To conclude on all of the non-significant findings for social support within the moderated multiple regressions, there are numerous possible factors that may have intervened that led to a lack of observation of moderating effects. Recipient characteristics, that is those pertaining to the individuals sex role identity and the socio-emotional correlates of these identities may well have hindered or discouraged individuals in the effective usage of social support as a resource to relieve experienced stress. Reciprocity costs, conservation of resources, threat to self-esteem, inability to sustain effective networks, competency traits which would bolster an individual to not need support; all of these factors, outlined in detail above, may have come into play to explain why there was no usage and therefore no moderating effect observed. In addition, for all of the identities the temporal dimension may have confounded findings, as individuals may have already utilised social support and with the process 'completed' all that would be evident would be main effects. Lastly, possible stressors occurring within relationships within the non-work sphere may have precluded the usage of support from relationships already undergoing some degree of strain.

9.12 CONCLUSION

The above sections have discussed the findings for one way and two-way ANOVAs and the moderated multiple regressions. With regard to the ANOVAs and the relationship between sex role identity and perceptions of work stress, self-esteem, psychological wellbeing, the present research has clearly provided support for both the Androgyny Model and for the Differentiated Model of Sex Role Identity, the latter which calls for researchers to examine both positive, socially desirable and negative, socially undesirable sex role identities in relation to wellbeing. In virtually all instances positive androgyny was shown to have the best health outcomes and was significantly different to the negative identities.

The findings within the ANOVAs, particularly the two-way ANOVAs, suggest that there are a number of specificity hypotheses that may be operating particularly in relation to positive masculinity for females which may have drawbacks, contingent on the stressor situation and the context within which the stressor is occurring. A specificity hypothesis also seems to be suggested by the findings for negative masculinity as this sex role identity appears to be somewhat inured to situations of increasing stress.

With regard to negative masculinity findings within both the one- and two-way ANOVAs also indicate that the cultural context may have some influence on the extent to which the traits within this identity are undesirable and therefore poor predictors for wellbeing. There is a suggestion that this identity may in fact not predict as poorly for wellbeing as indicated by previous literature. Within South Africa traits of dominance and aggression may even be valued and respected and may be seen as a means whereby one may attain control of resources and elevate one's social status.

With regard to sex role identity and perceptions of social support, once again findings suggest support for both the Androgyny and Differentiated Models of Sex Role Identity. Those that were positively androgynous enjoyed significantly more social support than those that had negative sex role identities. A specificity hypothesis was also suggested for positive femininity as in a number of instances this identity enjoyed significantly greater support than the negative identities. However, with regard to negative masculinity, in relation to social support, this identity did not seem to enjoy the same benefits as suggested in relation to work stress, self-esteem and psychological wellbeing.

Although negative masculinity rarely differed from the positive identities on social support means it seems that in the long term these individuals may not be able to sustain effective social support networks that can adequately aid them in times of stress.

With regard to the moderator model, while work stress in all instances and social support in most instances had main effects on psychological wellbeing and self-esteem, moderator effects were often not apparent. It is possible that these moderator effects were not observed due to the temporal dimension of social support, suggesting that longitudinal studies may be more efficacious in observing such an effect. The lack of observation of effect may also likely be due to the specific recipient characteristics of each identity and the extent to which these characteristics could hinder usage of social support, even though individuals within some of the identities (that is the positive identities) may have been embedded within a network of supportive individuals willing to provide support. The desire to conserve personal resources, the reluctance to engage in reciprocity and relationship characteristics between recipient and provider are thus, further possible constraints to the utilisation of social support.

All of the above findings have implications for future research which are discussed in the following chapter. In addition, the present research was not without limitations. These implications and limitations, both theoretical and methodological are outlined in detail in the following Chapter 10.

CHAPTER 10: LIMITATIONS OF THE STUDY AND RECOMMENDATIONS FOR FUTURE RESEARCH

10.1 INTRODUCTION

The present study had a number of strengths in that it was the first known attempt to examine both socially desirable and undesirable sex-based traits and their relationship to wellbeing indicators amongst a sample of South African female managers. Findings of this study provided clear support for both the androgyny model and the differentiated model of sex role identity.

The present study indicated that not only are negative sex role identity's associated with differential health outcomes but that to ignore the negative identities is a serious theoretical and methodological limitation. The adaptive outcomes for positive androgyny and maladaptive outcomes for negative identities, more particularly negative androgyny and negative femininity found within the present study provide a strong reason as to why previous findings that have examined only socially desirable sex role identities have reported equivocal findings in predicting psychological health and wellbeing.

In addition, the present research also suggested that there may be a number of specificity hypotheses in relation to sex role identities, indicating that depending on culture, context and specific stress-strain situations, certain identities may enjoy benefits or suffer drawbacks that are not entirely in line with those proposed by both the androgyny and differentiated sex role identity models.

Nevertheless, despite the advances that this research represents within the field of sex role identity and wellbeing, the study was subject to a number of limitations, both theoretical and methodological, that became evident as the research unfolded. The limitations of the study, implications thereof and recommendations for future research are outlined below.

10.2 THEORETICAL AND METHODOLOGICAL LIMITATIONS

A particular limitation of the present study was the use of the cut-off points within the z scoring method. While it has been argued that this method represents an advance over previous methods

used it became apparent that this method is still subject to a number of drawbacks. The most pertinent was the fact that this method still does not take into account the extent to which individuals have within them other traits representative of the other identities that is, traits, other than their “dominant” identity that fall just *below* the cut-off point for a categorisation. While a z-score cut off point of zero was utilised which enabled the categorisation of individuals into one of seven categories which identified their most dominant identity, this categorisation process did not mean that individuals defined as belonging to a particular dominant category were *absent* of any other traits as defined by an alternative category or categories. Woodhill and Samuels (2003) argue that a way must be found to identify the relative strengths of sex role identities and to examine within group differences. They suggest the use of multiple regression though they do note that there are theoretical problems associated with the use of regression. These pertain most notably to the fact that there is very little evidence to date that there are interaction effects. Although it has been suggested that androgyny is an interactive concept, that is M X F, research has found little evidence of this and tends to propose that the model is essentially additive (Spence, 1984; Taylor & Hall, 1982). In addition it is noted that regression assesses interaction best when relationships are linear, however it is most likely that curvilinear relationships exist within sex role identities (Jaccard, Wan & Turrisi, 1990).

Thus the problem remains in that one could be positively androgynous scoring above the z-score cut-off point on both positive femininity and positive masculinity, but the individual could still score high on either negative masculinity or negative femininity or both, although at a point just below the z score cut-off. In such an instance an individual could be positively androgynous, with some degree of negative femininity (A+ and some F-); positively androgynous, with some degree of negative masculinity (A+ and some M-) or positively androgynous, with some degree of negative androgyny (A+ and some A-). Similarly, one could be negatively androgynous scoring above the cut-off point on both negative femininity and negative masculinity but while still scoring a sufficient degree but below cut-off on positive femininity (A- and F+) or positive masculinity (A- and M+). Furthermore, one could be predominantly positively masculine but with a sufficient but below cut-off degree negative masculinity (M+ and some M-) or negative femininity (M+ and some F-). Lastly, one could be predominantly positively feminine but with a sufficient but below cut-off degree of negative femininity (F+ and some F-) or negative masculinity (F+ and some M-).

Thus, in terms of “blended identities” or within group differences, nine additional possible combinations other than the clear-cut seven identities as proposed within the present study may be evident within an individual. A table of these possibilities are outlined below in Table 70.

Table 70

Sixteen possible sex role identities

Sex Role Identities
A + and A –
A + and F –
A + and M –
A- and M+
A- and F+
M+ and M-
M+ and F-
Au +
Au –
Au + and Au-
A +
A-
M+
M-
F+
F-
(Au)

Highlighted identities are those assessed within the present study

(In accordance with Woodhill and Samuels (2003) distinctions were not made between Au+ and Au-).

A problem that arises if one chooses to explore the possibility of sixteen blended identities is that of sample size. Within the present study, based on seven identities only, the numbers of individuals within each category were as follows: Negative androgyny (340); positive androgyny (343) positive femininity (315); negative femininity (193); positive masculinity (71); negative masculinity (125) and undifferentiated (90). To further subdivide the sample into ever smaller categories, e.g. M+ and M-, M+ and A- or M+ and F-, could have led to a loss of statistical power within the analyses (Aguinis et al., 2005).

Future research thus needs to direct itself towards obtaining ever larger samples that will enable the analyses of these sub-categorisations. A detailed discussion was provided as to how these sub-categorisations and the 'blended identities' or within group differences may have contributed to variance within the dependent variables, therefore accounting for findings that were unexpected. Future research needs to 'unravel' these blended identities in order to determine and account more precisely for the relationship these identities may have to specific wellbeing indicators.

10.3 LIMITATIONS RELATED TO CULTURE AND CONTEXT

Another important limitation that unfolded within the present study was that of context specificity with regard to the specific situational conditions within which specific sex role identities would predict better or more poorly in terms of health outcomes. For example, results of the present study suggested that within certain contexts positive masculinity may not have the predicted beneficial health outcomes for females and in fact may have more drawbacks as compared to other identities in terms of deleterious outcomes. In addition, negative masculinity was not as negative a health predictor as hypothesised within the present study and at times it appeared as if this identity could have contained within it certain traits that would advantage females within specific situations. Thus, while traditionally a positively masculine identity predicts the best health outcomes (after positive androgyny, according to the androgyny model), in certain contexts positive masculinity, particularly for females, may not always be the most or may be even be the least efficacious with regard to wellbeing. Likewise, negative masculinity may at times, within specific contexts and within specific stressor situations, predict far less poorly in terms of health outcomes than expected. These context specific findings were evidenced for both positively and negatively masculine females in relation to wellbeing and under varying conditions of stress.

In addition, specificity may also be of import in relation to the outcomes that one is intending to predict upon. Thus, androgyny or masculinity may be better predictors for instrumental/agentive outcomes but may be less favourable in relation to more expressive outcomes, as a greater beneficial effect was at times evidenced for positive femininity in comparison negative androgyny and negative femininity with regard to social support. In addition, the results on social support suggest that, in the instance of social support which is a more expressive outcome, positive and negative masculinity would fare less well.

Future research needs to therefore direct itself towards examining a differentiated model of sex role identity within specific contexts and in relation to specific stressors and specific outcomes in order to determine when and where a particular identity would be more or less efficacious in relation to health and wellbeing as compared to other identities.

Related to the above discussion on context is that of cultural shifts in perceptions of what is considered to be sex stereotypical and socially desirable or undesirable. Within the present sample there was evidence that certain traits that were stereotypically associated with one sex did not cluster in the factor analysis with the “sex” it was expected to cluster with. For example being very fussy and complaining, supposedly stereotypical female traits clustered just as highly if not more so with negatively masculine traits. Thus fuzzy sets of traits appeared to emerge with regard to the extent to which biological sex these traits belonged to, more typically or stereotypically.

Furthermore, negatively masculine traits which were traditionally considered to be socially undesirable did not seem to be as undesirable in terms of negative impact on health and wellbeing as previously thought. Thus, it would be of import to unravel the apparent cultural shift within South Africa with regard to what behaviours are considered to be socially desirable and socially undesirable; what behaviours are considered to be more or less appropriate for biological females as opposed to biological males and what behaviours are considered to be more *likely* for biological females as opposed to biological males. An examination of the discourse surrounding female and male behaviours within South Africa, the establishment of a set of ‘South African’ sex-typed traits and an empirical analysis of these behavioural traits and their outcomes would provide an enhanced

understanding of what gender means and how it should be or is likely to be enacted within South African society.

10.4 LIMITATIONS RELATING TO SAMPLE

A further limitation of the study was that the sample was exclusively female. While the dearth of studies on female managers motivated that the research should examine the unique experience of South African female managers, future research needs to explore the differentiated model and its relationship to wellbeing on a sample of males within an occupational setting. To date, to the researcher's knowledge there have been no studies looking at a differentiated sex role identity model on South African males and it would be of interest to determine the patterns of effect and whether they would be replicated or would differ, for the various identities in relation to wellbeing on such a sample.

10.5 LIMITATIONS RELATING TO INDUSTRY AND ORGANISATIONAL CULTURES

The relationship of the various sex role identities also needs to be explored in a variety of industry sectors and organisational cultures. The present study's sample was predominantly obtained from the financial sector which remains a sector that is largely male-dominated and where the culture is still 'think manager-think male'. Typically female-dominated industries such as teaching and nursing still need to be researched to explore context specificity in relation to predicting health and wellbeing for the various identities. In addition, organisational cultures and their relationship to sex role identities and wellbeing also need to be examined. Organisations vary with regard to the extent to which they are masculine or feminine; individualistic or collectivist (communal), risk taking and/or aggressive-competitive in terms of their achievement orientation (Bloisi et al., 2007; Hofstede, 1980; 1983). The fit between sex role identities and various organisational cultures and the relation of this fit to health and wellbeing remains a rich area of exploration.

10.6 LIMITATIONS RELATING TO SEXUAL ORIENTATION

The present study also did not examine sexual orientation. Some research has examined the relationship between sex-role identity, sexual orientation and wellbeing (Woodhill & Samuels, 2003; Wasjblat, 2001) but to the researcher's knowledge, no such research has been conducted within the occupational context within South Africa. Future research therefore needs to direct itself

to determining if there is any difference in pattern of effects amongst homosexual, heterosexual and bisexual biological males and females with regard to their sex role identity and the relationship thereof to health and wellbeing.

10.7 LIMITATIONS RELATING TO THE PSYCHOMETRIC PROPERTIES OF THE EPAQ-R

While the present study attempted to validate the EPAQ in its revised form on a South African sample this validation was limited to a female sample. The present researcher has been engaged in supervising other projects utilising the EPAQ-R prior to completion of the present study and has conducted research on sex role identity, perceptions of academic stress and wellbeing amongst first year tertiary students (Chemaly, 2012). This research was conducted on 287 male and female students and, similarly, high internal consistency was reported for all of the subscales, thus the internal consistency of the EPAQ-R for usage on both South African males and females appears to be promising. However, the EPAQ-R needs to be validated on a sample of both sexes within an occupational setting and, in addition, requires further validation in terms of its discriminant psychometric properties. No additional scales were used to assess the convergent and discriminant validity of the EPAQ-R and this remains to be explored within future research on the psychometric properties of the revised version of the EPAQ. Although Aube (2008) did demonstrate that the construct of neuroticism was distinct from negative femininity far more work in this regard needs to be carried out.

10.8 LIMITATIONS RELATING TO SEX ROLE IDENTITY AND THE MODERATING ROLE OF SOCIAL SUPPORT

A further limitation was not running moderated multiple regression equations for each of the seven sex role identities. The sample was not divided into seven sub-samples with separate regression equations conducted for each sub-sample that examined the relationship between stress, each of the five sources of social support and psychological wellbeing down and similarly, the relationship between stress, each of the five sources of social support and self-esteem.

This analysis was not conducted as some sex role identities contained an insufficient number of respondents within groups to do an adequate appraisal of the moderation process using the

statistical technique of moderated multiple regression. As mentioned it was possible that evidence of moderation; no moderation or even reverse moderation may have been apparent across the sample due to behavioural personality based strengths or weaknesses associated with some of the identities. By separating the identities and conducting regressions on these separate identities the ability of social support to moderate the relationship between stress and wellbeing for each identity may be more specifically discerned.

An additional limitation with regard to sex role identities and social support was that the present study did not examine different types of social support. As mentioned there are various types of support, that is emotional, instrumental, informational and appraisal support (House, 1981). Two schools of thought on social support prevail, that is whether social support is multidimensional or unidimensional. For those who argue that support is multidimensional, consisting of different types from different sources, they propose that unless the appropriate source and type is matched to a specific stress-strain situation, no moderating or main effects will be observed (Cohen & Mackay, 1984; Cohen & Wills 1985). However for those who propose that construct is unidimensional, they argue that the 'main ingredient' of the construct is emotional support (Burleson, 2003; Sarason, Shearin & Pierce, 1987). Thus, regardless of the way in which measures attempt to break up the construct into types of support, all of these measures are generally assessing the extent to which the individual perceives that he or she is cared for, accepted and valued by those that he or she is involved within his or her support network. Statistical analyses conducted on the vast majority of scales claiming to assess different types or components of support have indicated that the underlying factor structure of these scales are represented by one factor, that is the Emotional Support factor and if there is more than one factor these factors constitute a very small proportion of the variance as compared to the factor of Emotional Support (Bernstein, 1992; Burleson, 2003).

Consequently, the present study did not examine different types of support, using a measure that tapped support as a unidimensional construct. It thus remains possible that moderating effects may not have been observed if the type of support assessed was not appropriate to the specific stress-strain situations under study. Future research may therefore need to utilise or develop an instrument that taps all four types across five sources and examines the extent to which different types from

different sources moderate the relationship between stress and wellbeing across sufficiently sized sub-samples of all seven sex role identities.

10.9 CONCLUDING COMMENTS & RECOMMENDATIONS FOR FUTURE RESEARCH

The present research commenced with a literature review identifying the limitations of previous research conducted within the broad field of psychological androgyny. Following the literature review the present research proceeded to address these limitations by exploring a differentiated model of sex role identity on a previously neglected group of employees, that is female managers within the South African context. In order to test the hypotheses the present study intended to use the EPAQ an instrument which to the researcher's knowledge had not been used on a sample of South African female managers. Consequently, the EPAQ needed to be validated for usage on a South African sample of female managers. The current study was thus exploratory in nature. A pilot study revealed that the EPAQ lacked internal consistency on some of the sub-scales and therefore compelled the present researcher to refine and modify the scale within a second pilot study. Once the instrument was found to be internally reliable within the second pilot it was used within the Study Two of the present study to test specific relationships proposed in the study's hypotheses. The instrument's factor structure was also confirmed within the Study Two. The findings of the present research confirmed both the androgyny model and the differentiated model within the South African context and also suggested that there may be a number of specific contingencies that may be operating within this context. The exploratory nature of the study and the uniqueness of testing the differentiated model within the South African context have thus suggested a number of viable future research possibilities within the framework of sex role identity research on a wide variety of South African samples.

The future research recommendations have been explicated in the limitations outlined above and pertain in the main to determining a method of scoring that enables the examination of within group identities as identified within the differentiated model of sex role identity; further validation of the EPAQ-R on a both male and female samples; examining perceptions of sex role identity with regard to what is socially acceptable and desirable in relation to the sexes within South African society; exploring specific contextual contingencies and their relationship to the sex role identities and wellbeing; exploring the relationship between sexual orientation and sex role identity and

examining the extent to which social support will effectively moderate relationships between work stress and wellbeing for the sex role identities.

At present the researcher is engaged in projects that intend to examine the relationship between sex role identity, sex role orientation and perceived insider status amongst homosexual and heterosexual male employees and is also engaged in examining the relationship between sex role identity, organisational cultures and intention to stay within the organisation within which one is employed. Much more work needs to be carried out on this topic and it is hoped that the present study will inspire and encourage future researchers to pursue the many avenues of research that the present study suggests.

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APPENDIX A
PILOT STUDY 1 – SURVEY:
Conducted on Wits Plus Female Students

Covering Letter – Participant Information Sheet
Demographic Questionnaire
Original Extended Personal Attributes Questionnaire (EPAQ)
Revised Social Support Questionnaire

EMPLOYEE ATTITUDE SURVEY

Strictly Confidential

This questionnaire forms part of an independent research project being conducted by the Division of Industrial Psychology of the School of Industrial Psychology at the University of the Witwatersrand.

As this is an independent research project your confidentiality and anonymity is ensured. No persons will have access to your responses or opinions, so please answer each item as accurately as possible. You are not required to state your name anywhere on this questionnaire so your responses will remain anonymous. On completion of this questionnaire kindly place it in the attached envelope and drop it in the sealed box provided in the reception of the Wits Plus Building on the Ground Floor. Participation is voluntary and no one will be advantage or disadvantaged in any way by choosing to participate or not to participate. Completion of the survey and placing it and sealing it in the envelope and depositing the envelope in the box provided is regarded to be your informed consent. If you have any queries please do not hesitate to contact the researcher at colleen.bernstein@wits.ac.za

Before filling in the questionnaire, please provide the following information:

Biographical Information Form

What is your age in years?

What is your race?

Black	Indian	Coloured	White	Other

What is your marital status?

Married	Single	Divorced	Widowed	Separated	Co-habiting

How many children do you have?

What is your highest level of education? (For example: Matric, Post-Matric Diploma/s, University Degree/s – Please specify.

What is your home language?

What is your job title?

What is your job grade?

PLEASE ANSWER ALL THE QUESTIONS ON THE FOLLOWING PAGES:

Personal Attributes Questionnaire

The items below inquire about what kind of person you think you are. Each item consists of a pair of characteristics. For example

Not at all artistic 1 2 3 4 5 Very Artistic

Each pair describes a contradictory characteristic. That is you cannot be both at the same times such as very artistic and not artistic at all. The letters form a scale between the two extremes. You are to choose a letter which describes where you fall on the scale. For example if you have no artistic ability you would choose A. If you think you are quite good you may choose D and if you are only medium you may choose C, and so forth.

Please make sure that you answer all questions on the answer sheet and remember to answer quickly. Your first impression of yourself is what is required.

		1	2	3	4	5	
1.	Not at all aggressive						Very aggressive
2.	Very whiny						Not at all whiny
3.	Not at all independent						Very independent
4.	Not at all arrogant						Very arrogant
5.	Not at all emotional						Very emotional
6.	Very submissive						Very dominant
7.	Very boastful						Not at all boastful
8.	Not at all excitable in a major Crisis						Very excitable in major crisis
9.	Very passive						Very active
10.	Not at all egotistical						Very egotistical

11.	Not at all able to devote self completely to others						Able to devote ones self completely to others
12.	Not at all spineless						Very spineless
13.	Very rough						Very gentle
14.	Not at all complaining						Very complaining
15.	Not at all unhelpful to others						Very helpful to others
16.	Not at all competitive						Very competitive
17.	Subordinates oneself to others						Never subordinates oneself to others
18.	Very home oriented						Very worldly
19.	Very greedy						Not at all greedy
20.	Not at all kind						Very kind
21.	Indifferent to the approval of others						Highly needful of the approval of others
22.	Very dictatorial						Not at all dictatorial
23.	Feelings are not easily hurt						Feelings are very easily hurt
24.	Doesn't nag						Nags a lot
25.	Not at all aware of the feelings of others						Very aware of the feelings of others
26.	Can make decisions easily						Has difficulty making decisions
27.	Very fussy						Not at all fussy
28.	Gives up very easily						Never gives up easily
29.	Very cynical						No at all cynical
30.	Never cries						Cries very easily
31.	Not all self confident						Very self confident
32.	Does not look out only for self - Principled						Looks out only for self - Unprincipled
33.	Feels very inferior						Feels very superior
34.	Not at all hostile						Very hostile
35.	Not at all understanding of others						Very understanding of others
36.	Very cold in relations with others						Very warm in relations with others
37.	Very servile						Not at all servile

38.	Very little need for security						Very strong need for security
39.	Not at all gullible						Very gullible
40.	Goes to pieces under pressure						Stands up well under pressure

Now that you have answered the questions above please answer the following questions which pertain to your overall feelings about all the questions that you have just answer. You may answer Yes or No by ticking one of the boxes. However, if you do answer yes, please explain your answer in the lines provided below each question.

(1) Were any items in the scale that you did not understand?

☐ YES ☐ NO

If yes please explain

(2) Were there were any items that you felt were ambiguous or unclear?

☐ YES ☐ NO

If yes please explain

(3) Were there were any items that were included that should have been excluded?

☐ YES ☐ NO

If yes please explain

(4) Were there were any items that you felt were sensitive and/or offensive in nature?

☐ YES ☐ NO

If yes please explain

(5) Were there were any items that you thought should be included in the scale that were not included?

☐ YES ☐ NO

If yes please explain

6) Were the instructions on how to answer the questions clear?

☐ YES ☐ NO

If yes please explain

Social Support

The following questions measure the extent to which you can rely on various people in your life your life to give you support in different situations. Please tick for each of these people, that is, your supervisor/boss; your colleagues; your family, your friends and your husband/partner.

PLEASE MAKE SURE THAT YOU ANSWER ALL FIVE QUESTIONS BELOW.
AND THAT YOU TICK FOR EACH OF THE PEOPLE IN EACH QUESTION.

Not at all = 1; A little = 2; Fairly often = 3; Extremely Often = 4

1. How much can each of these people be relied upon to help you with a certain task or tasks when things get tough at work				
	Not at all - 1	A little - 2	Fairly Often -3	Extremely often -4
Your immediate supervisor/boss				
Your colleague/s				
Your family				
Your friend/s				
Your husband/partner				

2. How much are each of these people willing to listen or pay attention to your feelings about your work-related problems				
	Not at all - 1	A little - 2	Fairly Often -3	Extremely often -4
Your immediate supervisor/boss				
Your colleague/s				
Your family				
Your friend/s				
Your husband/partner				

3. How much are each of these people willing to help you in getting your job done				
	Not at all - 1	A little - 2	Fairly Often -3	Extremely often -4
Your immediate supervisor/boss				
Your colleague/s				
Your family				
Your friend/s				
Your husband/partner				
Your immediate supervisor/boss				

4. How much are each of these people prepared to give you advice or information on how to handle or do things if you need it				
	Not at all - 1	A little - 2	Fairly Often -3	Extremely often -4
Your immediate supervisor/boss				
Your colleague/s				
Your family				
Your friend/s				
Your husband/partner				
Your immediate supervisor/boss				

7. How often do each of these people let you know that they appreciate the job that you are doing				
	Not at all - 1	A little - 2	Fairly Often -3	Extremely often -4
Your immediate supervisor/boss				
Your colleague/s				
Your family				
Your friend/s				
Your husband/partner				
Your immediate supervisor/boss				

THANK YOU FOR YOUR PARTICIPATION.

THANK YOU FOR YOUR PARTICIPATION.

APPENDIX B
PILOT STUDY 2 – SURVEY:
Covering Letter – Participant Information Sheet
Demographic Questionnaire
Revised Extended Personal Attributes Questionnaire (EPAQ-R)

EMPLOYEE ATTITUDE SURVEY

Participant Information

Dear Employee

My name is Colleen Bernstein and I am presently completing my Doctor of Philosophy Degree within the Department of Industrial Psychology at the University of the Witwatersrand. In the fulfilment of this degree my area of research is designed to investigate the personal attributes of female managers and the social support they perceive themselves to have from significant others. The survey to follow requires that you fill in your biographical details and complete a questionnaire which assesses your personal attributes and a questionnaire regarding your perceived level of social support. After completing both the biographical information sheet and the personal attributes questionnaire you will be asked to answer six questions about the personal attributes questionnaire. Please fill in both the personal attributes and social support scales.

PLEASE NOTE THE FOLLOWING:

This survey has been approved by your organisation.

Usage of the Data and Presentation of the Results:

Responses will not be used for any purposes, other than research. Informed consent is assumed by the completion of the questionnaires. However, you will be able to withdraw from the study until such time as you submit the questionnaire. Be assured that data would solely be used for academic purposes.

In terms of Participation, Anonymity and Confidentiality:

Participation is voluntary, and no employee will be advantaged or disadvantaged in any way for choosing to complete or not complete the questionnaire.

Anonymity will be assured as there will be NO identifying characteristics that will lead to the exposure of an individual participant's identity. While questions are asked about your personal circumstances, NO identifying information, such as name or I.D. number, is asked for, and as such your responses will remain completely anonymous.

You have been provided with a secure encrypted web site through which you can access the survey. The survey will take approximately 10 minutes to complete. Your participation in this study would be greatly appreciated.

This research will contribute both to a larger body of knowledge on the role of women in leadership and female managers. The research study is an independent study which will be conducted under the supervision of an Industrial Psychologist at Wits University. If you require any further information please contact colleen.bernstein@wits.ac.za

Kind Regards

Colleen Bernstein

Lecturer, PhD Student and Registered Industrial Psychologist

Department of Industrial Psychology

University of the Witwatersrand

Demographic Questionnaire

What is your age in years?

What is your race?

Black	Indian	Coloured	White	Other

What is your marital status?

Married	Single	Divorced	Widowed	Separated	Co-habiting

How many children do you have?

What is your highest level of education? (For example: Matric, Post-Matric Diploma/s, University Degree/s – Please specify.

What is your home language?

What is your job title?

What is your job grade?

Personal Attributes Questionnaire

The items below inquire about what kind of person you think you are. Each item consists of a pair of characteristics, with the letters A-E in between. For example:

Not at all artistic	1	2	3	4	5	Very Artistic

Each pair describes a contradictory characteristic. That is you cannot be both at the same times such as very artistic and not artistic at all. The letters form a scale between the two extremes. You are to choose a letter which describes where you fall on the scale. For example if you have no artistic ability you would choose 1. If you think you are quite good you may choose 4 and if you are only medium you may choose 3, and so forth.

Note: Please answer each statement as honestly as possible. This questionnaire is totally anonymous and confidential. In no way will you be judged by your answers and in no way will anyone have access to your answers or be aware which answers belong to you specifically.

		1	2	3	4	5	
1.	Not at all aggressive						Very aggressive
2.	Not at all whiny						Very whiny
3.	Not at all independent						Very independent
4.	Not at all arrogant						Very arrogant
5.	Not at all emotional						Very emotional
6.	Very submissive						Very submissive
7.	Not at all dominant						Very dominant
8.	Not at all boastful						Very boastful
9.	Not at all panicked in a crisis						Very panicked in major crisis
10.	Not at all passive						Very passive
11.	Not at all egotistical						Very egotistical
12.	Not at all able to devote oneself completely to others						Very able to devote oneself completely to others
13.	Not at all spineless						Very spineless
14.	Not at all tough						Very tough
15.	Not at all complaining						Very complaining
16.	Not at all helpful to others						Very helpful to others
17.	Not at all considerate						Very considerate
18.	Not at all competitive						Very competitive
19.	Not shy at all						Very shy

20.	Subordinate oneself to others					Never subordinate oneself to others
21.	Not at all greedy					Very greedy
22.	Not at all kind					Very kind
23.	Not at all anxious					Very anxious
24.	Not at all forgiving					Very forgiving
25.	Indifferent to the approval of others					Very needful of the approval of others
26.	Not at all dictatorial					Very dictatorial
27.	Not at all eager to soothe hurt feelings of others					Very eager to soothe hurt feelings of others
28.	Not at all nervous					Very nervous
29.	Feelings are not easily hurt					Feelings are very easily hurt
30.	Does not nag at all					Tends to nag a lot
31.	Not at all aware of the feelings of others					Very aware of the feelings of others
32.	Not at all hard headed					Very hard headed
33.	Does not worry at all					Tends to worry a lot
34.	Not at all adventurous					Very adventurous
35.	Has difficulty making decisions					Can make decisions easily
36.	Not at all soft hearted					Very soft hearted
37.	Not at all willing to take risks					Very willing to take risks
38.	Not at all fussy					Very fussy
39.	Gives up very easily					Never gives up easily
40.	Not at all cynical					Very cynical
41.	Never cries					Cries very easily
42.	Not at all selfish					Very selfish
43.	Not at all daring					Very daring
44.	Not all self confident					Very self confident
45.	Looks out for oneself only - Unprincipled					Does not only look out for oneself- Principled
46.	Not at all outspoken					Very outspoken
47.	Tends to feel very inferior					Never tends to feel inferior

48.	Not at all hostile						Very hostile
49.	Not at all understanding of others						Very understanding of others
50.	Never feels superior						Feels very superior
51.	Not at all bossy						Very bossy
52.	Very cold in relations with others						Very warm in relations with others
53.	Not at all subservient						Very subservient
54.	Very little need for security						Very high need for security
55.	Not at all gullible						Very gullible
56.	Goes to pieces under pressure						Stands up well under pressure
57.	Not at all active						Very active
58.	Not at all gentle						Very gentle
59.	Not at all abrupt						Very abrupt

Now that you have answered the questions above please answer the following questions which pertain to your overall feelings about all the questions that you have just answer. You may answer Yes or No by ticking one of the boxes. However, if you do answer yes, please explain your answer in the lines provided below each question.

(1) Were any items in the scale that you did not understand?

☐ YES ☐ NO

If yes please explain

(2) Were there were any items that you felt were ambiguous or unclear?

☐ YES ☐ NO

If yes please explain

(3) Were there were any items that were included that should have been excluded?

☐ YES ☐ NO

If yes please explain

(4) Were there were any items that you felt were sensitive and/or offensive in nature?

☐ YES ☐ NO

If yes please explain

(5) Were there were any items that you thought should be included in the scale that were not included?

☐ YES ☐ NO

If yes please explain

6) Were the instructions on how to answer the questions clear?

☐ YES ☐ NO

If yes please explain

APPENDIX C

STUDY TWO:

Covering Letter – Participant Information Sheet

Demographic Questionnaire

Revised Extended Personal Attributes Questionnaire (EPAQ-R)

Work Stress Scale

Social Support Scales

Psychological Wellbeing Scale

Self-esteem Scale

EMPLOYEE ATTITUDE SURVEY

Participant Information

Dear Employee

My name is Colleen Bernstein and I am presently completing my Doctor of Philosophy Degree within the Department of Industrial Psychology at the University of the Witwatersrand. In the fulfilment of this degree my area of research is designed to investigate the relationship between leadership styles of female managers, work stress, social support, self esteem and employee well being. The survey to follow requires that you fill in your biographical details and complete a number of questionnaires which assesses your personal attributes, the degree of work stress you experience, the social support that you have from colleagues, supervisors, family friends and your partner/spouse and your general feelings of psychological wellbeing and self-esteem.

Please note that this survey has been approved by your organisation.

Usage of the Data and Presentation of the Results:

Responses will not be used for any purposes, other than research. Informed consent is assumed by the completion of the questionnaires. However, you will be able to withdraw from the study until such time as you submit the questionnaires. Be assured that data would solely be used for academic purposes.

In terms of Participation, Anonymity and Confidentiality:

Participation is voluntary, and no employee will be advantaged or disadvantaged in any way for choosing to complete or not complete the questionnaire.

Anonymity will be assured as there will be NO identifying characteristics that will lead to the exposure of an individual participant's identity. While questions are asked about your personal circumstances, NO identifying information, such as name or I.D. number, is asked for, and as such your responses will remain completely anonymous. You have been provided with a secure encrypted web site through which you can access the survey. The survey will take approximately 20 minutes to complete. Your participation in this study would be greatly appreciated.

This research will contribute both to a larger body of knowledge on the role of women in leadership, work stress, self esteem, social support and well being in the workplace as well as contribute to your organisation's understanding of your workplace dynamics. This can help to assist in developing management techniques for dealing with gender issues, leadership development, work stress and employee well being. The research study is an independent study which will be conducted under the supervision of an Industrial Psychologist at Wits University. If you require any further information please contact colleen.bernstein@wits.ac.za

Kind Regards

Colleen Bernstein

Lecturer, PhD Student and Registered Industrial Psychologist

Department of Industrial Psychology

University of the Witwatersrand

Demographic Questionnaire

What is your race?

Black	Indian	Coloured	White	Other

What is your marital status?

Married	Single	Divorced	Widowed	Separated	Co-habiting

How many children do you have?

What is your highest level of education? (For example: Matric, Post-Matric Diploma/s, University Degree/s – Please specify.

What is your home language?

What is your job title?

What is your job grade?

Personal Attributes Questionnaire

The items below inquire about what kind of person you think you are. Each item consists of a pair of characteristics, with the letters A-E in between. For example:

Not at all artistic	1	2	3	4	5	Very Artistic

Each pair describes a contradictory characteristic. That is you cannot be both at the same times such as very artistic and not artistic at all. The letters form a scale between the two extremes. You are to choose a letter which describes where you fall on the scale. For example if you have no artistic ability you would choose 1. If you think you are quite good you may choose 4 and if you are only medium you may choose 3, and so forth.

Note: Please answer each statement as honestly as possible. This questionnaire is totally anonymous and confidential. In no way will you be judged by your answers and in no way will anyone have access to your answers or be aware which answers belong to you specifically. PLEASE MAKE SURE THAT YOU ANSWER ALL FIFTY NINE QUESTIONS BELOW.

		1	2	3	4	5	
1.	Not at all aggressive						Very aggressive
2.	Not at all whiny						Very whiny
3.	Not at all independent						Very independent
4.	Not at all arrogant						Very arrogant
5.	Not at all emotional						Very emotional
6.	Very submissive						Very submissive
7.	Not at all dominant						Very dominant
8.	Not at all boastful						Very boastful
9.	Not at all panicked in a crisis						Very panicked in major crisis
10.	Not at all passive						Very passive
11.	Not at all egotistical						Very egotistical
12.	Not at all able to devote oneself completely to others						Very able to devote oneself completely to others
13.	Not at all spineless						Very spineless
14.	Not at all tough						Very tough
15.	Not at all complaining						Very complaining
16.	Not at all helpful to others						Very helpful to others
17.	Not at all considerate						Very considerate
18.	Not at all competitive						Very competitive
19.	Not shy at all						Very shy

20.	Subordinate oneself to others					Never subordinate oneself to others
21.	Not at all greedy					Very greedy
22.	Not at all kind					Very kind
23.	Not at all anxious					Very anxious
24.	Not at all forgiving					Very forgiving
25.	Indifferent to the approval of others					Very needful of the approval of others
26.	Not at all dictatorial					Very dictatorial
27.	Not at all eager to soothe hurt feelings of others					Very eager to soothe hurt feelings of others
28.	Not at all nervous					Very nervous
29.	Feelings are not easily hurt					Feelings are very easily hurt
30.	Does not nag at all					Tends to nag a lot
31.	Not at all aware of the feelings of others					Very aware of the feelings of others
32.	Not at all hard headed					Very hard headed
33.	Does not worry at all					Tends to worry a lot
34.	Not at all adventurous					Very adventurous
35.	Has difficulty making decisions					Can make decisions easily
36.	Not at all soft hearted					Very soft hearted
37.	Not at all willing to take risks					Very willing to take risks
38.	Not at all fussy					Very fussy
39.	Gives up very easily					Never gives up easily
40.	Not at all cynical					Very cynical
41.	Never cries					Cries very easily
42.	Not at all selfish					Very selfish
43.	Not at all daring					Very daring
44.	Not all self-confident					Very self-confident
45.	Looks out for oneself only - Unprincipled					Does not only look out for oneself- Principled
46.	Not at all outspoken					Very outspoken
47.	Tends to feel very inferior					Never tends to feel inferior

48.	Not at all hostile						Very hostile
49.	Not at all understanding of others						Very understanding of others
50.	Never feels superior						Feels very superior
51.	Not at all bossy						Very bossy
52.	Very cold in relations with others						Very warm in relations with others
53.	Not at all subservient						Very subservient
54.	Very little need for security						Very high need for security
55.	Not at all gullible						Very gullible
56.	Goes to pieces under pressure						Stands up well under pressure
57.	Not at all active						Very active
58.	Not at all gentle						Very gentle
59.	Not at all abrupt						Very abrupt

Work stress

The following questions assess your experience of stressful work situations. For each question please tick how often you are bothered by each situation. If you are never bothered by the situation tick 1; if you are rarely bothered by the situation tick 2; if you are sometimes bothered by the situation tick 3; if you are often bothered by the situation tick 4 and if you are bothered by the situation nearly all of the time tick 5.

Never = 1

Rarely = 2

Sometimes = 3

Often = 4

Nearly all of the time = 5

PLEASE MAKE SURE THAT YOU ANSWER ALL FIFTEEN QUESTIONS BELOW.

	How often are you bothered by:	1	2	3	4	5
1	Feeling that you have too little authority to carry out the responsibilities assigned to you					
2	Being unclear on just what the scope and responsibilities of your job are					
3	Not knowing what opportunities for advancement or promotion exist for you					
4	Felling that you have too heavy a workload, one that you cannot possibly finish during an ordinary working day					
5	Thinking that you will not be able to satisfy the conflicting demands of the various people over you					
6	Feeling that you are not fully qualified to handle your job					
7	Not knowing what your immediate supervisor thinks of					

	you and how he or she evaluates your performance					
8	Not being able to get the necessary information to carry out your job					
9	Having to decide things that affect the lives of individuals, people that you know					
10	Feeling that you may not be liked or accepted by the people that you work with					
11	Feeling unable to influence your immediate supervisor's decisions that affect you					
12	Not knowing what the people that you work with expect of you					
13	Thinking that amount of work that you have to do may interfere with how well it gets done					
14	Feeling that you have to do things on the job that go against your better judgement					
15	Feeling that your job tends to interfere with your family life					

Social Support

The following questions measure the extent to which you can rely on various people in your life your life to give you support in different situations. Please tick for each of these people, that is, your supervisor/boss; your colleagues; your family, your friends and your husband/partner.

PLEASE MAKE SURE THAT YOU ANSWER ALL FIVE QUESTIONS BELOW.
AND THAT YOU TICK FOR EACH OF THE PEOPLE IN EACH QUESTION.

Not at all = 1; A little = 2; Fairly often = 3; Extremely Often = 4

1. How much can each of these people be relied upon to help you with a certain task or tasks when things get tough at work				
	Not at all - 1	A little - 2	Fairly Often -3	Extremely often -4
Your immediate supervisor/boss				
Your colleague/s				
Your family				
Your friend/s				
Your husband/partner				

2. How much are each of these people willing to listen or pay attention to your feelings about your work-related problems				
	Not at all - 1	A little - 2	Fairly Often -3	Extremely often -4
Your immediate supervisor/boss				
Your colleague/s				
Your family				
Your friend/s				
Your husband/partner				

3. How much are each of these people willing to help you in getting your job done				
	Not at all - 1	A little - 2	Fairly Often -3	Extremely often -4
Your immediate supervisor/boss				
Your colleague/s				
Your family				
Your friend/s				
Your husband/partner				
Your immediate supervisor/boss				

4. How much are each of these people prepared to give you advice or information on how to handle or do things if you need it				
Your immediate supervisor/boss	Not at all - 1	A little - 2	Fairly Often -3	Extremely often -4
Your colleague/s				
Your family				
Your friend/s				
Your husband/partner				
Your immediate supervisor/boss				

8. How often do each of these people let you know that they appreciate the job that you are doing				
Your immediate supervisor/boss	Not at all - 1	A little - 2	Fairly Often -3	Extremely often -4
Your colleague/s				
Your family				
Your friend/s				
Your husband/partner				
Your immediate supervisor/boss				

Psychological Wellbeing

Please mark with a tick the response that you feel best suits the way that you have felt, though or behaved in the past few weeks. PLEASE MAKE SURE THAT YOU ANSWER ALL TWELVE QUESTIONS BELOW.

Have you recently.....

	Better than usual (1)	Same as usual (2)	Worse than usual (3)	Much worse than usual (4)
1. Been able to concentrate on what you are doing?				

	Not at all (1)	No more than usual (2)	Rather more than usual (3)	Much worse than usual (4)
2. Lost much sleep over worry?				

	More so than usual (1)	Same as usual (2)	Less useful than usual (3)	Much less useful (4)
3. Felt that you are playing a useful part in things?				

	More so than usual (1)	Same as usual (2)	Less so than usual (3)	Much less capable (4)
4. Felt capable of making decisions about things?				

	Not at all (1)	No more than usual (2)	Rather more than usual (3)	Much worse than usual (4)
5. Felt constantly under strain?				

	Not at all (1)	No more than usual (2)	Rather more than usual (3)	Much worse than usual (4)
6. Felt that you could not overcome your difficulties?				

	More so than usual (1)	Same as usual (2)	Less so than usual (3)	Much less than usual (4)
7. Been able to enjoy your normal day-to-day activities?				

	More so than usual (1)	Same as usual (2)	Less able than usual (3)	Much less able than usual (4)
8. Been able to face up to your problems?				

	Not at all (1)	No more than usual (2)	Rather more than usual (3)	Much worse than usual (4)
9. Been feeling unhappy and depressed?				

	Not at all (1)	No more than usual (2)	Rather more than usual (3)	Much worse than usual (4)
10. Been losing confidence in yourself?				

	Not at all (1)	No more than usual (2)	Rather more than usual (3)	Much worse than usual (4)
11. Been thinking of yourself as a worthless person?				

	More so than usual (1)	About the same as usual (2)	Less so than usual (3)	Much less than usual (4)
12. Been feeling reasonably happy all things considered?				

Self-Esteem at work

The following words and phrases ask you how you see yourself in your work. For example, in answer to question number 1, if you think you are very successful in your work, put a mark in the box right next to the word “Successful”. If you think you are not at all successful in your work, put a mark in the box right next to the words “Not Successful”. If you think you are somewhere in between, put a tick where you think it belongs. PLEASE MAKE SURE THAT YOU ANSWER ALL FOUR QUESTIONS BELOW.

	1	2	3	4	5	6	7	
1. Successful								Not Successful
2. Important								Not Important
3. Doing my best								Not doing my best
4. Happy								Not Happy

THANK YOU FOR YOUR PARTICIPATION

APPENDIX D

Subscales and items within the EPAQ-R before the Factor Analysis and
Subscales and items within the EPAQ-R after the Factor Analysis

**BEFORE THE FACTOR ANALYSIS – THE FOUR FACTORS AS PROPOSED IN
PILOT 2 – THE MODIFIED EPAQ**

NEGATIVE MASCULINITY	
1	Not at all/very aggressive
4	Not at all/ very arrogant
7	Not at all/ very dominant
8	Not at all/ very boastful
11	Not at all/ very egotistical
14	Not at all/ very tough
21	Not at all/ very greedy
26	Not at all/ very dictatorial
32	Not at all/ very hard-headed
40	Not at all/ very cynical
42	Not at all/ very selfish
45	Does not look out for the self only - principled/ looks out only for the self – unprincipled
46	Not at all/ very outspoken
48	Not at all/ very hostile
51	Not at all bossy/ very bossy
59	Not at all/ very abrupt
NEGATIVE FEMININITY	
6	Not at all/ very submissive
9	Not at all/ very panicked in a crisis
10	Not at all/ very passive
13	Not at all/ very spineless
15	Not at all/ very complaining
19	Not at all/ very shy
20	Never/always subordinates oneself to others
23	Not at all/ very anxious
25	Indifferent to/very needy of the approval of

others

- 28 Not at all/ very nervous
- 29 Feelings are not/ are very easily hurt
- 30 Do not nag at all/nag a lot
- 33 Does not worry at all/ worries a lot
- 38 Not at all/ very fussy
- 41 Never cries/ cries very easily
- 53 Not at all/ very subservient
- 54 Very little/ very high need for security
- 55 Not at all/ very gullible

POSITIVE FEMININITY

- 5 Not at all emotional/very emotional
- 12 Not at all/ very able to devote oneself to others
- 16 Not at all/ very helpful to others
- 17 Not at all/ very considerate
- 22 Not at all/ very kind
- 24 Not at all/ very forgiving
- 27 Not at all/ very eager to soothe hurt feelings
- 31 Not at all/ very aware of the feelings of others
- 36 Not at all/ very soft-hearted
- 49 Not at all/ very understanding of others
- 52 Very cold/ warm in relation with others
- 58 Not at all/ very gentle

POSITIVE MASCULINITY

- 18 Not at all/ very competitive
- 34 Not at all/ very adventurous
- 35 Has difficulty making decisions/makes
decisions very easily
- 37 Not at all/ very willing to take risks
- 39 Gives up very easily/ never gives up easily
- 43 Not at all/ very daring

- 44 Not at all/ very self-confident
- 47 Tends to feel/never tends to feel inferior
- 50 Never feels/ feels very superior
- 56 Goes to pieces/ stands up well under pressure
- 57 Not at all/ very active

Nineteen negative feminine items

Twelve positive feminine items

Sixteen negative masculine items

Twelve positive masculine items

TOTAL 59

AFTER THE FACTOR ANALYSIS – THE FOUR FACTORS PROPOSED IN THE STUDY TWO

NEGATIVE MASCULINITY	
1	Not at all/very aggressive
4	Not at all arrogant/very arrogant
7	Not at all/ very dominant
8	Not at all/ very boastful
11	Not at all/ very egotistical
21	Not at all/ very greedy
26	Not at all/ very dictatorial
32	Not at all/ very hard-headed
38	Not at all/ very fussy*
40	Not at all/ very cynical
42	Not at all/ very selfish
48	Not at all/ very hostile
50	Never feels/ feels very superior*
51	Not at all bossy/ very bossy
59	Not at all/ very abrupt
NEGATIVE FEMININITY	
2	Not at all/ very whiny
3	Not at all/ very independent
5	Not at all/ very emotional*
6	Not at all/ very submissive
9	Not at all/ very panicked in a crisis
10	Not at all/ very passive
13	Not at all/ very spineless
15	Not at all/ very complaining
23	Not at all/ very anxious
25	Indifferent to/very needy of the approval of others
28	Not at all/ very nervous

- 29 Feelings are not/ are very easily hurt
- 30 Do not nag at all/nag a lot
- 33 Does not worry at all/ worries a lot
- 41 Never cries/ cries very easily
- 53 Not at all/ very subservient
- 55 Not at all/ very gullible
- 56R Goes to pieces/ stands up well under pressure*

POSITIVE FEMININITY

- 12 Not at all/ very able to devote oneself to others
- 16 Not at all/ very helpful to others
- 17 Not at all/ very considerate
- 22 Not at all/ very kind
- 24 Not at all/ very forgiving
- 27 Not at all/ very eager to soothe hurt feelings
- 31 Not at all/ very aware of the feelings of others
- 36 Not at all/ very soft-hearted
- 45R Does not look out for the self only - principled/ looks out only for the self – unprincipled *
- 49 Not at all/ very understanding of others
- 52 Very cold/ warm in relation with others
- 58 Not at all/ very gentle

POSITIVE MASCULINITY

- 14 Not at all tough/very tough
- 18 Not at all competitive/very competitive
- 34 Not at all/ very adventurous
- 35 Has difficulty making decisions/makes

- decisions very easily
- 37 Not at all/ very willing to take risks
- 39 Gives up very easily/ never gives up easily
- 43 Not at all/ very daring
- 44 Not at all/ very self-confident
- 46 Not at all/ very outspoken*
- 47 Tends to feel/never tends to feel inferior
- 19R Not at all shy/very shy*
- 57 Not at all/ very active

**ITEMS DROPPED DUE TO LOW
LOADINGS**

- 54 Very little/ very high need for security
- 20 Never/always subordinates oneself to others

Asterisked items were reassigned based on factor loadings

Fifteen negative masculine items
 Twelve positive feminine items
 Twelve positive masculine items
 Eighteen negative feminine items
 Two dropped for low loadings
 TOTAL = 57