WORK- FAMILY CONFLICT, CAREER DEVELOPMENT AND WELL- BEING OF FEMALE PUBLIC SECTOR MANAGERS

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Abstract

Female representation in senior levels of government is far from the 50% target set in 2007 with 36% representation in 2010 and a slight increase to 38% in 2012. This is in sharp contrast with lower levels of government where women outnumber men, despite the fact that there are now more women than men graduating from our universities. Previous research has identified the conflict between the role of women in their homes and families, and their work requirements, as a contributing factor to the under representation of women at senior levels. The purpose of this research is to determine to what extent female managers in the public sector experience work-family conflict and whether these female managers perceive that work-family conflict is having a negative effect on their career development. The research further examines whether psychological well-being may have a moderating effect on this relationship such that career development is negatively related to work-family conflict in the case of senior managers with lower levels of well-being, but unrelated in the case of senior managers with higher levels of well-being; and related to this, whether employee wellness programmes are having the intended effect on enhancing well-being. The study data based on a survey of 242 female senior managers with a 61% response rate revealed that generally female managers experience low levels of work-family conflict, with the highest reported conflict being the strain of work-interfering with family (as opposed to time or behaviour based conflict). The strain of work-interfering with family only had a weak negative relation with career progress and career satisfaction, two of the four dimensions of career development. There was a significant finding of stronger negative relationships between measures of career development and work-family conflict in the case of respondents with lower levels of psychological well-being than for those with higher levels of psychological well-being. There is thus support (albeit weak) for the moderator of psychological well-being, with this effect stronger for the relation between some dimensions of the two constructs than for others. Overall female managers reported high levels of well-being, which was not attributable to the use of the employee wellness programme.

Declaration

I declare that this report is my own, unaided work. It's submitted in partial fulfilment of the requirements of the degree of Master of Management (in the field of Public and Development Management) in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other university.

Sarah Elizabeth McPhail

Date

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Abbreviations

DPSA	Department of Public Service and Administration
EWP	Employee Wellness Programme
FIW	Family-Interference with Work
HSRC	Human Sciences Research Council
MMS	Middle Management System
PWB	Psychological Well-Being
SMS	Senior Management System
WFC	Work-Family Conflict
WIF	Work-Interference with Family
WLB	Work Life Balance

Contents

List of Figures

List of Tables

Chapter 1: Introduction

When South Africa became a democratic country in 1994 many new policies and programmes were put in place to correct the injustices of the apartheid era. One example of such plans is the National Development Plan, developed by the National Planning Commission (2010), as it promotes the enhancement and active support of female managers and the role of women as leaders in all sectors of society.

The Constitution puts in place principles of non-racialism, non-sexism and equality before the law (Constitution of the Republic of South Africa, 1996). In addition the Employment Equity Act (Employment Equity Act, No. 55 of 1998), the White Paper on Human Resource Management in the Public Sector (White Paper on Human Resource Management in the Public Sector, 1997) and the White Paper on Affirmative Action (White Paper on Affirmative Action in the Public Sector, 1998) promote the advancement of women in the workplace, and in managerial positions in particular.

Initially, Cabinet approved the target of 30% of women in senior management positions in the public sector by March 2005. Although this 2005 target was not met, in 2007 Cabinet revised the target upwards to 50%. In 2008, Government, through the Department of Public Service and Administration (DPSA), launched the Gender Equality Strategic Framework for the Public Service which focuses on empowerment and capacity building for women to advance to senior management posts. In 2009, national departments had achieved an average of 36% representation of women in senior management posts (Public Service Commission, 2010), and in March 2012 this figure had risen to 38% (Government Communications, 2012). The task of reaching the 50% target is thus proving difficult. In terms of total government employees however, 58% are females, indicating that whilst women are in the workforce their careers are not progressing to management levels.

The difficulty of implementing policy and achieving targets is not unique to gender targets, but is made complex due to the many facets of gender equality and women empowerment. Many studies have been done which focus on women in the workplace,

examining social roles, personal characteristics, and situational barriers which act as constraints to females' career development (Hewlett, 2009; Sandberg, 2013). Whilst low representation of women was historically attributed to lack of education and skills, university graduation data is showing that there are more female graduates than men (54% compared to 46% according to the HSRC, 2009), thus research is now looking beyond education to social and situational differences. The role of women in the workplace and the role of women within a family are two important roles which women play. This juggling act between the dual roles is increasing as more women enter the workplace, people working longer hours and travelling more, and with technology the boundaries between work and home life become blurred as people work from anywhere at any time. The dual role that women play, in the family domain and the work domain, can be in conflict, as both roles demand time and energy. Anecdotal evidence suggests that female managers in the public sector are experiencing this conflict and, as a result, are resisting promotion and in some cases resigning. This is aligned to international research which has found that women who experience this role conflict report lower job satisfaction and intentions to quit their job (Allen, Herst, Bruck, & Sutton, 2000). This conflict between work and family is thus one identified constraint to women's career development.

To reduce this work-family conflict, achieving a work-life balance is the desired state. This state means different things to different people, as each person's work and family responsibilities differ. Work-life balance is described as an individual's perception of success, regarding his or her work and personal life, so as to achieve a satisfying quality of life and less stress caused by juggling conflicting role demands (Downes, 2011). An individual's perception is naturally determined by their state of mind, or their psychological well-being. Well-being broadly refers to positive functioning or happiness, which includes aspects of self-acceptance, purpose in life and positive relations with others (Ryff, 1995). If a female employee is in a higher state of well-being, then she may be better equipped to cope with the conflict and thereby reduce the negative impact it may have on her career.

Employers can and already have developed programmes and projects to enhance well-being, namely Employee Wellness Programmes. These programmes are voluntary and offer a variety of support measures such as counselling, fitness programmes, health testing, and legal advice. DPSA in 2008 launched the Employee Health and Wellness Strategic Framework. These programmes include services to address work related conflicts, psychological problems and stress. These programmes thus should provide services to address this role conflict and in doing so, moderate the effect of work-family conflict on females career development.

To date there appears to be very little research amongst female managers in the public sector in South Africa that explores the existence of work-family conflict, and whether this conflict is limiting the career development of females and thus acting as a constraint to government achieving the target of 50% representation. Whilst government has in place wellness programmes to address well-being amongst employees, it is unknown to what extent these voluntary programmes are enhancing well-being amongst female managers and increasing their ability to cope with work-family conflict and/or develop their careers. If these programmes are enhancing career development amongst female managers, then employers may want to promote the use of these programmes as a means to enhance female representation in management; or if the programmes are not enhancing career development then there could be an argument for resources to be diverted elsewhere.

Amongst female managers in the public sector in South Africa, there appears to be no research on the interplay between work-family conflict and its relation to career development, and the possible moderating effect on this relationship of psychological well-being derived, for example, from employee wellness programmes. A better understanding of these relations could assist government in explaining some of the issues affecting the under representation of female managers in the public sector, and potential areas where employee support can be provided.

Background to the Study

Balancing work and family life is not exclusive to women nor is it a new concept. Balancing work and personal or family life has been well researched under the domains of Work-Family Conflict (WFC), Work-Life Balance (WLB), and similar terms such as work-life interaction and work-life interference. The concept has been included in research studies since 1964, with the most common reference to the first definition in 1985 by Greenhaus and Beutell as "a form of internal conflict in which the role pressures from work and family domains are incompatible in some respect". Naturally, the existence and impact of work-family conflict became more apparent and documented as more women entered the workforce and were faced with juggling the traditional role of mother and housewife with paid work, academic development and career-orientation. Initial research came from the United States of America (USA) and the United Kingdom, and over time research has been conducted in less-developed countries, such as Turkey, Egypt, and South Africa.

Whilst initial studies focussed on work interference with family, this was expanded with time as the concept is two-way in that family can also interfere with work. Examples of work-to-family conflict include extensive, irregular, or inflexible work hours; extensive travel, and unsupportive supervisors or organisations (Human Sciences Research Council, 2009). Examples of family-to-work conflict include primary responsibility for children, particularly young children, elder care responsibilities, unsupportive family members or conflict within the family unit.

The converse, work-family conflict has been found to be higher in working women than working men. According to an Organisation for Economic Cooperation and Development (OECD) report (Miranda, 2011), women do more unpaid work than men in all countries across the globe. In South Africa, the StatsSA 2001 Time Use Survey found that a higher proportion of women than men bear the main responsibility for housework and on average women spent more than twice as much time as men on housework: 173 minutes compared to 73 minutes per day (South African Board for People's Participation, 2011). Although on average women were spending less time in

doing paid work (239 minutes compared to men 312 minutes), if both paid work and non-productive activities are together regarded as work, employed women spent far more time working, but less of their time doing paid work (South African Board for People's Participation, 2011). Although South Africa's Time-Use Survey has not been updated since 2001, the more recent OECD countries studies exhibit a similar trend (Miranda, 2011). These figures indicate that the greater strain is on women balancing household work with employment; hence this is a topical issue for women and their careers.

Despite women spending the most time on household responsibilities, overall women representation in the workplace has increased globally as well as in South Africa. Although women representation in the workplace has increased over time, this is concentrated in lower skilled and lower paid jobs, as the proportion of women in senior management posts is low. In the public sector in South Africa, the Department of Public Service and Administration statistics for fourth quarter 2012 (Department of Public Service and Administration, 2012), indicate that 57% of total government (National and Provincial) employees are female. Although there are more female employees overall, their representation is skewed in lower levels jobs, with only 36% representation of women in Senior Management (SMS) (Note this data excludes the SA National Defence Force, which if included increases female SMS to 38%) and 40% representation in Middle Management (MMS), yet 58% representation in lower level jobs. Government's target of 50% relates only to Senior Management posts. Given that Middle Managers are most likely to progress to Senior Management, the 40% representation indicates there are fewer females than males in the public sector pool of employees likely to develop into senior managers. This research study thus focuses on both senior and middle managers, as although the 50% target applies only to senior management, the middle managers are the target market for growth into senior positions. According to the DPSA 2013 Gender Mainstreaming Report, despite bursaries, internships and development programmes for women in middle and senior management being in place, this has not translated into the development of women at MMS levels to fill

equity gaps at SMS levels (DPSA, 2013). This appears to indicate that beyond providing training and experience, further research is required to understand what constraints women at this level are experiencing.

It is not only the existence of work-family conflict and its effect on women that is concerning, but also the impact on organisations and economic growth. Work-family conflict has been related to reduced job satisfaction, stress, absenteeism, and labour turnover. These are further explored in the literature review as they relate to both career development and psychological well-being. Employers are increasingly trying to enhance employee productivity and well-being through workplace employee wellness programmes. These programmes usually contain health services, awareness campaigns, physical exercise programmes, and counselling services. As indicated in the name employee wellness, the focus is on wellness or well-being. It is unclear what effect these programmes are having. The DPSA 2013 Gender Mainstreaming Report reported that apart from general policies and practices that affect all staff, there are no specific programmes that recognise women as a separate interest group with specific interests and needs (DPSA, 2013). Psychological well-being as it relates to a women's ability to balance work and household responsibilities, is an area where wellness programmes could address the practical needs of women.

Problem Statement

The government of South Africa has set a goal of achieving 50% representation of women in senior management in the public service, however from 2009 to 2012 the number of women in senior management in the public sector had only increased from 36% to 38%. International and local research indicates that work-family conflict is a challenge for women in the workplace, and has a direct negative influence on career development. It is unknown whether female managers in the public sector are experiencing work-family conflict and whether this is a constraint to their career development. Furthermore, although government has put in place employee wellness programmes to enhance well-being of employees, it is unknown whether these voluntary wellness programmes are enhancing well-being and whether well-being is

able to moderate the effect of balancing family and work demands on career development.

Purpose Statement

The purpose of this research is to examine the relationship between career development and work-family conflict, and the possible moderating effect on this relationship of psychological well-being derived from employee wellness programmes amongst a sample of middle and senior female managers in the public sector. Thus the purpose is to:

1. Determine to what extent female managers experience work-family conflict and the perceived impact this has on their career development.
2. Test whether psychological well-being moderates the relationship between work-family conflict and career development, such that career development is negatively related to work-family conflict in the case of senior managers with lower levels of well-being, but unrelated in the case of senior managers with higher levels of well-being.
3. Determine whether employee wellness programmes are having the desired effect on the psychological well-being amongst female managers.

Research Questions

This research aims to answer the following questions:

1. What is the level of work-family conflict among female managers?
2. Is work-family conflict perceived as a constraint to career development by female managers?
3. Does psychological well-being moderate the relationship between work-family conflict and career development, such that career development is negatively related to work-family conflict in the case of senior managers with lower levels of well-being, but unrelated in the case of senior managers with higher levels of well-being?

4. Are employee wellness programmes perceived as enhancing psychological well-being among female managers?

Chapter 2: Literature Review

The purpose of this literature review is to assess critically previous research done on work-family conflict as it relates to career development, psychological well-being and female managers in the public sector. The research discussed covers both international as well as local research, with emphasis on recent studies and methodologies. The review starts with the background theory on work-family conflict and how it is measured, followed by a review of specific research on work-family conflict and career development, and work-family conflict and psychological well-being. This review also covers an internationally tested and validated measure for psychological well-being, and literature on Employee Wellness Programmes.

Theory and Measurement of Work-Family Conflict

From the 1985 definition of Work-Family Conflict (WFC), there have been numerous research studies on the subject. Researchers working in disciplines such as psychology, sociology, business and social work have contributed to work-family conflict (Allen, Herst, Bruck, & Sutton, 2000). In order to keep the literature review focussed, research studies with a business focus have been prioritised. Research studies have also constructed scales as measures of work-family conflict which are then tested and validated. This section discusses some of the key literature on the existence and measurement of work-family conflict both globally and within the South African context. Included in the measurement of work-family conflict is identification and examination of both the antecedents (prior factors) and outcomes.

Initial studies on work-family conflict tested work-interference with family (WIF) then later expanded to include family-interference with work (FIW). The concept is thus bi-directional and almost all research now considers both WIF and FIW to understand fully the relationship between work and family. In determining exactly what constitutes WFC, three different forms of conflict have been defined by Greenhaus and Beutell (as cited in Carlson, Kacmar, & Williams, 2000), these are:

a) Time-based conflict: when time devoted to one role makes it difficult to participate in another;

b) Strain-based conflict: when strain experienced in one role intrudes and interferes with another role; and
c) Behaviour-based conflict: when specific behaviours in one role are incompatible with behavioural expectations in another role.

Carlson et al (2000) did a meta-analysis, reviewing 25 scales used between 1986 and 1996, to construct and validate a scale for measuring WFC which was then tested in a sample in the USA, and later applied by other researchers in samples in Turkey, China and Egypt. A limitation of Carlson et al (2000) meta-analysis was the limited testing of the scale; however subsequent use of the measures in other studies has shown its applicability. Comparing the studies, Burke (2011) found that managers in Turkey, China and Egypt reported higher levels of WFC than in Carlson et al USA study. The USA study included both males and females and found that comparing the genders, females experienced more conflict than men in all three (time, strain and behaviour based) FIW, and strain-based WIF. The study in Turkey found that female managers experienced higher WIF than FIW, but that both scores were significantly and positively correlated (Burke, Kouyuncu, & Wolpin, 2012). The Turkey study was conducted on a sample of 143 women holding managerial and professional jobs mostly in the public sector. In addition to the finding that female managers experienced higher WIF than FIW, the study found that women working more hours experienced higher WIF and FIW, and that women having supervisory duties and shorter job tenure experienced higher FIW.

The studies mentioned have also all included antecedents and/ or consequences of WFC. Frone (1992) argued that for any test of WFC, the antecedents must be included as well as the bi-directional nature of WFC. Carlson et al (2000) in validating the scale for measurement of WFC included the previous found antecedents of role conflict, role ambiguity, and social support. These antecedents were found to be significantly related to WFC. The outcomes included in the Carlson et al (2000) study also included the outcomes previously tested and associated with WFC which were job satisfaction, family satisfaction, life satisfaction and organisational commitment. More on the

antecedents and outcomes of WFC are discussed further in this literature review as they relate to psychological well-being and career outcomes.

A HSRC study (Human Sciences Research Council, 2009) illustrated that the socio-economic and demographic changes in the country have the potential to result in widespread work-family conflict among working women and, in the process, perpetuate gender inequality. The conclusion of this paper was that further research was necessary. The specific studies on work-family conflict are reviewed in detail, followed by an overview of work-family conflict elements of the remaining studies.

A quantitative study of 100 working women was undertaken in a retail organisation in Durban to examine the relationship between family-work conflict, job performance ratings and selected work and family characteristics (Patel, Govender, Paruk, & Ramgoon, 2006). All levels of workers were included using a questionnaire where participants completed the demographic, family-work conflict and family/ work situation questions, and their immediate supervisors completed the job performance rating. No support was found for the hypothesis of a negative relationship between family-work conflict and job performance ratings. A positive relationship between age and job performance rating was found to be significant indicating older women achieved higher performance ratings. With regards to family-work conflict, more senior workers reported higher family-work conflict than the junior workers. From the sample of 100 working mothers, only five had a tertiary education. Although this sample included a limited number of senior, qualified females, the findings were similar to the Turkey study in that senior female managers experienced work-family conflict.

A second study by Wallis and Price (2003) on work-family conflict explored the relationship between work-family conflict and central life interest, defined as an individual's expressed preference for carrying out an activity in a particular domain (namely work and family), amongst 20 single working mothers. The sample was further limited to single working mothers with preschool-aged children. A mixed method research was undertaken and the measurement used for work-family conflict was a

1981 scale, which consisted of three elements: role overload, work interference with family and family interference with work. The Cronbach's alpha reliability coefficient for internal consistency reliability was α = .88 overall, however only acceptable at α =.60 and α =.67 for work-interference with family and family-interference with work respectively. The study found that the level of work-family conflict experienced was medium to high, and that family-interference with work was higher than work-interference with family. With regards to central life interest, the study found that participants viewed motherhood as their central life interest and that this priority could lead them to experience greater conflict between work and family demands (Wallis & Price, 2003). Whilst the findings are broadly in line with women experience work-family conflict in general, the scale was weak and the sample did not include managers or professionals.

Looking more broadly at research in the work-family domain, there are several research studies undertaken amongst women managers in South Africa. A qualitative study amongst 24 professional women on the concept of work- life balance, which is essentially the ability to balance multiple roles, found that all women experience role or time-based conflict, and that more role conflict was experienced by women with younger children (Whitehead & Kotze, 2003). Similarly, in a qualitative study on 51 professional women who take career breaks (Geber, 2000); motherhood rather than marriage was found to be the most powerful inhibitor of the labour market participation of women.

A quantitative study on 162 married full-time female managers within a large national financial institution (Naidoo & Jano, 2002) found a significant positive correlation between the commitment to the work role and commitment to the home and family role. The research suggested that dual-career women may experience work and home as complementary rather than conflicting roles. The research did however find that 72% of respondent indicated that they experienced tension or conflict between their work role and home and family role. This rather suggests that women derive benefits from both roles, and that these benefits can be complementary.

These studies thus confirm the existence of work-family conflict amongst women managers both internationally and in specific case studies in South Africa. However, no research amongst female managers in the public sector has been identified. The measurements of work-family conflict by Carlson et al (2000) drew on previous measures, which were validated firstly in the USA and separately used in a study undertaken in Egypt, China and Turkey amongst female managers and professionals. This scale has been tested and validated and appears to be the most accurate measure of work-family conflict as it measures both directions (work-interference with family and family-interference with work) and different conflicts (time, behaviour and strain – based). This measure is therefore proposed for this research study.

Work- Family Conflict and Career Development

The strain of work-family conflict has been found to have numerous antecedents and outcomes. A comprehensive review of the outcomes was conducted and found three thematic categories: work related outcomes (e.g. job satisfaction, career success); non-work related outcomes (e.g. life satisfaction, marital satisfaction); and stress related outcomes (e.g. depression, burnout) (Allen et al, 2000). For this research, the focus is on work-related outcomes as they relate to the career development of female managers. Literature on the impact of work-family conflict on career development is discussed next.

A 1982 study in SA found that 44% of women did not seek promotion because of domestic reasons (Geber, 2000). A 1991 study found that many women put their career on hold during the family formation stage (Geber, 2000). Whilst the role of women in the workplace has evolved since 1991 more recent studies still acknowledge the impact of juggling work and family on career development. Whitehead (2000) did a study in South Africa which found that the ability to balance multiple roles directly related to a woman's career performance and success. This was a qualitative study on 24 professional women in mostly senior positions. This study found that professional

women experienced similar pressures and challenges, irrespective of cultural background, in their efforts to balance their multiple roles.

In New Zealand, the State Service Commission identified family issues as one of three key barriers to women's career progression, together with human resource management and organisational culture (New Zealand State Services Commission, 1999). The study undertaken in Turkey amongst mostly public sector managers and professionals, found that managerial and professional women reporting higher levels of work interference with family indicated lower levels of job satisfaction, lower levels of career satisfaction, and greater intentions to quit (Burke, Kouyuncu, & Wolpin, 2012). Allen et al (2000) listed the following adverse work-related outcomes of WFC:

- Job satisfaction
- Career satisfaction
- Organisational commitment
- Career success
- Turnover
- Absenteeism
- Job performance

Their review of prior research found that job satisfaction was the most commonly researched variable and most of these studies have found that as work-family conflict increases, job satisfaction decreases (Allen et al, 2000). The strongest relationship was however found between increased work-family conflict and greater intentions to quit/ turnover (Allen et al, 2000). In this research study, the following measures for career development are included, based on international research, to understand better the low numbers of women in senior management and the impact of work-family conflict: career progress, career satisfaction, intent to quit and job satisfaction. How these are measured is described further in the section on research methodology.

Work- Family Conflict and Psychological well-being

In research studies, psychological well-being has been found to be both an antecedent and a consequence of work-family conflict. Work-family conflict has been found to cause stress and emotional exhaustion, negative health such as insomnia, depression,

regular colds and flu (Burke, Kouyuncu, & Wolpin, 2012; Carlson, Kacmar, & Williams, 2000; Whitehead & Kotze, 2003) and similarly, these factors have been found to contribute to higher levels of work-family conflict. In this research study, a more thorough approach is taken to consider the moderating effect of psychological well-being on the relationship between work-family conflict and career development. This moderating effect concept draws on the research done on work-life balance, which describes how there can be positive effects of dual roles, such as a sense of competence and achievement of self-worth. These positive effects then have positive implications for job satisfaction and career development (Whitehead & Kotze, 2003). A qualitative study amongst professional women in the Western Cape, found that although work-life balance is cyclical, the key factor which influenced the phenomenon of life-balance was a need to "know yourself first" (Whitehead & Kotze, 2003). The concept of knowing yourself is one facet of psychological well-being which is measured in the Ryff Scales of Psychological Well-Being. Ryff's research culminated in the understanding and application of psychological well-being as multifaceted and measured using six dimensions (Ryff, 1995):

1) Self-acceptance (positive evaluations of oneself and one's past life).
2) Autonomy (a sense of self determination).
3) Personal growth (a sense of continued growth and development as a person).
4) Environmental mastery (capacity to effectively manage one's life and surrounding world).
5) Purpose in life (belief that one's life is purposeful and meaningful).
6) Positive relations with others (the possession of quality relations with others).

This scale thus looks at well-being as more than just the ability to cope with stress and experiencing emotional exhaustion. This scale has been regarded as the best objectives measure of psychological well-being by Conway (as cited in Edwards, 2008) and has been used extensively both internationally and within South Africa.

In South Africa, the scale has been used amongst university students (Edwards, Ngcobo, & Pillay, 2004) and sports teams (Edwards & Steyn, 2008) , institutionalised children (Chetty, 2007), people affected by HIV/ AIDS (Williams, 2005), and disadvantaged youth (Smith, 2012). Internationally, the relevant studies which have used the scale include studies on work-family conflict and employee well-being (Zirwatul, 2009) and women's career fulfilment in mid-life (Carr, 1997). The scale is thus deemed appropriate for this study on work-family conflict and career development amongst female managers.

Employee Wellness Programmes

An Employee Wellness Programme (EWP) is a workplace programme which promotes well-being of employees on issues that affect them socially, physically, psychological and emotionally. The employee wellness programme in the case study organisation is designed to assist in the identification and resolution of an employee's problems, which may adversely affect his/ her job performance. The DPSA Employee Health and Wellness Strategic Framework which was launched in November 2008 sets out four functional pillars. These are HIV and AIDS management; Safety, health, environment, risk and quality management (all other diseases, injuries & disability); Occupational hygiene and safety (workplace environment); and wellness management (Employee assistance programmes and work / life balance) (DPSA, 2011). Research has shown that EWP have become a strategic imperative, as the outcome is healthy employees which equates to lower costs (both in terms of medical costs and time lost), greater productivity (including reduced absenteeism, higher performance), and higher morale (including organisational pride and commitment) (Berry, 2010). The intention of this research is not to conduct a satisfaction survey on the wellness programme in the public service or draw conclusions about its effectiveness, but rather to determine whether employees who use the wellness programme report elevated levels of well-being compared to those who do not use the programme. The elevated levels of well-being is expected to moderate the effect of work-family conflict on career development, such that career development is negatively related to work-family

conflict in the case of senior managers with lower levels of well-being, but unrelated in the case of senior managers with higher levels of well-being. To date, the case study organisation has not conducted any type of formal review or satisfaction of the wellness programme. This research will thus assist in providing statistics of usage amongst female managers although sample inadequacy may limit the generalizability of the statistics to the population of women managers in the public service.

Conclusion to Literature Review

Local and international studies have identified work-family conflict amongst female workers and the negative impact it has on career development through its effect on lower job satisfaction, lower career satisfaction, and greater turnover. Research has indicated work-family conflict is higher amongst senior employees, managers and professionals. However, no research appears to have been done in South Africa using the updated and validated scales for measuring work-family conflict, nor has research been done amongst female managers in the public sector.

To manage the conflict, a work-life balance is required which entails a level of psychological well-being. Employee wellness programmes have been established in public and private sector firms across the globe to enhance well-being amongst employees. Research has shown these wellness programme yield positive results for individuals and companies in terms of growth and development, fulfilment and productivity. There thus exists a complex interplay between the four areas of work-family conflict, career development, psychological well-being and employee wellness programmes. Research shows that there are linkages between these four areas, specifically in terms of the relationship between career development and work-family conflict, and the possible moderating effect on this relationship of psychological well-being derived, for example, from employee wellness programmes. However within the South African public sector there appears to be a gap in knowledge as to how these four concepts affect female managers.

Conceptual Framework

Based on theory, this research is exploring the effect of work-family conflict on female managers in the public sector. Work-family conflict is the key construct to be researched. Theory and the hypotheses deduced from it drive the process of gathering data (Bryman, 2012). Through the process of deduction this research examines the relationship between work-family conflict, career development and psychological well-being. In the context of this research, career development is defined as female managers moving from middle management to senior management, and from female managers within senior management to rise in seniority, and to remain satisfied and fulfilled in their job. The independent variable is work-family conflict and the dependent variable is career development. In order to reach the target of 50% representation of female managers in the public sector, the career development of female managers must be prioritised and enhanced. Based on research, psychological well-being can moderate the effect of work-family conflict. The effect of this moderating effect on career development amongst female managers is explored. Psychological well-being is a self-reported measure and therefore an individual's perception of well-being, and not an independent medical measure. The proposed model will examine whether psychological well-being is a moderating variable on work-family conflict and career development relationship, such that career development is negatively related to work-family conflict in the case of senior managers with lower levels of well-being, but unrelated in the case of senior managers with higher levels of well-being. This relationship among the three variables to be researched is depicted in the diagram below.

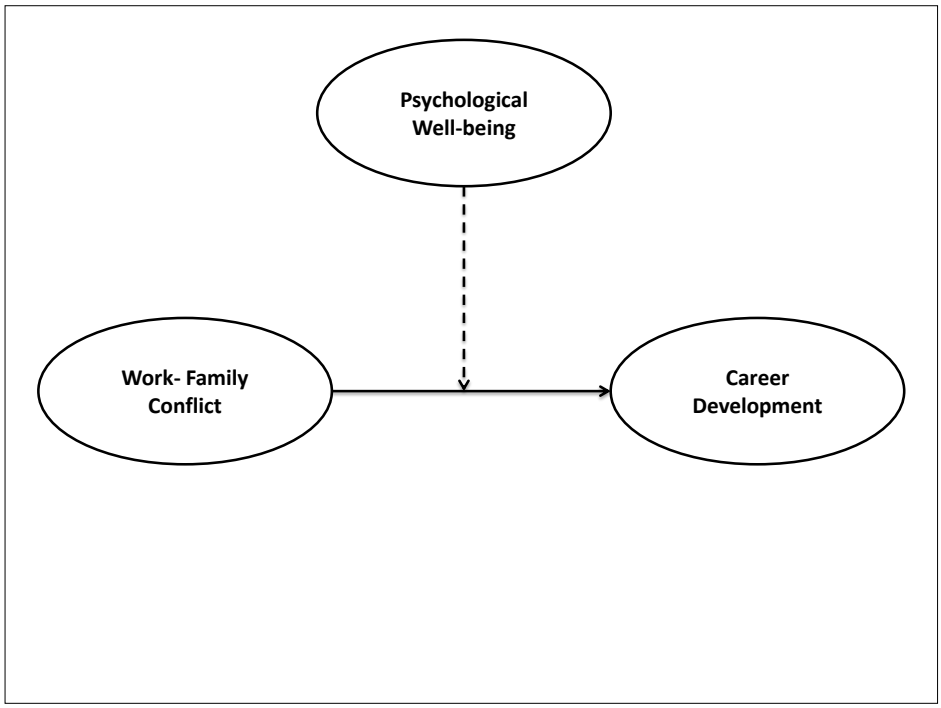

Figure 1: Relationship between work-family conflict, career development and psychological well-being

Based on the theory evaluated in the literature review and further discussed in the Research Methodology below, these three constructs are operationalized as follows:

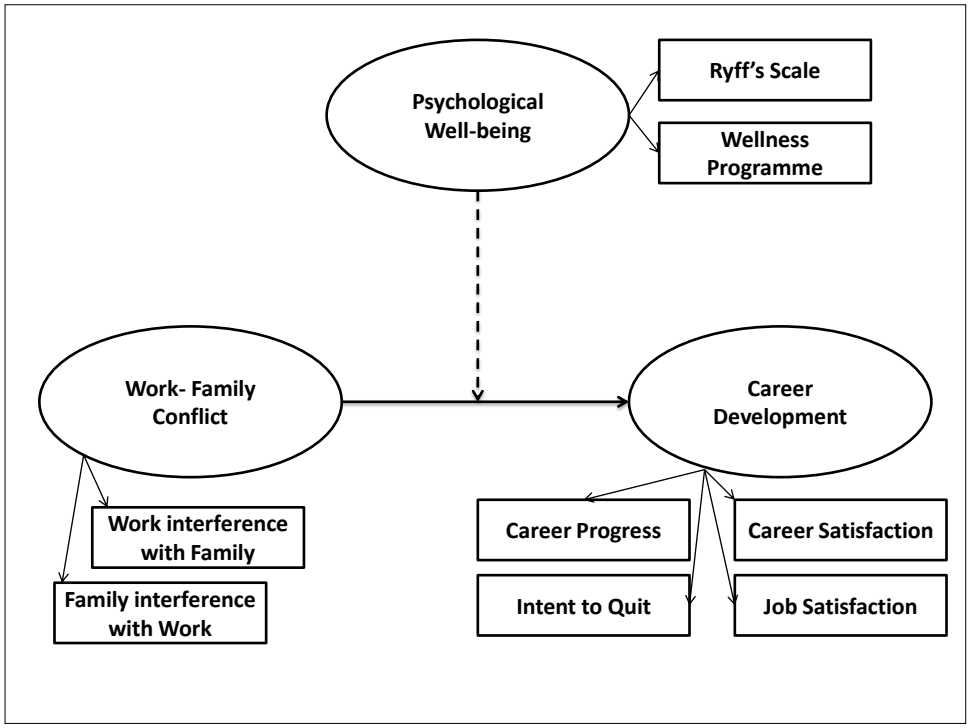

Figure 2: Work-family conflict, career development and psychological well-being constructs and scales

Proposition and Hypotheses

The proposition and hypotheses to be examined in this research study based on previous research findings are:

Proposition 1: Female managers in the public sector experience work-family conflict.

Hypothesis 1: There is a negative relation between work-family conflict and career development.

Hypothesis 2: The relation between work-family conflict and career development is moderated by psychological well-being, such that career development is negatively related to work-family conflict in the case of senior managers with lower levels of well-being, but unrelated in the case of senior managers with higher levels of well-being.

Hypothesis 3: Employees who participate in the Employee Wellness Programme report higher levels of psychological well-being compared to those who do not participate in the programme.

Chapter 3: Research Methodology

Bryman (2012) describes how there can be different reasons or motivation for undertaking research, such as a simply 'fact-finding'; a concern about a pressing social problem; when a specific opportunity arrives; or a personal experience. The motivation for this research is a combination of fact-finding, being the extent to which work-family conflict exists within the public sector, the impact of employee wellness programmes, and concern about a pressing social problem, namely the slow progress of achieving representation of women in senior management in the public service, and partly my own personal experience and the experience of my female colleagues. Independent of the motivation, research achieves significance when viewed in relation to theoretical concerns (Bryman, 2012). Given that the occurrence of work-family conflict was reported in the 1980s and has been researched since, it is important to take consideration of the existing theory. The literature on work-family conflict, career development and well-being/ wellness programmes thus forms the background to the study and the main impetus for the interpretation of the findings. Using existing theory, this section describes how the research will be undertaken using a quantitative approach and the way in which the research will be structured, designed, the methodology and the process.

Research Strategy

A research strategy is a general orientation to the conduct of social research (Bryman, 2012). The two broad approaches which can be taken are a quantitative approach and a qualitative approach. A third approach, a mixed approach, combines both quantitative and qualitative elements. Quantitative research is generally distinct from qualitative theory as it employs measurement. Beyond this however, these two broad approaches are based on different principles and orientations:

- Deductive versus inductive theory.

- Epistemological considerations which concern the question of what is or should be regarded as acceptable knowledge in a discipline (Bryman, 2012) through positivism or interpretivism.
- Ontological considerations which considers whether social phenomena occur as external realities or as internal constructs.

Quantitative research entails a deductive theory of research, with a positivist and objective orientation. According to the deductive process, a hypothesis is deduced from theory or the existing body of knowledge which is then tested empirically. In contrast, an inductive approach uses observations and findings to then derive theory, which is the outcome of the research rather than the background of the study.

Inductive theory and interpretivism are associated with qualitative research strategies. Interpretivism is a term that implies the researcher interprets the results based on their view of how people experience the world. Many studies on work-family conflict have employed interpretivism; particularly studies that look at how female workers respond to policies intended to promote work-life balance. Interpretivism in these cases is useful for the researcher to attempt to understand and explain the effects of these policies from the female workers' point of view. In contrast, positivism is an epistemological position that advocates the application of the methods of the natural sciences to the study of social reality and beyond (Bryman, 2012). Positivism involves the testing of theories through observation. It is through observation that facts are gathered and knowledge is confirmed.

In light of the literature discussed above, it is submitted that this research called for a quantitative study. Using the existing theory of work-family conflict, the hypothesis for this study has been deduced. The theory on work-family conflict, career development and well-being together with previous research guided and influenced the research design and methods of data collection. This research study uses a positivist approach in testing via observations using principles of the natural sciences. One of these principles is objectivism. Objectivism is an ontological position that asserts that social phenomena

and their meanings have an existence that is independent of social actors (Bryman, 2012).

The quantitative approach employed fed into the way in which the research is carried out. Emphasis is placed on testing the hypotheses which have been derived from work-family conflict theory and employee wellness, in an objective way incorporating the norms of the natural scientific models- positivism in particular. The constructs being researched (i.e. work-family conflict, career development and well-being) are considered both objective and measurable. How they will be measured is further explained below.

Research Design

A research design is a structure that guides the execution of a research method and the analysis of the subsequent data (Bryman, 2012). The design is distinct from the research methodology, which is the technique for collecting data (discussed further below). There are five major research designs:

1. Experimental and related designs.
2. Cross-sectional design, the most common form of which is survey design.
3. Longitudinal design, such as a panel study.
4. Case study.
5. Comparative design.

The research design employed is predominantly a cross-sectional correlational design, as relations are measured among variables using data that is collected on more than one case at a single point in time in connection with different variables which are then examined to detect patterns of association (Bryman, 2012).

Internal validity is concerned with whether a conclusion that incorporates a causal relationship between two or more variables holds (Bryman, 2012). In the hypothesis to be tested, we suggested that work-family conflict has a negative impact on career development; however we cannot be sure that work-family conflict is responsible for

stunting career development and not something else, such as years of experience or personality. However to improve the internal validity of the research, control variables were included. The proposed variables that were controlled statistically are the respondents':

- Age of children i.e. child(ren) under 5 years of age
- Job tenure
- Use of private wellness programmes.

The use of control variables helps to discount some of the rival interpretations of a causal link that may arise (Bryman, 2012), For example, a female manager may not develop in her career because she is new in her position and thus does not have sufficient experience. The introduction of job tenure as a control variable thus takes this possibility into account when examining the causal relationship between work-family conflict and career development (Hypothesis 1). Similarly, the question on the use of private wellness programmes is included as a control variable to enable statistical control of the effect of use of private wellness programmes on the impact of an employee wellness programme on an individual's psychological well-being.

Although the research is done within one organisation, the analysis is focussed on female individuals within the public sector as the unit of analysis. It is not important for this research which public sector department this is as this may compromise a level of anonymity, and additionally, it is assumed that female senior managers throughout public sector departments experience similar challenges. Thus whilst there are elements of a case study design, the focus is not on the specific department but rather the experience amongst female managers working in the public sector. If the research was to be replicated in the future, then a longitudinal design could be employed to compare the findings from this research with the findings from the research in a future point in time. Alternatively, if the research was replicated in a private sector sample then a comparative design could be used to compare the public sector results with the

private sector results. These two examples are however ideas for future research and not covered within the scope of this research report.

Research Method

The research method employed to collect data is a self-completion questionnaire. The questionnaire is included in Appendix A: Questionnaire. Female senior managers from a particular public sector department were invited to participate via email and the questionnaire was completed online. The key advantage for the self-completed questionnaire is the convenience for respondents, given that the sample is people in a managerial position. They completed the questionnaire at a time convenient to them. Other advantages include no interviewer effects, easier and quicker to administer (Bryman, 2012). Self-completion questionnaires have been used in various work-family conflict studies, particularly those using quantitative techniques (Burke, Kouyuncu, & Wolpin, 2012; Carlson, Kacmar, & Williams, 2000), and in several well-being studies (Chetty, 2007; Edwards & Steyn, 2008).

The major disadvantages of a self-completed questionnaire are that the questions should be kept to a minimum to avoid 'respondent' fatigue and there is no opportunity to probe respondents to elaborate on an answer (Bryman, 2012). On the other hand, there is also no opportunity for the respondent to seek clarity from the researcher on areas where they are unclear. Other areas for concern are a lower response rate and a greater risk of missing data if the questionnaire is not completed in full. Some steps to be taken to address these disadvantages are discussed in the next section on research procedure.

Research Procedure

The research procedure used was adapted from Bryman (2012) process of quantitative research:

1. Review theory on work-family conflict, career development, well-being and wellness programmes
2. Deduce hypothesis based on review

3. Undertake cross-sectional, quasi-experimental research design using a questionnaire
4. Develop questionnaire
5. Pilot the questionnaire
6. Amend questionnaire where necessary
7. Send questionnaires to sample via email
8. Collect data
9. Process data
10. Analyse data
11. Draw findings and conclusions.

Sampling

The target population is female managers employed in the public sector. The public sector in South Africa has three spheres namely national, provincial and local governments. This research is situated within the national sphere. Each national department is headed by a Director-General. Senior Managers are referred to as the Senior Management System or Service (SMS) and are remunerated from salary levels 13 to salary level 16. The Director-General is part of SMS along with Deputy Director Generals, Chief Directors and Directors. The Middle Management Service (MMS) are remunerated on salary levels 11 and 12 and are usually referred to as deputy directors.

The sample for the research was a segment of the population selected for the investigation. The sample is female senior and middle managers within one national department which the researcher had access to. The intention was for the sampling method to be a probability sample which is a sample that has been selected using random selection so that each unit in the population has a known chance of being selected and no person is more likely to be selected than another, thus generating a sample that is as likely as any other randomly selected sample (Bryman, 2012). All senior and middle managers have email and access to the internet and were invited to participate in the research. The ability to generalise the research findings is however limited due to the response rate and sampling within one department. The sample size

is the number of female senior and middle managers employees in the one national department, which constitutes a sampling frame of 242 potential respondents. All middle and senior managers in the department which the researcher had access to were asked to participate, thus no sampling was used.

Data

The data used in the research was primary data, collected specifically for the proposed research.

Primary data: Research instrument.

The research instrument is a self-completed or self-administered questionnaire. The time period for the questionnaire completed online was from 1 June 2013 to 31 July 2013. Questions were structured to address the research proposition in a structured, direct and simple way. The questionnaire made use of dichotomous, nominal and interval scales. A dichotomous scale has only two categories (e.g. gender: male or female) and a nominal scale has more than two categories which cannot be rank ordered (e.g. which wellness programme services do you use: counselling service, on-site nurse, health check, awareness events). An interval scale has more than two categories' which can be rank ordered with equal distances between the categories (Bryman, 2012). A 5-point Likert scale was proposed to obtain data on the experiences of female senior and middle managers of work-family conflict, career development and perceived psychological well-being. The author is aware of the academic debate around the use of a Likert scale as an ordinal or equal interval scale. Many studies have shown that Likert scales produce interval data and that the F-test is very robust to violations of the interval data assumption and moderate skewing and may be used to analyse Likert data (Carifio & Perla, 2007). The use of a Likert scale was decided upon due to its ease of use and simplicity but also on the basis of previous research which validated and tested the scales, as discussed next, using a Likert scale and regarding such as equal interval.

Given there have been quantitative studies done in the past on the measurement of work-family conflict, the questionnaire drew on these scales which have been tried and tested. The basic structure of the questionnaire with the measures as indicated in *Figure 2*: Work-family conflict, career development and psychological well-being constructs and scales, was as follows:

1) Personal demographics measured by single items using dichotomous and categorised scales e.g. age, marital status.
2) Work situation characteristics measured by single items using dichotomous and ordinal categorical scales e.g. job level, job tenure.
3) Relationship between work and family measured by an 18-item scale developed by Carlson et al (2000) measured using a 5-point Likert scale which is regarded as equal interval for this research.
4) Career Development measures for job satisfaction, career satisfaction, career progress (Greenhaus, Parasuraman, & Wormley, 1990) and intent to quit (Burke, Kouyuncu, & Wolpin, 2012), measured using a 5-point Likert scale which is regarded as equal interval for this research.
5) Psychological Well-being measured by an 18-item Ryff Scales of Psychological Well-Being (Ryff, 1995) measured using a 5-point Likert Scale. The six components of the scale are:
    a. Autonomy e.g. I have confidence in my opinions, even if they are contrary to the general consensus.
    b. Environmental Mastery e.g. In general, I feel I am in charge of the situation in which I live.
    c. Personal Growth e.g. I think it is important to have new experiences that challenge how you think about yourself and the world.
    d. Positive Relations with Others e.g. People would describe me as a giving person, willing to share my time with others.
    e. Purpose in Life e.g. Some people wander aimlessly through life, but I am not one of them.

f. Self-Acceptance e.g. I like most aspects of my personality.

6) Use of Employee Wellness Programme measured by single items using dichotomous scales (e.g. do you use the wellness programme: Yes/No), and nominal scales (e.g. which wellness programme services do you use: counselling service, on-site nurse, health check, awareness events). The Employee Wellness Programme services include an on-site nurse, counselling services, legal advice, and awareness and preventative programmes such as health checks for cholesterol, eye testing etc.

All the questions were closed-ended questions. Closed-ended questions tend to be used in survey questions as they are easier to answer, have easy-to-follow design and are shorter to reduce the risk of 'respondent fatigue'(Bryman, 2012).

Multiple-indicator measures were use and internal reliability tested using Cronbach's alpha. Cronbach's alpha is a commonly used test of internal reliability that calculates the average of all possible split-half reliability coefficients (Bryman, 2012). Cronbach's alpha ranges from 0 to 1, with 1 indicating perfect internal reliability. A figure of above $\alpha = .8$ is desirable, although a figure above $\alpha = .7$ is deemed acceptable, with some researchers in a research setting accepting values of $\alpha = .6$ and above (Bryman, 2012). Where α was below .6, the average inter-item correlation has been provided as Cronbach's alpha is negatively affected by short scales and average inter-item correlation is not dependent on scale length. An average inter-item correlation above $r = .3$ is deemed acceptable, as recommended by research (Hair, Babin, Money, & Samouel, 2003). In this research, the Cronbach's alpha values for work-interference with family, family-interference with work, work-family conflict, the composite career development and psychological well-being measures were above .8. The average inter-item correlations, with the exception of positive relations with others, were above $r = .3$ (see *Table 3: Cronbach's Alpha and Inter-Item Correlation of the Constructs*).

The assumption for most parametric tests that the data is normally distributed was checked by assessing the skewness and kurtosis of the scale distributions. For the work-

family conflict scale items the skewness and kurtosis values were generally within 2-3 times the size of their respective standard errors and were considered reasonably normally distributed.

Data Analysis Techniques

This section presents the various techniques in the order that they are used in this research study. Starting with the personal demographics such as age category and gender, and the work situation characteristics such as job tenure category, these variables are analysed according to frequencies depicted in tables and graphics where appropriate to provide useful information with an appropriate description of the respondents.

To address the first proposition, on the existence of work-family conflict as measured by work-interference with family (WIF) and family-interference with work (FIW), the mean and standard deviation were calculated on the scale means. Within WIF and FIW there are three measured items: time based, strain based and behaviour based conflicts. A one sample t-test was calculated using the scale midpoint of 3 on the 5-point Likert scale to assess positive responses.

Thereafter, point-biserial correlations were computed between the time, strain and behaviour-based measures and the composite WIF, FIW and WFC measure. Point-biserial correlations were used as one variable was dichotomous (in this case the dummy variables listed below) and the other variable was measured on an interval scale (the work-family conflict and career development measures). Point-biserial is a special case of Pearson correlation and in SPSS the Pearson correlation computation is used as it is mathematically equivalent (IBM, 2013). All analysis was undertaken using SPSS, a computer software statistical package use for the analysis of quantitative data.

To test the first hypothesis of the negative relationship between work-family conflict and career development with the personal demographic and work situation control variables held constant, hierarchical regression analysis was undertaken. This approach

follows the approach taken in a similar study in Turkey (Burke, Kouyuncu, & Wolpin, 2012). Prior to undertaking the hierarchical regressions, correlations were computed between the five career development measures (including the composite measure) and each of the work-family conflict measures to examine the bivariate relationships among the variables. Each of the career development outcomes (job satisfaction, career satisfaction, career progress and intent to quit) were separately regressed on three blocks of predictors:

(1) Personal demographic characteristics
(2) Work situation characteristics
(3) Work and family measures being WIF and FIW.

To determine which measures to use in each block of predictors, correlations were computed to examine the relationships which exist as the number of predictors that could be used simultaneously in the regression was limited by the sample size. The personal demographic and work situation characteristics questions were each coded as dummy variables (0= No; 1= Yes) as follows:

- Married
- Age over 40
- Children under the age of five
- Children aged between 5 and 18 years old
- Degree (bachelors or post-graduate qualification)
- Senior manager
- Organisational tenure more than two years
- Job tenure more than two years
- Supervisory duties
- Supervise more than five people
- Work more than 41 hours per week.

Hierarchical regression analysis was used in order to control for the relationship of personal demographics and work situation before considering the relationship of work-

family conflict with each of the career development outcomes. The literature focuses on the components of each of the scales, and these have been used in the regression to retain the theory and detail of the research.

When a block of predictors accounted for a significant ($p < .05$) increment in explained variance with a given outcome measure, as indicated by R^2, the significance of the individual items within these blocks was then determined. The change in R^2 indicates how much predictive power was added to the model by the addition of another block. Furthermore, the coefficients, as indicated by the Beta values are the weights that when multiplied by the score on the corresponding independent variable provides the predicted score of the dependent variable. The significance of the F ratios for the models indicates the significance of the respective models. This hierarchical regression approach controls for the relationship of both personal demographics and work situation characteristics with a given outcome before considering the relationship of the predictors of interest.

To check the assumptions of linearity, normality and homoscedasticity, a standardised residual regression plot, histogram of residuals and scatter plot of standardised residuals versus predictor values were computed respectively. To test for independent of observations and thus no serial autocorrelation, the Durbin- Watson coefficient was calculated with figures close to 2.0 deemed acceptable. To check the assumption of homoscedasticity, the residual plot for the hierarchical regression should show a random pattern, with no nonlinearity or heteroscedasticity

A similar hierarchical regression approach was used to test Hypothesis 2, which proposed a moderation effect of psychological well-being on the relation between work-family conflict and career development. A moderating variable specifies the conditions under which a given effect occurs, as well as the conditions under which the direction or strength of an effect vary (Baron, 1986). Based on the theory reviewed, career development was expected to be negatively related to work-family conflict in

the case of senior managers with lower levels of well-being, but unrelated in the case of senior managers with higher levels of well-being.

Similar to the process undertaken in testing the first hypothesis, initial correlations were computed between psychological well-being and dichotomised personal demographic and work situation variables, work-family conflict scale measures and career development scale measures. These correlations were used to determine which measures to use in each block of predictors, as the number of predictors that could be used simultaneously in the regression was limited by the sample size. Thereafter, regression analysis was performed including the interaction term between conflict and well-being (the product of the conflict and well-being scores), and the significance of the moderator variables was checked. As undertaken for the regression model in testing the first hypothesis, the model assumptions were checked. To better understand the moderation effect, the sample was split into a high well-being and low well-being group, with the means plotted graphically and the correlations computed between work-interference with family and career development for each group. Binomial tests were used on all the correlations. A binomial test examines whether a sample differs significantly, more than one would expect from chance alone, from the proportion expected (Rosenthal, 2011) which in this sample would be half. The binomial test was used to test whether there were significantly more than chance (half) of the instances of bivariate correlations amongst all the pairs of work-family conflict and career development measures that displayed the pattern of negative values for respondents with low well-being and weaker correlation for respondents with high well-being.

The investigation of the moderation effect of psychological well-being on the relation between work-family conflict and career development was assessed using the Ryff Scale as this is a known measure with pre-established construct validity. The use of the wellness programme was not used as a measure of well-being as this has not been researched to show that it does indeed promote well-being.

To test the third hypothesis that employees who participate in the employee wellness programme report higher levels of psychological well-being compared to those who do not participate in the programme, the sample was split between those employees who reported using the wellness programme and recognised the benefits of the programme on their well-being, versus those employees who reported not using the programme or using the programme but reported no perceived benefits from it. An independent samples t-test was calculated to test the significance of the perceived benefits of the programme on their well-being.

Criteria for Evaluating Social Research: Validity, Reliability and Replication

The emphasis of quantitative research is on the collection of numerical data and using this data to measure the relationship between theory and research. Measurement provides the basis for more precise estimates of the degree of relationship between concepts (Bryman, 2012). The concepts of work-family conflict, career development and psychological well-being were measured. The validity, reliability and replication of these measures are described below.

External validity

External validity is concerned with whether the results of a study can be generalised beyond the specific research context (Bryman, 2012). This is largely dependent on the sample chosen. In this research the sample is all females in MMS and SMS positions within one national government department. This department is deemed representative of national government as the employment contract and working conditions are uniform across national government, as determined by the Department of Public Service Administration (DPSA). Thus a female manager in one department should have qualifications, working arrangements, salary level and benefits (e.g. leave) comparable to a female manager in another department. However the ability to generalise the research findings across all female managers in the public sector is limited due to the size of the sampling frame (242 female managers) and response rate (61%) and is thus considered to be a convenience or availability sample with limited generalizability.

Internal validity

As discussed in the Research Design section (p. 23), internal validity refers to whether a conclusion about a causal relationship between an independent and a dependent variable can be confidently inferred (Bryman, 2012). In this case, the independent variable is work-family conflict and the dependent variable is career development. The research controlled for nuisance variables through hierarchical regression analysis on blocks of predictors to control for personal and work-specific characteristics. However, given that the data is collected at one point in time and not all possible extraneous variables can be examined, no claims of causality are made.

Ecological validity

Ecological validity is concerned with whether the findings are applicable to peoples every day, natural social settings (Bryman, 2012). In this research study, the concepts and relationships explored pertain to the respondent's every-day work and family life and thus are deemed ecologically valid. Furthermore, the questionnaire was anonymously answered and respondents did so at their own time and leisure.

Reliability

Reliability is concerned with the question of whether the results of a study are repeatable, that is consistent over time (Bryman, 2012). To the extent that work-family conflict studies have been done internationally using the scale developed by Carlson et al (2000) and psychological well-being using the Ryff Scale, consistent measures have been devised and used in different samples. The scales have thus been used in the past and can be repeated by other researchers in the future. Reliability was further enhanced by piloting the questionnaire.

Ethical Considerations

There are no material ethical considerations in undertaking this research. Participation was anonymous, and approval was obtained from the department to conduct the survey amongst employees. Feedback was also provided to the department.

Summary

A summary of the data and analysis for each of the proposition and hypotheses is presented in the table below.

Table 1: ***Summary of Research Methodology***

Proposition and Hypotheses	**Source of the data**	**Specific question/ item numbers**	**Data Analysis**
Level of work-family conflict	Questionnaire	Part 2: Work-family conflict	One sample t-test
Work- family conflict has a negative relation with female managers career development	Questionnaire	Part 2: Work-family conflict Part 3: Career Development	Pearson's Correlation Hierarchical regression analysis
Psychological well-being has a moderating effect on the relation between WFC and female managers career development	Questionnaire	Part 4: Psychological Well-being	Hierarchical regression analysis introducing the moderator term in the final step of the regression, graphical comparison of means and correlations for moderator groups.
Employees who participate in the Employee Wellness Programme report higher levels of psychological well-being.	Questionnaire	Part 4: Psychological Well-being	Independent Samples t-test

Chapter 4: Data Analysis and Interpretation

Introduction

This chapter presents the findings and results of the research based on the data obtained from the questionnaire. The data was analysed in accordance with the research methodology chapter in this report. The aim of the questionnaire was to measure the level of work-family conflict, career development and well-being as experienced by the respondent. The questionnaire was developed to test the following proposition and hypotheses:

- Proposition 1: Female managers in the public sector experience work-family conflict.
- Hypothesis 1: There is a negative relation between work-family conflict and career development.
- Hypothesis 2: The relation between work-family conflict and career development is moderated by psychological well-being, such that such that career development is negatively related to work-family conflict in the case of senior managers with lower levels of well-being, but unrelated in the case of senior managers with higher levels of well-being.
- Hypothesis 3: Employees who participate in the Employee Wellness Programme report higher levels of psychological well-being compared to those who do not participate in the programme.

The chapter will begin with a description of the sample and an analysis of the demographic and work situation characteristics. This will be followed by an analysis of the internal consistency and reliability of the various scales. The research proposition and hypotheses are then described and tested as per the research methodology. Additional analysis is conducted where applicable to understand the results better, and data tables and figures are presented where appropriate.

The Sample

The numbers of middle female managers during the research timeframe were 129 and senior female managers were 113, thus the size of the sampling frame was 242. Responses were received from 147 respondents, constituting 61% of the sampling frame. An initial analysis of the responses revealed that one respondent was male, one respondent had duplicated their responses, and one respondent had not answered the demographic and work situation characteristics. These three respondents were eliminated from the data analysis, resulting in 144 respondents. In addition, 44 respondents had not completed between one and five questions of the 48 questions relating to the three variables being tested (work-family conflict, career development and psychological well-being). In order to resolve the missing data for these responses, the average or mean of the scale scores were calculated for all respondents based on the completed items.

Demographic Analysis

The demographic information and work situation characteristics of the sample were analysed and are reported below. The majority (56%) of respondents were aged between 31 and 40. From the sample, 55% are married or cohabiting and 45% are single. Respondents were asked to indicate their parental status and if they had children to indicate the age of children under the categories: children under the age of five (which is a control variable), children aged between 5 and 18 years, and all children older than 18. This was a multi-item measure allowing respondents to choose more than one category depending on the different ages of their children. An overwhelming proportion of the sample (89%) had a bachelor's degree or post-graduate qualification. The table below presents the demographics characteristics of the sample.

Table 2: *Demographic Characteristics of the Sample*

	Frequency	Percent
Age		
30 or younger	32	22%
31 to 40	80	56%
41 and older	31	22%
Marital Status		
Married, or cohabiting	79	55%
Single	65	45%
Parental Status		
Have no children	50	32%
Have one or more children under the age of 5	46	29%
Have one or more children aged between 5 and 18	51	33%
All children older than 18	9	6%
Highest Level of Education		
High School or Diploma	16	11%
Bachelor's Degree or Post Graduate Qualification	128	89%

The work situation characteristics revealed that the respondents were split between 53% middle managers and 47% senior managers. Whilst 81% of respondents had been with the organisation for more than two years, only 67% had been in their current jobs for more than two years. Over two thirds (69%) had supervisory duties, mostly supervising between one and five people. One respondent worked less than 40 hours per week, 23% reported working the stipulated 40 hour work week and 76% of respondents reported working 41 hours or more per week (overtime is not compensated for). The work situation variables statistics are represented in the stacked bar graph below.

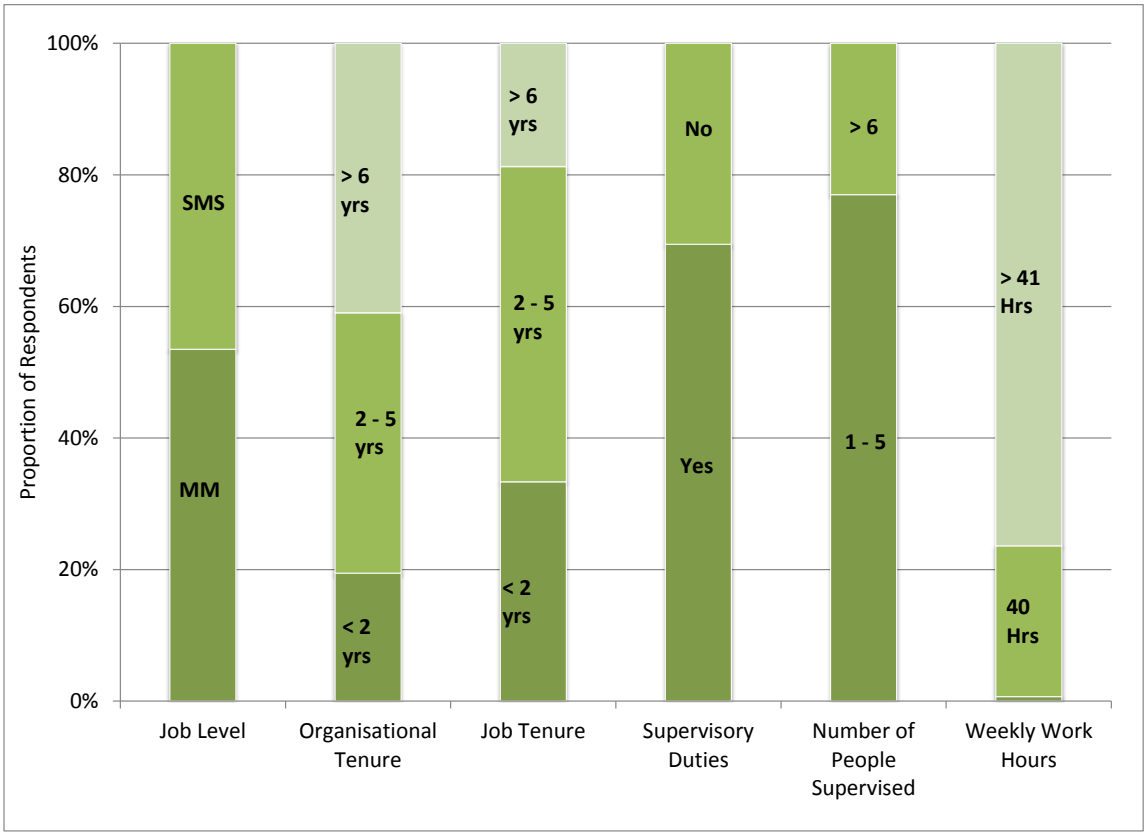

Figure 3: **Combined respondent work situation characteristics**

To comment on the proportional representation of the seniority levels of the sample, the job level was compared to the target population values. In the organisation, the split is 62% middle managers and 38% senior managers which is not far off from the sample (53% middle managers, 47% senior managers).

Internal Consistency and Reliability of Scales

Before the data could be analysed, the responses to questions that had been phrased in reverse (as indicated in Appendix A: Questionnaire) were reversed e.g. 'In many ways, I feel disappointed about my achievements in life' (a negatively phrased item) compared to 'In general I feel I am in charge of the situation in which I live' (a positively phrased item), to ensure consistency in the scoring of the items.

The questionnaire had three sections each formulated to measure the key constructs:

1) Independent Variable: Work-family conflict: As described in the literature review above, the work-family construct was measured using a multi-item scale. The scale measured both work-interference with family (WIF) and family-interference with work (FIW) using the measured items of time based, strain based, and behaviour based conflicts.
2) Dependent Variable: Career Development: Similar to the work-family conflict measure, career development was measured using multi-item scales on job satisfaction, career progress, intent to quit (which was reversed scored and hereafter referred to as intent to stay) and career satisfaction.
3) Moderator Variable: Psychological well-being: Female managers perception of psychological well-being was measured using the Ryff Scale, as described in the literature review above.

To test the reliability of these measures, Cronbach's alpha coefficient and average inter-item correlation was calculated as Cronbach's alpha is negatively affected by short scales and average inter-item correlation is not dependent on scale length. A summary table of the scale statistics is provided below.

Table 3: ***Cronbach's Alpha and Inter-Item Correlation of the Constructs***

	Number of items	Cronbach's Alpha	Average inter-item correlation
Time WIF	3	.85	.71
Strain WIF	3	.83	.69
Behaviour WIF	3	.74	.56
WIF	9	.89	
Time FIW	3	.66	.48
Strain FIW	3	.86	.74
Behaviour FIW	3	.85	.72
FIW	9	.83	
WFC	18	.89	
Job Satisfaction	3	.79	.63
Career Progress	2	.75	.59
Intent to Stay	2	.85	.73
Career Satisfaction	5	.86	.69
Career Development	12	.86	
Autonomy	3	.59	.41
Environmental Mastery	3	.57	.39
Personal Growth	3	.54	.37
Positive Relationships with Others	3	.37	.22
Purpose in Life	3	.49	.31
Self Acceptance	3	.61	.42
Psychological Well-Being	18	.81	

The high Cronbach's alpha of .89 for work-interference with family, α =.83 for family-interference with work, and α =.89 for the overall work-family conflict measures, provides support for the reliability of each measure. The average inter-item correlations all exceed the recommended minimum level of *r*=.3.

The career development scale shows a Cronbach's alpha lowest for career progress at α =.75 and highest for career satisfaction at α =.87. The overall Cronbach's alpha for the 12 career development questions was .86 indicating strong reliability of the measure. Correlations were computed between the four career development measures and all measures were found to be positively and significantly correlated at a .01 level of

significance (see Table 14 in Appendix B: Additional Data Tables). The mean inter-item correlation is *r* =.52.

The psychological well-being scale has six different items, however the reliability of the scale components was low as measured by Cronbach's alpha and the average inter-item correlation was below *r*=.4. Despite the low alpha values, the six items were positively and significantly correlated to each other and to the overall scale measure (see Table 15 in Appendix B: Additional Data Tables). The overall reliability of the scale was however acceptable with a Cronbach's alpha reliability value of α =.81. Given the reliability is highest for the overall scale; the composite psychological well-being measure is used in the analysis below. The low alpha's could be attributable to using the 3 item scale, as during initial assessment construction, the Cronbach's alpha coefficients of participants for the twenty item scale were high: autonomy α =.88, personal growth α =.81, environmental mastery α =.81, purpose in life α =.82, positive relations with others α =.83 and self-acceptance α =.85 (as cited in Edwards, 2008).

To check the assumption the data is normally distributed the skewness and kurtosis of the scale distributions for the work-family conflict scale items were checked to assess whether they were within two to three times the size of their respective standard errors. For most of the scales, this was found and the scales were considered reasonably normally distributed. However, the strain of family-interference with work and family-interference with work scales were positively skewed with a few relatively low scores and skewness values of 1.15 and 1.18 respectively relative to the value of their respective standard error of 0.2 (see Table 16: Skewness and Kurtosis of Scale Items in Appendix B: Additional Data Tables). The low skewness and kurtosis indicates the data is reasonably normally distributed.

Scale Statistical Test Results

A summary of the scale descriptive statistics are contained in Table 4: *Scale Summary Statistics* below. The questions for each scale were asked on the basis of a 5-point Likert scale whereby 1= Strongly Disagree and 5= Strongly Agree. Thus values greater than the

scale midpoint of 3 are considered as positive on the construct. An analysis of the measures reflecting each construct reveals the following:

Table 4: ***Scale Summary Statistics***

	Number of items	Scale Mean	95% CI Mean-Lower Bound	95% CI Mean-Upper Bound	Scale Standard Deviation (SD)
Time WIF	3	2.85	2.67	3.02	1.05
Strain WIF	3	3.12	2.95	3.29	1.04
Behaviour WIF	3	2.89	2.74	3.05	0.95
WIF	9	2.95	2.81	3.10	0.86
Time FIW	3	1.97	1.84	2.09	0.76
Strain FIW	3	1.73	1.61	1.85	0.75
Behaviour FIW	3	2.62	2.46	2.77	0.93
FIW	9	2.10	2.00	2.21	0.63
WFC	18	2.53	2.42	2.64	0.65
Job Satisfaction	3	3.44	3.27	3.60	0.99
Career Progress	2	3.18	2.99	3.38	1.17
Intent to Stay	2	2.88	2.66	3.09	1.28
Career Satisfaction	5	3.53	3.40	3.66	0.78
Career Development	12	3.34	3.22	3.46	0.72
Autonomy	3	3.94	3.85	4.07	0.66
Environmental Mastery	3	3.81	3.70	3.91	0.63
Personal Growth	3	4.25	4.15	4.35	0.61
Positive Relations with Others	3	3.83	3.72	3.94	0.67
Purpose in Life	3	4.16	4.06	4.26	0.63
Self Acceptance	3	4.08	3.97	4.18	0.62
Psychological Well-Being	18	4.02	3.95	4.09	0.43

Notes:
WIF= Work-interference with family
FIW= Family-interference with work
WFC= Work-family conflict

- **Work-family conflict**: The mean item values were 2.95 (*SD*= 0.86) for work-interference with family and 2.10 (*SD*=0.63) for family-interference with work which indicates generally low levels of both types of work family conflict (2.0= disagree and 3.0 = neither agree nor disagree). The highest mean value was on

strain of work interference with family and the lowest mean was on strain of family interference with work (3.12 and 1.73 respectively).

- **Career Development**: The intent to stay measure had a mean value below the Likert scale midpoint of 3. The other three career development measures and the composite measure have mean values slightly above 3 (neither agree nor disagree) but lower than 4 (agree), with the highest mean value for career satisfaction at 3.53.
- **Psychological Well-being:** The mean value for psychological well-being was 4.02 (*SD*= 0.43) indicating a generally high level of perceived psychological well-being. The highest mean value was on personal growth item and the lowest mean value on environmental mastery (4.25 and 3.81 respectively).

Proposition 1

To test the first proposition that female managers experience work-family conflict the mean and standard deviation was calculated on the scale means. The mean values and 95% confidence intervals are reported in Table 4: *Scale Summary Statistics* and are shown graphically as follows.

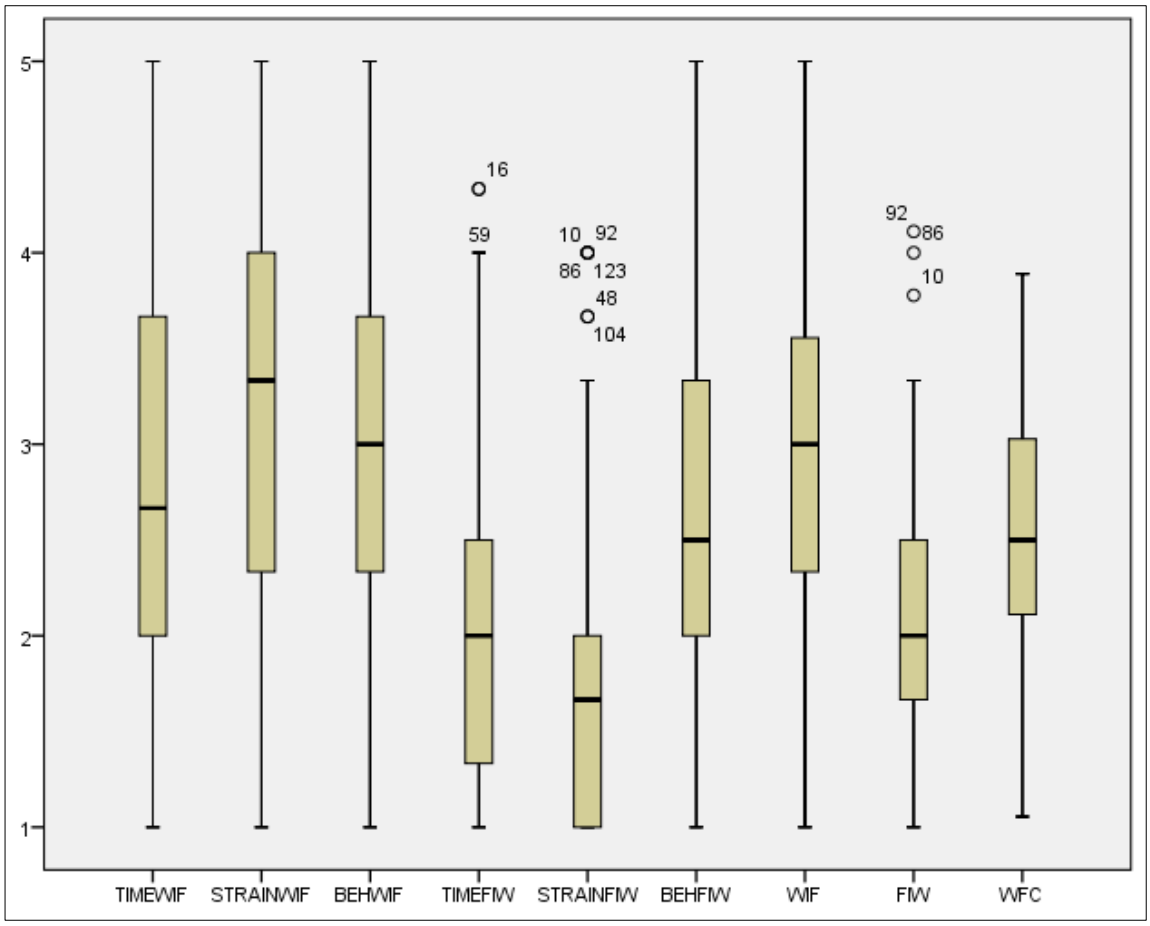

Figure 4: **Mean and standard deviation of work-family conflict constructs**

The highest mean value was on the strain of work-interference with family (3.12). A one sample t-test on the strain of work-interference with family was conducted to determine whether this measure was significantly different from the scale mid-point value of 3 (neither agree nor disagree). The t-test revealed the difference was not significant (t (143) = 1.42, p= .16 see Table 17 in Appendix B: Additional Data Tables).

A paired samples t-test was calculated on the two composite measures (WIF and FIW) to determine whether the difference in means (2.95 and 2.10 respectively) was significant. A paired sample t-test revealed a statistically reliable difference between the mean value for work interference with family and family interference with work, t(143) = 12.99, p < .001. This indicates that respondents consistently scored work-interference with family, across time, strain and behaviour, higher than family-

interference with work. However both values were below the scale mid-point of three, indicating that female managers did not report high levels of work-family conflict.

The three measures of work-interference with family were significantly and positively correlated (r=.73, .51 and .52 respectively between time and strain, time and behaviour, and strain and behaviour; the mean inter-correlation being .59). The three measures of family-interference with work were also significantly and positively correlated (r= .66, .33, .26 respectively for time and strain, time and behaviour, and strain and behaviour, the mean inter-correlation being .42). The two composites of work interference with family and family-interference with work were also significantly and positively correlated with a Pearson's r =.48 (p<.001), (see Table 13 in Appendix B: Additional Data Tables).

Thus, the data indicated high correlations between the various work-family conflict scale items; furthermore the low mean values did not support the proposition that female managers experienced work-family conflict.

Hypothesis 1

Hypothesis 1 posits that there is a negative relation between work-family conflict and career development.

The five career development measures were all positively and significantly correlated (p < .01) (see Table 14 in Appendix B: Additional Data Tables). The correlations between the career development measures and work-family conflict measure were generally low. For work-interference with family only three correlations were statistically significant (p < .05): career progress was found to be significantly negatively correlated with time work-interference with family, the strain of work-interference with family, and the composite work-interference with family measure.

For family-interference with work, career satisfaction was significantly negatively correlated with the time of family-interference with work. The correlations indicate a weak negative relationship exists between some of the work-family conflict measures

and some of the career development measures, but no significant relationship between the two composite scale measures.

Table 5: ***Pearson Correlations between Work-Family Conflict and Career Development Measures***

	Job Satisfaction	Career Progress	Intent Stay	Career Satisfaction	Career Development
Time WIF	.10	-.17*	.01	-.05	-.03
Strain WIF	.07	-.18*	-.02	-.16	-.10
Behaviour WIF	-.03	-.08	-.05	-.12	-.10
Time FIW	.05	-.07	-.02	-.17*	-.09
Strain FIW	.07	-.05	-.01	.05	.03
Behaviour FIW	-.01	-.09	.02	-.13	-.08
WIF	.06	-.17*	-.02	-.13	-.09
FIW	.04	-.09	-.00	-.11	-.06
WFC	.06	-.16	-.02	-.14	-.09

Notes:
* Correlation is significant at $p < 0.05$ level
WIF= Work-interference with family
FIW= Family-interference with work
WFC= Work-family conflict

Given there are significant relationships between the predictors with individual career development scale items and not the composite scale measure, the four career development items were investigated in the hierarchical regression analysis as separate measures of the dependent variable career development.

In testing the hypothesis it is important to rule out alternative explanations or other possible causal factors for career development in female managers. Each of the career development outcomes (job satisfaction, career satisfaction, career progress and intent to stay) are separately regressed on three blocks of predictors:

(1) Personal demographic characteristics
(2) Work situation characteristics
(3) Work and family measures being work-interference with family and family-interference with work.

To determine which measures to use in each block of predictors, correlations were computed to examine the relationships which exist as the number of predictors that could be used simultaneously in the regression was limited by the sample size. The only personal demographic and work situation characteristics found to have a significant relationship with the work-family conflict measures (see Table 18 in Appendix B: Additional Data Tables) are:

- Having a child under 5 years of age was positively correlated with family-interference with work (r = .20, p =.02)
- Working more than 41 hours per week was positively correlation with work-interference with family (r = .22, p = .009)

An intuitive explanation is that younger children demand more time, energy and parental supervision, thus putting greater strain on a female manager resulting in higher levels of family-interference with work.

None of the personal or work characteristics were significantly correlated with the work-family conflict composite scale measure; hence the family-interference with work and work-interference with family item measures were used in the regression.

Correlations were computed between the personal demographic and work situation characteristics and the career development scales. The items with significant relationships are (see Table 20 in Appendix B: Additional Data Tables):

- Age was positively correlated with intention to stay (r = .28, p = .001).
- Parental status: Having children under the age of five was negatively correlated with job satisfaction (r = -.17, p= .04); intention to stay (r = -.29, p< .001) and career development (r = -.24, p= .004).
- Education: Having a degree was positively correlated with career progress (r = .2, p =.02).

- Job level: Being a senior manager was positively correlated with job satisfaction (r = -.34, p< .001), intention to stay (r = .2, p = .02) and career development (r = .2, p= .02).
- Job tenure of more than two years was negatively correlated with career progress (r = -.17, p= .04)
- Supervisory duties was positively correlated with job satisfaction (r = .18, p= .04)

Since marital status, children of school age (5- 18 years old), organisational tenure, and number of people supervised were not significantly correlated to work-family conflict or career development measures, these were excluded from the block of predictors. The measures in each block of predictors thus were limited to the following:

(1) Block A: Personal demographic characteristics: Age (over 40), Children (under the age of 5 years old), and Degree.
(2) Block B: Work situation characteristic: Job level, Job tenure (more than two years), Work hours (more than 41) and Supervisory duties.
(3) Block C: Work-interference with family (WIF) and family-interference with work (FIW).

The hierarchical regression outputs are summarised in the table below.

Table 6: *Hierarchical Regression Analysis Work-Family Conflict and Career Development and component scales*

	R	R^2	R^2 Change	F Change	Sig. F Change	Durbin-Watson	Model F	Model Sig.
Career Development								
a) Personal Demographics	.26	.07	.07	3.32*	.02		3.32*	.02
b) Work Situation	.37	.14	.07	2.72 *	.03		3.05*	.01
c) WIF, FIW	.38	.15	.01	0.71	.49	1.94	2.52*	.01
Job Satisfaction								
a) Personal Demographics	.24	.06	.06	2.94*	.04		2.94*	.04
b) Work Situation	.41	.17	.11	4.54**	.002		3.98**	.001
c) WIF, FIW	.42	.17	.00	0.20	.82	1.94	3.11**	.002
Career Progress								
a) Personal Demographics	.24	.06	.06	3.03*	.03		3.03*	.03
b) Work Situation	.31	.10	.04	1.34	.26		2.08	.05
c) WIF, FIW	.34	.12	.02	1.43	.24	2.04	1.95	.05
Intention to Stay								
a) Personal Demographics	.35	.12	.12	6.41**	.000		6.41***	.000
b) Work Situation	.43	.18	.06	2.49	.05		4.29***	.000
c) WIF, FIW	.43	.19	.00	0.32	.73	1.90	3.38**	.001
Career Satisfaction								
a) Personal Demographics	.21	.05	.05	2.24	.09		2.24	.09
b) Work Situation	.29	.08	.04	1.40	.24		1.77	.10
c) WIF, FIW	.32	.10	.02	1.37	.26	2.09	1.69	.10

Notes

a) Predictors: Child<5yrs, Degree , Age

b) Predictors: Child<5yrs, Age, Supervise, Work Hrs, Job Tenure, Job Level

c) Predictors: Child<5yrs, Degree, Age, Supervise, Work Hrs, Job Tenure,Job Level,WIF, FIW

* $p < .05$

** $p < .01$

*** $p < .001$

With the exception of career satisfaction, the regression models of career development and its subscales are all statistically significant as shown by the significant F ratios for

the respective models. However, the additional variance explained by the two work-family conflict measures in the third step of the regression was not found to be significant in any of the regressions, and the maximum variance explained in any regression model was 19% - in the case of Intention to Stay.

In the model only two of the nine predictor variables were statistically significant with children under the age of 5 years old recording a higher Beta value (Beta= - .25, *p* = .004) than job tenure of more than two years (Beta= -.19, *p* = .03) (Table 19 in Appendix B: Additional Data Tables). The direction of the relationships is negative as hypothesised, as indicate by the negative Beta values.

To check the assumptions of linearity, normality and homoscedasticity, a standardised residual regression plot, histogram of residuals and scatter plot of standardised residuals versus predictor values were computed respectively. The figures below verify the data has met the regression assumptions satisfactorily.

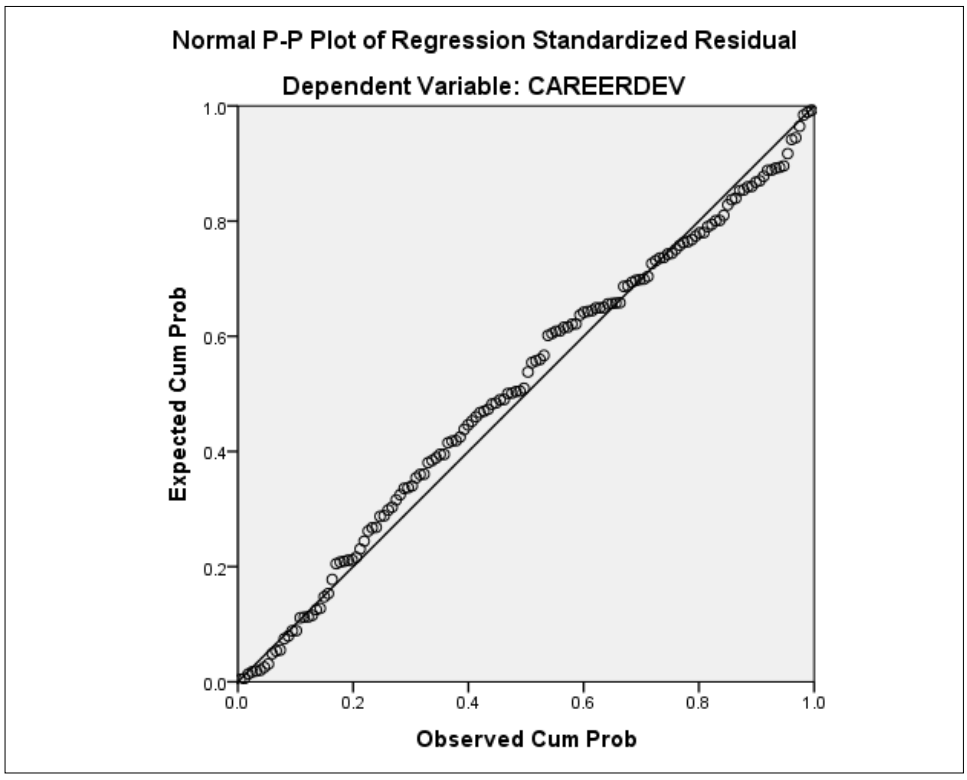

Figure 5: **Partial linearity plot: work-family conflict and career development**

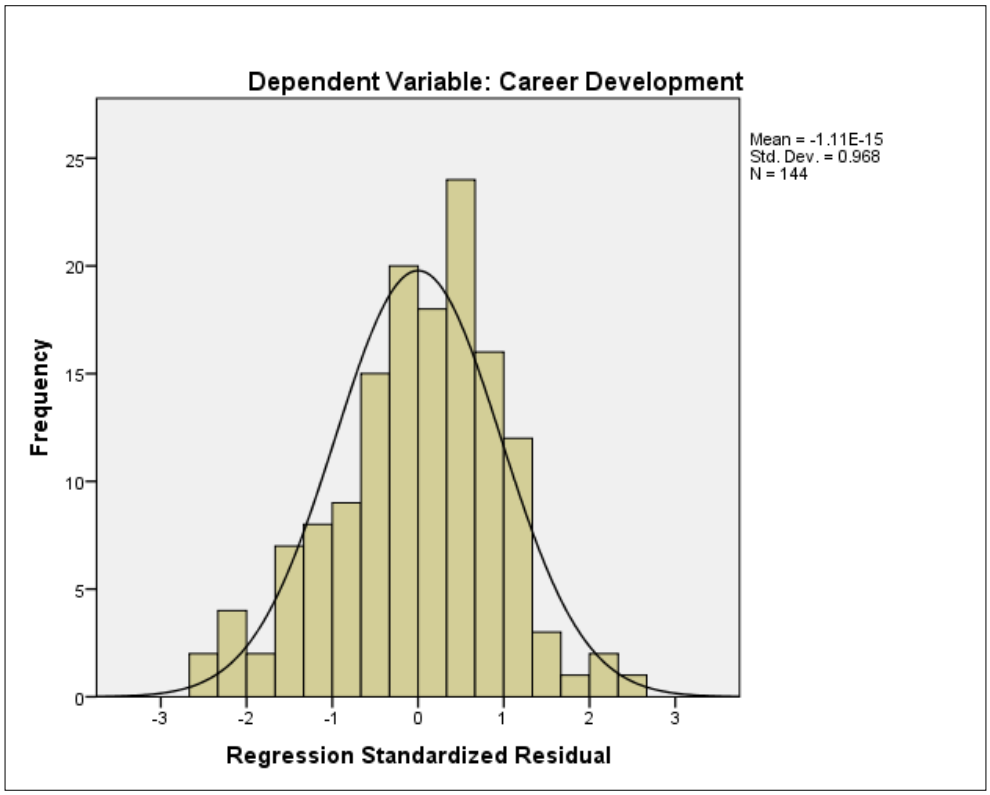

Figure 6: **Histogram of work-family conflict and career development**

Furthermore, the Durbin-Watson coefficient is close to 2.0 indicating no serial autocorrelation and thus independence of observations. To check the assumption of homoscedasticity, the residual plot for the hierarchical regression shows a random pattern, with no nonlinearity or heteroscedasticity.

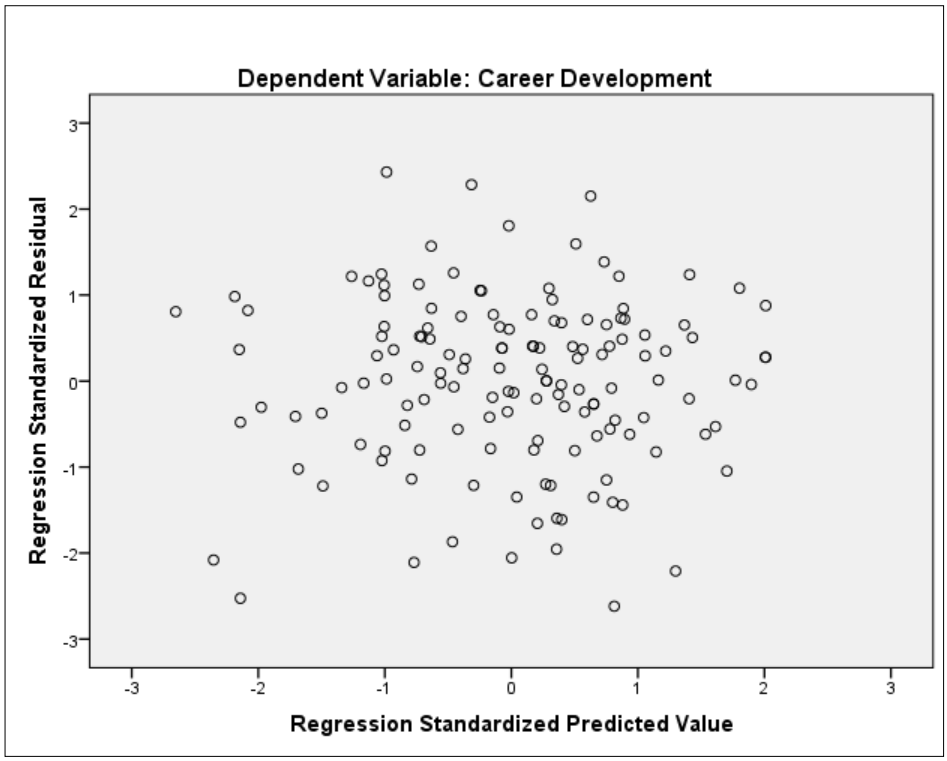

Figure 7: Scatter plot of residuals

Where job satisfaction is the dependent variable, for the first block of predictors, the R^2 is significant at $F(3, 140) = 2.94$, $p = .04$. The second model, with two of the three blocks of predictors is improved with $r = .41$ and $R^2 = .17$ of the variance accounted for. The change in R^2 from the first to the second block is significant $F(4, 136) = 4.54$, $p = .002$ which indicates that the second block of predictors, work characteristics, added significantly to the regression equation after the personal demographics had been accounted for. However the third block of predictors, the two work-family conflict measures, came up short with a non-significant F ratio change. The work-family conflict measures only increased R^2 by .002 and the change was not significant ($F(2, 134) = .20$, $p = .82$).

The ANOVA model results indicate that although F is significant for all three levels, the addition of the work-family conflict measures did not significantly improve prediction (R^2 change = .002, $F = .20$, $p = .82$).

For predicting career progress and career satisfaction, the addition of work situation characteristics does not significantly improve the model. Whilst the addition of work situation characteristics is significant with regards to intention to stay, the addition of work situation characteristics and the work-family conflict measures did not significantly improve prediction of intention to stay, career progress or career satisfaction (F change not significant as indicated in the summary table above). This is in contrast to a similar study undertaken in Turkey using hierarchical regression with similar blocks of predictors, which found that work-family conflict was significantly negatively correlated with job satisfaction (*Bs*= -.23, *p*= .01), and at a .01 level of significance, that work-family conflict was negatively correlated with career satisfaction (*Bs*= -.28) and intention to quit (*Bs*= .24) (Burke, Kouyuncu, & Wolpin, 2012).

The hierarchical regression indicates a negative relationship between female managers who have children under the age of 5 years old and career development, and a negative relationship between female managers in their job for more than two years and career development. After controlling for these personal and work situation characteristics through hierarchical regression, there was no significant relationship between work-family conflict and career development.

Given that these two variables (children under 5 years old and job tenure) were statistically significant and the strain of work-interference with family was the only work-family conflict measure significantly different from the scale midpoint of three (neither agree nor disagree), an additional hierarchical regression with only three items was then undertaken in an attempt to explain variance in the aspect of work-family conflict with the highest level:

1) Block A: Children under 5 years old
2) Block B: Job tenure more than two years
3) Block C: Strain of work-interference with family (Strain WIF).

By using a smaller number of predictors relative to the sample size, it was expected that the tests of significance would be more powerful. The results were however similar to the initial hierarchical regression in that the introduction of the work-family conflict measure of the strain of work-interference with family was not significant ($F(1,140) = 0.93$, $p=.34$) (see Table 21 in Appendix B: Additional Data Tables). The results tended to be significant only at a .01 level of significance in two of the analyses, career progress and career satisfaction. Female managers indicated lower levels of career satisfaction and career progress. The variance explained by both models was however low. The summary statistics are provided in the table below.

Table 7: ***Hierarchical Regression of the Strain of Work-interference with Family on Career Progress and Satisfaction***

	R	R^2	R^2 Change	p	B	Std. Error	Beta
Career Progress							
a) Children< 5 yrs	.04	.00	.00	.60	-0.17	0.21	-0.07
b) Job Tenure > 2 yrs	.19	.04	.03*	.03	-0.39	0.21	-0.16
c) Strain WIF	.24	.06	.02	.07	-0.17	0.09	-0.15
Career Satisfaction							
a) Children< 5 yrs	.19	.04	.04*	.02	-0.35	0.14	-0.21
b) Job Tenure > 2 yrs	.25	.06	.03	.05	-0.24	0.14	-0.14
c) Strain WIF	.28	.08	.02	.09	-0.10	0.06	-0.14

Notes:
B = Unstandardised Coefficients
Beta = Standardised Coefficients
* $p< .05$

The hierarchical regression with three predictors explained low variance in career progress and satisfaction, with strain of work-interference with family failing to contribute significant explained variance.

Hypothesis 2

Hypothesis 2 posits that the relationship between work-family conflict and career development is moderated by psychological well-being, such that such that career development is negatively related to work-family conflict in the case of senior

managers with lower levels of well-being, but unrelated in the case of senior managers with higher levels of well-being.

To test the second hypothesis, hierarchical regression analysis was performed including the interaction term between conflict and well-being (conflict*well-being), which is the product of the terms in the third predictor block, and followed up with a graphic comparison of means and tests of the correlation between work-family conflict and career development measures for the two groups (low and high well-being) considered separately.

The correlations computed between psychological well-being and personal demographic and work situation characteristics revealed no significant correlations. Psychological well-being was significantly correlated to all the work-family conflict measures, with the exception of time of work-interference with family, as indicated in the table below.

Table 8: ***Correlations between Psychological Well-being and Work-Family Conflict Measures***

	Psychological Well-being
Time WIF	-.14
Strain WIF	-.25**
Behaviour WIF	-.30**
Time FIW	-.24**
Strain FIW	-.36**
Behaviour FIW	-.26**
WIF	-.27**
FIW	-.36**
WFC	-.36**

Notes:
** Correlation is significant at $p<.01$
WIF= Work interference with family
FIW= Family interference with work
WFC= Work family conflict

Psychological well-being was significantly correlated with only one career development measure which was career progress however this correlation was weak ($r = .20$, $p = .02$) (see Table 24 in Appendix B: Additional Data Tables).

Following the regression process undertaken in Hypothesis 1, whereby the number of items in each block of predictors was reduced based on their significance, the hierarchical regression to test the second hypothesis was undertaken with the three significant items namely children under the age of 5 years old, job tenure of more than two years, and the stain of work-interference with family. The psychological well-being term was introduced as the fourth block and the moderator term, strain work-interference with family*psychological well-being, was introduced in the fifth and final block.

The full results are provided in Table 25 in Appendix B: Additional Data Tables. It was with career progress as the dependent variable that the introduction of the moderator (psychological well-being) and interaction variable (strain of work-interference with family*psychological well-being) was significant. The summary statistics are provided in the table below.

Table 9: ***Hierarchical Regression Analysis of the Moderating Effect of Psychological Well-being on Career Progress***

	R	R^2	R^2Change	F Change	Sig. F Change	Model F	Model Sig.
Career Progress							
a) Children < 5 yrs	.04	.00	.00	0.28	.60	0.28	.60
b) Job Tenure>2 yrs	.19	.04	.03*	4.83	.03*	2.56	.08
c) Strain WIF	.24	.06	.02	3.30	.07	2.84	.04*
d) PWB	.30	.09	.03*	4.91	.03*	3.42	.01**
e) Strain WIF*PWB	.36	.13	.04*	6.00	.02*	4.03	.00***

Notes:
*Correlation is significant at $p< .05$
** Correlation is significant at $p<.01$
*** Correlation is significant at $p<.001$
WIF= Work-interference with family
PWB= Psychological well-being

The change in R^2 from the base model (block c) to the model including the moderator (block e) is .02 which shows an interaction effect which is significantly greater than zero at a .05 level of significance. The F change value indicates a significant improvement in

model fit and model significance indicates the significance of the model, of career progress, albeit with low R^2 of only .13.

To check the assumptions of linearity, normality and homoscedasticity, a partial regression plot, histogram and scatter plot were computed respectively. The figures indicated the assumptions were met and are included in Appendix B: Additional Data Tables (Figure 10, Figure 11 and Figure 12). The Durbin-Watson statistic was 1.98 indicating no serial autocorrelation.

The regression output of the coefficients of the base model compared to the effects with the introduction of the moderator and the interaction variable is reflected in the table below.

Table 10: ***Analysis of Moderation Effect of Psychological Well-being on the Relationships between Strain of Work-interference with Family and Career Progress***

Career Progress	Base Model			Including Moderator		
	B	SE	Beta	B	SE	Beta
Intercept	4.03**	0.33	-	8.92**	3.05	-
Children < 5 yrs	-0.17	0.21	-0.07	-0.16	0.20	-0.06
Job Tenure>2 yrs	-0.39	0.21	-0.16	-0.40*	0.20	-0.16
Strain WIF	-0.17	0.09	-0.15	-2.17*	0.85	-1.94
PWB				-1.22	0.74	-0.46
StrainWIF*PWB				0.51*	0.21	1.79

Notes:
**p<.05*
*** p<.01*
B = Unstandardised coefficients
SE = Standard errors
Beta = standardised coefficients
WIF= Work interference with family
PWB= Psychological well-being

The negative sign of the *B* and Beta values indicates that the correlations between the predictors and career progress are negative. Thus female managers with children under 5 years of age and in their job for more than two years tend to have more restricted career progress.

The interaction term (strain work-interference with family*psychological well-being) has an unstandardised regression coefficient (slope) *B* = .51 which is significant (*p*<.05).

Given that both the *B* and R^2 change are statistically significant, it does appear that psychological well-being has a moderating effect in the regression relationship between the strain of work-interference with family and career progress. To understand this interaction effect of the moderator, the means have been plotted graphically and represented as follows.

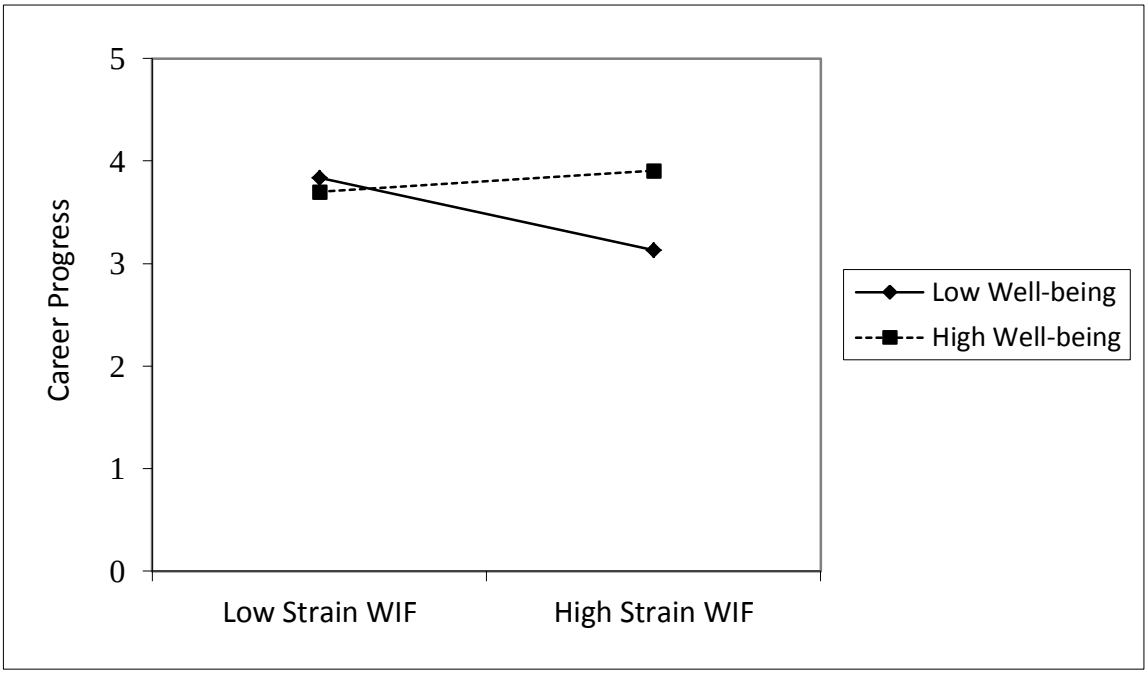

***Figure 8*: Interaction of well-being on the relationship between work-family conflict and career progress**

An analysis of the figure reveals that only in the case of respondents with low well-being is career progress lower for those with a higher strain of work-interference with family; however, for respondents with high well-being, career progress was not compromised by the strain of work-interference with family. However amongst respondents with a high level of perceived psychological well-being, there is a slight improvement in career progress when there is a higher strain of work-interference with family.

The negative correlation between the strain of work-interference with family and career progress is stronger (albeit weak negative) and significant in the lower well-being group compared to the non-significant correlation in the higher well-being group. Furthermore, for 31 of the 45 (69%) relations between the various work-family conflict

versus career development measures, the correlations are more strongly negative for respondents with low well-being than for respondents with high well-being. Although the negative correlations for respondents with low well-being are often weak, this finding is significantly greater than chance judging by the one directional binomial test (p = .008) and provides some evidence of consistency in the findings as posited by the second hypothesis. The 31 correlations showing values in the hypothesised direction between all the work-family conflict measures and career development measures are indicated in Table 11 in an italicised bold font.

Table 11: ***Pearson Correlation between Work-family Conflict measures and Career Development Measures in Low and High Well-being Groups***

		Job Satisfaction	Career Progress	Intent to Stay	Career Satisfaction	Career Development
Time WIF	Low PWB	0.02	***-0.20***	***-0.04***	***-0.07***	***-0.09***
	High PWB	0.19	***-0.12***	***0.05***	***-0.00***	***0.05***
Strain WIF	Low PWB	0.03	***-0.23***	***-0.02***	-0.11	***-0.10***
	High PWB	0.15	***-0.05***	***-0.01***	-0.17	***-0.04***
Beh WIF	Low PWB	***-0.17***	***-.25****	***-0.16***	***-.25****	***-.27****
	High PWB	***0.12***	***0.12***	***0.06***	***0.03***	***0.11***
Time FIW	Low PWB	0.05	0.05	0.09	-0.07	0.02
	High PWB	0.08	-0.13	-0.09	-.24*	-0.15
Strain FIW	Low PWB	0.07	***-0.10***	***-0.01***	0.11	0.04
	High PWB	0.14	***0.13***	***0.02***	0.07	0.12
Beh FIW	Low PWB	***-0.22***	***-0.15***	0.01	**-0.17**	***-0.18***
	High PWB	***0.23***	***0.03***	0.05	**-0.05**	***0.09***
WIF	Low PWB	***-0.04***	***-.26****	***-0.08***	**-0.16**	***-0.17***
	High PWB	***0.19***	***-0.02***	***0.04***	**-0.05**	***0.05***
FIW	Low PWB	***-0.06***	***-0.09***	0.03	-0.06	***-0.06***
	High PWB	***0.21***	***0.01***	-0.01	-0.12	***0.02***
WFC	Low PWB	***-0.05***	***-0.22***	***-0.04***	***-0.14***	***-0.15***
	High PWB	***0.23***	***-0.01***	***0.03***	***-0.09***	***0.05***

Notes:
*Correlation is significant at p< .05
Beh= Behaviour
WIF= Work interference with family
FIW= Family interference with work
WFC= Work family conflict
PWB= Psychological well-being

In light of the analysis, there is some support (albeit weak) for the moderation effect of psychological well-being on the relation between work-family conflict measures and career development, with this effect stronger for the relation between some dimensions of the two constructs than for others.

Hypothesis 3

The third hypothesis is that employees who participate in the employee wellness programme report higher levels of psychological well-being compared to those who do not participate in the programme.

An item on the use of the employee wellness programme was included in the questionnaire. The results indicate a low level of use (28%) of the wellness programme amongst female middle and senior managers.

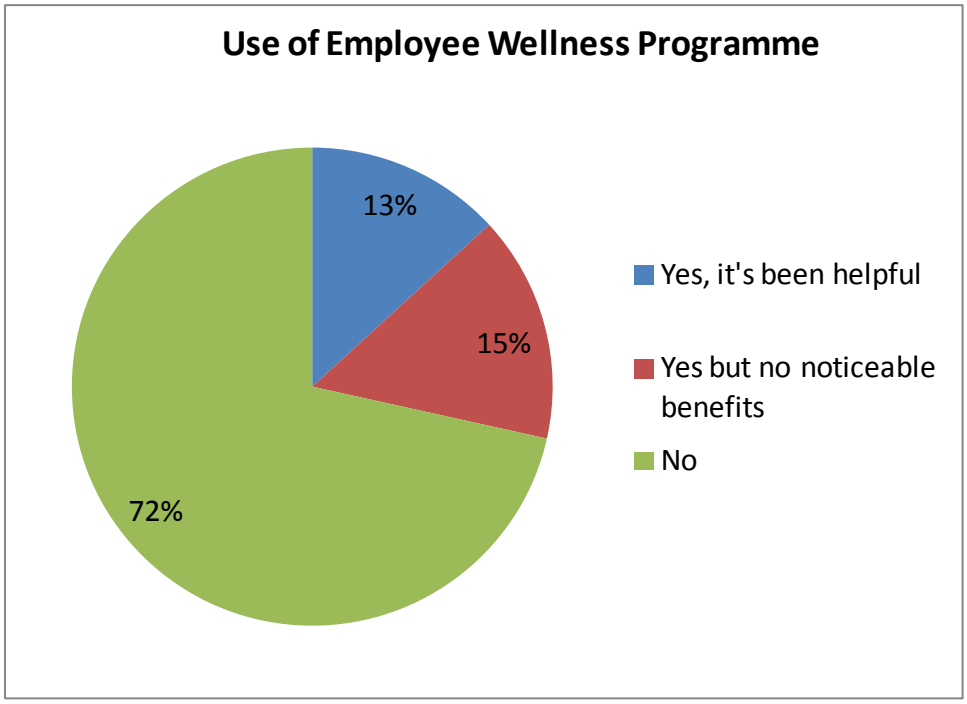

Figure 9: Use of employee wellness programme

To test the third hypothesis an independent samples t-test was conducted. The mean value of perceived psychological well-being for those female managers using the employee wellness programme and reporting benefits from using the programme was 0.02 points higher than those who use the programme but report no benefits at 4.01

(*SD*= .49) and 3.99 respectively (*SD*= .4). The t-test however revealed that this difference in mean values was not significant with $t(41) = -0.14$, $p = .89$.

Table 12: ***Independent Samples T-Test Of Psychological Well-Being Of Employees Who Reported Benefits From The Wellness Programme And Employees Who Reported No Benefits From Using The Wellness Programme***

Independent Samples Test	Levene's Test for Equality of Variances		t-test for Equality of Means				
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Well-being Equal variances assumed	2.17	.15	-0.14	39	.89	-0.02	0.14

The questionnaire also included the use of private wellness programmes, such as a health or gym club membership, private counselling, or wellness programmes offered through medical aids such as Discovery Vitality or Government Employee Medical Scheme (GEMS). The use of private wellness programmes was included as a control variable to enable statistical control of the effect of use of private wellness programmes on the impact of an employee wellness programme on an individual's psychological well-being.

From the sample of 144 female middle and senior managers, 63% reported using private wellness programmes. The mean well-being value for female managers using private wellness programmes was 4.07 (*SD*= .41) compared to those who reported not using private wellness programmes at 3.92 (*SD*= .45). An additional independent samples t-test was conducted to test the difference in mean value which was significant with $t(144) = -.04$, $p = .04$ (Table 27 in Appendix B: Additional Data Tables).

Thus, whilst female managers reported higher levels of psychological well-being a very small portion of them (28%) used the employee wellness programme. From those female managers using the employee wellness programme, only 46% found it to be beneficial. From the sample, 63% used private wellness programme and an independent sample t-test showed that the well-being among these employees was

significantly higher than those who did not report using private wellness programmes. However, whilst the mean value for employees who reported using the employee wellness programme and benefitted from it was higher than the well-being for those who did not report benefits from the employee wellness programme, this difference was not found to be significant. Thus the research did not find support for the third hypothesis that employees using the wellness programme report significantly higher levels of psychological well-being.

In summary, the research results did not indicate strong support for the proposition or hypotheses. Whilst the data indicated high correlations between the various work-family conflict scale items, the low mean values did not support the proposition that female managers experienced work-family conflict. Similarly, whilst the hierarchical regression indicates a negative relationship between career development and female managers who have children under the age of 5 years old and in their job for more than two years, after controlling for these personal and work situation characteristics, there was no significant relationship between work-family conflict and career development. Psychological well-being was found to have a significant moderating effect on the strain of work-interference with family (one component of work-family conflict) on career progress (one component of career development), it does not have a moderating effect on the overall relationship between work-family-conflict and career development amongst female managers. Furthermore, the research did not find support for the third hypothesis that employees using the wellness programme report significantly higher levels of psychological well-being.

Chapter 5: Conclusion and Recommendations

Female leadership is growing, in both the public and private sector, with statistics and trends showing an increase in representation of females at senior levels in organisations and the benefits accruing to organisations that are able to attract and retain female leadership. Yet the levels of female representation are still far below male representation. The rise of female leaders has arguably moved beyond the realms of feminism or favouritism, to equality and equity. Gender equality and women empowerment are becoming the norm in workplace policies and principles. Since 2005 the South African government has set targets of female representation in senior levels of government; however none of these targets have been met. The current target of 50% female representation is seemingly unlikely to be reached as between 2010 and 2012 the actual figure increased by only 2% from 36% to 38%.

Whilst low representation of women was historically attributed to lack of education and skills, this reason has diminished in significance as more women are graduating from universities (HSRC, 2009), and thus the focus has shifted to examining social roles and situational barriers. The Constitution puts in place non-sexism and equality before the law in terms of both race and gender. Numerous policies and White Papers have promoted women empowerment and the DPSA collects quarterly statistics from government departments. The National Development Plan further enshrines the enhancement and active support of female managers. There is thus no doubt the importance being placed on the career development of females. If we discard for now the argument that females are uneducated, then we need to further explore what other factors are preventing females from progressing in their careers.

Since at least 1985 the concept of work-family conflict has been defined and explored. The dual roles in the work domain and family domain can be complementary and can also be in conflict. Conflict occurs when the time and strain spent on one role prevents you from fulfilling the other role. It's experienced in both directions, with work interfering with family and family interfering with work responsibilities, and it is

experienced by both men and women. The reason why it is important in understanding the career development of female managers is that data shows that women spend considerably more time than men on family responsibilities, that women opt out of working to start and raise their families, and that even when women stay in the workplace and juggle the dual roles, they resist promotion (Sandberg, 2013).

Using a quantitative research design to gather data and measure the level of work-family conflict and its impact on career development, this study adds to the international and local body of knowledge on work-family conflict and is arguably the first such study within the South African public sector. The research analysed the extent to which female middle and senior managers experienced work-family conflict. One of the findings of this research is that female middle and senior managers in a public sector department indicated generally low levels of work-family conflict, but that work-interference with family was higher than family-interference with work. On average, the highest reported conflict was on the strain of work-interfering with family which showed a positive response or agreement to statements like “I am often so drained when I get home from work that it prevents me from contributing to my family”. The mean values for work-interference with family and family-interference-with-work in this study were higher than those reported in a study undertaken in Turkey on female managers mostly working in the public sector (Burke, Kouyuncu, & Wolpin, 2012). Coincidentally, the sample size of 144 compares favourably with the study undertaken in Turkey where the sample size was 143.

To counteract some of these effects of work-family conflict, organisations have workplace policies such as flexi-time, provide additional benefits such as childcare services on-site, and support services and employee wellness programmes. Government has lagged behind trends in terms of new and flexible workplace policies and in the sample department, no evaluation on the effectiveness of the employee wellness programme had been undertaken. The perception of the author and the Employee Wellness programme manager that there was little uptake of the

programme by female managers was confirmed in this research where only 28% of the sample reported using the employee wellness programme. The importance of employee wellness goes beyond personal benefits to organisational benefits as research has shown that healthy employees have greater productivity, higher morale and organisational commitment (Berry, 2010). Wellness or well-being has also been linked to work-family conflict as both an antecedent and an outcome. This research looked at the interaction or moderation of well-being on the relationship between work-family conflict and career development. This moderation effect draws on the literature regarding work-life balance, whereby managers with high levels of well-being experience positive effects of their dual roles in the workplace and in their homes. The expectation is thus that the positive effects of high levels of well-being moderates the negative relationship between work-family conflict and career development, such that career development is negatively related to work-family conflict in the case of senior managers with lower levels of well-being, but unrelated in the case of senior managers with higher levels of well-being.

This research was undertaken using an online questionnaire amongst female middle and senior managers in one government department, with a response rate of 60%. The data showed that whilst the respondents reported low levels of work-family conflict, they reported high level of perceived psychological well-being. A level of well-being has been linked to the concept of work-life balance whereby a person with a high level of well-being is able to cope better with work and family responsibilities and thus experiences less conflict, which has positive implications on job satisfaction and career development (Whitehead & Kotze, 2003). Thus, there exists a complex interplay between the four areas of work-family conflict, career development, psychological well-being and employee wellness programmes. This research sought to explore whether work-family conflict had a negative impact on career development of female middle and senior managers, and whether this relationship was moderated by psychological well-being, such that career development is negatively related to work-

family conflict in the case of senior managers with lower levels of well-being, but unrelated in the case of senior managers with higher levels of well-being.

The research found that although work-family conflict amongst the sample was reported as generally low, there was a weak negative correlation between work-family conflict and career progress and career satisfaction. After taking into consideration personal demographics and work situation characteristics through a hierarchical regression, there was no significant relationship between work-family conflict and career development. The absence of a significant correlation between work-family conflict and job satisfaction is in contrast to the finding by Allen et al (2000) which in their meta-analysis of the outcomes associated with work-family conflict identified 38 sample groups with a total sample size of 12 624 with a weighted mean correlation of -.24 between work-family conflict and job satisfaction.

The hierarchical regression output did show that the factors having a significant negative influence on career development were female managers who have a child under the age of five, and female managers who had been in their current position for more than two years. Given that female managers with children under the age of five showed lower levels of career development could be attributed to the higher strain on time and energy which younger children place on parents, particularly mothers who would have taken maternity leave. This is in line with a South African 2003 qualitative study which found that more role conflict was experienced by women with younger children (Whitehead & Kotze, 2003). From the sample, 29% of female managers have children under the age of five, 33% have children between 5 and 18 years old, and 38% have either no children or adult children. Almost half (45%) of the sample respondents are single and 55% either married or cohabiting. The high proportion of single female managers and managers having either no children or adult children in the sample could explain the low levels of work-family conflict, as family commitments could be arguably lower. The influence of personal demographics on the relationship between work-

family conflict, well-being and career development further indicates the complexity of the relationship between these three concepts.

The explanation for the negative relationship between job tenure and career development is not intuitive as the expectation that the experience gained due to the time in a position would promote career development rather than thwart it. It may indicate is that as women in middle and senior management positions stay in their positions, they do not see their careers developing further due to limited higher positions or opportunities, or situational barriers such as glass ceilings, or personal resistance to change or increased responsibility. This research cannot ascertain the causal factors; however the negative relationship indicates those female managers who have been in their position for more than two years do not see their careers developing and this is consistent with stalled gender targets of female representation.

Taking into account female managers having children under the age of five and in their jobs for more than two years, the strain of work-interference with family tended to have a weak yet significant (at .01 level of significance) negative effect on career progress and career satisfaction (two items in the career development multi-item scale). The research explored a potential response in addressing the work-family conflict through the moderating effect of psychological well-being. When well-being as a moderating variable was included, there was a consistent pattern of stronger negative relationships between measures of career development and work-family conflict in the case of respondents with lower levels of psychological well-being than for those with higher levels of psychological well-being. This moderation effect was significant for career progress: for female managers with a low level of well-being and high strain of work-interference with family have lower career development than those with low strain of work-interference with family, but there is no evidence of this negative relation between the strain of work-interference with family and career development for managers with a high level of well-being.

This supports the literature which describes how the positive effects, such as a sense of competence, of dual roles in work and in family can have positive implications for career development depending on an individual experiencing well-being and a work-life balance (Whitehead & Kotze, 2003). Thus there is support (albeit weak) for the moderator of psychological well-being, with this effect stronger for the relation between some dimensions of the two constructs than for others.

In this research, psychological well-being was found to be moderately negatively correlated with both family-interference with work and work-interference with family, indicating that female managers who reported higher levels of well-being tended to experience lower levels of conflict. The high level of well-being amongst female managers is however not attributed to the use of the employee wellness programme, as of the 28% who reported using the programme, less than half (46%) reported benefitting from it and their level of well-being was not significantly different from those who used the programme and reported no benefits.

It is not possible from this research to determine whether the low usage levels of the employee wellness programme by female managers is due to the existing high levels of perceived well-being or if it is an indication that female managers do not perceive the programme to be beneficial. Government may want to utilise employee wellness programmes better to target female managers, particularly those with young children and those within their job for more than two years, in an effort to enhance their overall well-being. Female managers who experience a higher state of well-being may then be better enabled to cope with the conflict and thereby reduce the negative impact it may have on her career progress and development.

The study is deemed meaningful in contributing to the knowledge gap of constraints to career development of female middle and senior managers in the public sector. In the 2013 Gender Mainstreaming Report, the DPSA reported that in general the empowerment of women is not happening in any significant or meaningful way in departments (DPSA, 2013). This report highlighted that female managers experience

some strain of work-interference with family which is having a negative impact on their career progress. Whilst the overall level of work-family conflict reported was low, and this did not have a negative impact on career development, there were two personal and work situation characteristics which had a significant negative relationship with career development: female managers with children under the age of five, and female managers in their current job for more than two years. Employee wellness programmes and gender mainstreaming initiatives could be better targeted to female managers in these circumstances.

The results from this research did not reinforce some 'sacred cows', such as the negative relationship between work-family conflict and career development, which in itself is important, given that other research corroborates this finding. It may be the case that research on career development of female managers has stalled, similarly to how historical research on the education of female employees as a constraint to career development lost traction or relevance over time. Current research methods may not adequately capture the complexity of work-family conflict, such as the changes in both family and work dynamics over time, and thus assumed relationships with career development could no longer be valid. New research techniques may be required to understand the complex, rather than seemingly straightforward relationship between work-family conflict, psychological well-being and career development amongst female managers.

Thus whilst the research findings are weak in relation to the hypotheses, it calls for a deeper understanding of a complex and multi-layered phenomenon of a lack of women in senior positions. Either the theories are not fully capturing the complexity of the relationships and experience, and/ or the sampling is inadequate as it focuses on women in the system and not those who have left because they could not cope. Specific focus on work-family conflict experience in exit interviews is thus critical. Until we fully understand why, in the South African context, there are not more women in

senior management positions, targets are unlikely to be reached or if they are reached are unlikely to be sustainable.

Limitations and Future Research

This research is not without limitations, which may provide opportunities for future research. The data used in this research was collected using a self-completed questionnaire which raises the possibility that response reflect a common method bias. Common method bias is the inflation of relationships by shared method variance (Conway & Lance, 2010). Self-completed questionnaires are deemed appropriate given the private nature of the relationship between work and family, and the research used widely cited work-family conflict, career development and well-being construct measures to reduce the likelihood of common method bias.

Self-completed questionnaire method provides an objective measure of career development and psychological well-being, and these have not been subjectively reviewed. Many other areas of study may reveal substantial differences between objective and subjective measures of the same phenomenon (Allen, Herst, Bruck, & Sutton, 2000). The data was collected from one department at one point in time thus making it difficult to determine causality or to generalise to all female managers in the public sector.

Replicating the study with a larger sample, in other departments would increase the ability to generalise the findings. Further studies could expand across the private sector and include male managers which could provide additional and interesting insights and comparison.

Other important context variables that could be included in future research is the nature and quality of spouse/partner, family and organisational support; and the influence of positive emotions and experiences in the workplace which may enhance perceived psychological well-being.

This research only covers female managers who are currently employed and does not account for those female managers who have already left the system or resisted entry. Government does require exit interviews be undertaken with employees and analysis of these exit interviews and whether work-family conflict was a factor in the decision to leave would be useful.

The data revealed that employees using private wellness programmes reported significantly higher levels of well-being which warrants further research and corroboration as there may be a case for outsourcing wellness programmes and Government subsidising private wellness rather than offering in-house wellness programmes that are ineffective.

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Appendix A: Questionnaire

Dear Colleagues

My name is Sarah McPhail and I am a part-time student at Wits doing my Masters in Public and Development Management. As part of my studies, I am conducting research on the relationship between work and family, career development and well-being amongst female managers.

The study is being undertaking on MMS and SMS female employees and I would greatly appreciate if you would complete the survey.
Your participation is voluntary and anonymous. Individual responses will not be assessed as results will be analysed in group terms only. You may withdraw from responding at any time, should you wish.

The survey consists of 4 sections: Demographic information and Job characteristics (11 questions); Relationship between family and work (18 questions); Career Development (12 questions) and Well-Being (26 questions).

If you would like any further information or clarity you may contact me. Please also send me an email if you would like a copy of the research findings.
Thank you in advance for your time and participation.
Kind regards
Sarah

Questions

Part 1: Demographic information and Job Characteristics

1. Age
   30 or younger
   31-40
   41-50
   51 or older
2. Gender
   Female
   Male
3. Marital status
   Married, or cohabiting
   Single
4. Parental status (may tick more than one)
   Have no children
   Have one or more children under the age of 5
   Have one or more children aged between 5 and 18
   All children older than 18

5. Highest level of Education
   High school
   Diploma
   Bachelor's Degree
   Post-Graduate Qualification (Honours, Masters, PhD)
6. Work hours per week
   39 or less
   40
   41-50
   51 or more
7. Total number of years working for National Treasury
   Less than 2 years
   2-5 years
   6-10 years
   11 years or more
8. Total number of years in current position
   Less than 2 years
   2-5 years
   6-10 years
   11 years or more
9. Do you supervise other people
   Yes
   No
10. If yes, how many people do you supervise
    0
    1-5
    6-10
    11-15
    16-20
    21 or more
11. What is your current Job Level
    Level 11 or 12 (MMS)
    Level 13 (SMS- Director)
    Level 14 - 16 (SMS)

Part 2: Relationship between Work and Family

Likert Scale: 1- Strongly Disagree; 2- Disagree; 3-Neither agree nor disagree; 4-Agree; 5- Strongly Agree

1. My work keeps me from my family activities more than I would like.
2. The time I must devote to my job keeps me from participating equally in household responsibilities and activities.
3. I have to miss family activities due to the amount of time I must spend on work
   responsibilities.

4. The time I spend on family responsibilities often interfere with my work responsibilities.
5. The time I spend with my family often causes me not to spend time in activities at work that could be helpful to my career.
6. I have to miss work activities due to the amount of time I must spend on family
   responsibilities.
7. When I get home from work I am often too frazzled to participate in family activities/ responsibilities.
8. I am often so emotionally drained when I get home from work that it prevents me from contributing to my family.
9. Due to all the pressures at work, sometimes when I come home I am too stressed to do the things I enjoy.
10. Due to stress at home, I am often preoccupied with family matters at work.
11. Because I am often stressed from family responsibilities, I have a hard time concentrating on my work.
12. Tension and anxiety from my family life often weakens my ability to do my job.
13. The problem-solving behaviours I use in my job are not effective in resolving problems at home.
14. Behaviour that is effective and necessary for me at work would be counterproductive at home.
15. The behaviours I perform that make me effective at work do not help me to be a better parent and spouse.
16. The behaviours that work for me at home do not seem to be effective at work.
17. Behaviour that is effective and necessary for me at home would be counterproductive at work.
18. The problem-solving behaviour that works for me at home does not seem to be as useful at work.

Part 3: Career Development

Notes (these notes are not included in the version completed by participants):
Questions 1-3 Job satisfaction; 4-5 Career progress; 6-7 Intent to quit (opposite)
8- 12 career satisfaction

1. I feel challenged by my work
2. I am satisfied by the work I do
3. In general, I like working here.
4. I have very good prospects for promotion in this organisation
5. I expect to advance in my career to senior levels of management
6. I often think about leaving the organisation
7. I will probably look for a new job in the next year
8. I am satisfied with the success I have had in my career

9. I am satisfied with the progress I have made toward meeting my overall career goals.
10. I am satisfied with the progress I have made toward meeting my goals for income.
11. I am satisfied with the progress I have made toward meeting my goals for advancement.
12. I am satisfied with the progress I have made toward meeting my goals for the development of new skills.

Part 4: Well-Being and EWP

Notes (these notes are not included in the version completed by participants and the questions from separate scales mixed):
Ryff Scale of Psychological Well-Being (reverse order questions indicated with #): Autonomy 1-3; Environmental Mastery 4-6; Personal growth 7-9; Positive relations with others 10-12; Purpose in life 13-15; Self-acceptance 16-18.

1. I tend to be influenced by people with strong opinions (#)
2. I have confidence in my opinions, even if they are contrary to the general consensus.
3. I judge myself by what I think is important, not by the values of what others think is important.
4. In general I feel I am in charge of the situation in which I live.
5. The demands of everyday life often get me down. (#)
6. I am quite good at managing the many responsibilities of my daily life.
7. I think it is important to have new experiences that challenge how you think about yourself.
8. For me, life has been a continuous process of learning, changing and growth
9. I gave up trying to make big improvements or changes in my life a long time ago. (#)
10. Maintaining close relationships has been difficult and frustrating for me.
11. People would describe me as a giving person willing to share my time with others
12. I have not experienced many warm and trusting relationships with others. (#)
13. I live life one day at a time and don't really think about the future. (#)
14. Some people wander aimlessly through life, but I am not one of those people.
15. I sometimes feel as if I've done all there is to do in life. (#)
16. When I look at the story of my life, I am pleased with how things have turned out
17. I like most aspects of my personality.
18. In many ways, I feel disappointed about my achievements in life. (#)
19. I make use of the following Siyaphila employee wellness programme offered (yes/no):
    - 19.1. Counselling services
    - 19.2. On-Site Nurse
    - 19.3. Awareness and preventative programmes
    - 19.4. Other (please list)

20. I feel that the use of the Siyaphila employee wellness programme has helped me to

20.1. Manage my time, so that I can fit everything in that needs to get done

20.2. Continually learn more things about myself

20.3. Develop friendships and relations in my life

20.4. Feel like I have a sense of purpose and direction in my life

20.5. Feel confident and positive about my life

20.6. Feel that being happy with myself is more important than having others approve of me.

21. I make use of private wellness programmes, such as

21.1. Discovery Vitality

21.2. GEMS: My Wellness

21.3. Health club/gym/sport membership

21.4. Private Therapy or counselling

21.5. Other

22. I do not make use of any formal wellness programmes

Appendix B: Additional Data Tables

Table 13: ***Pearson Correlations of Work-Family Conflict Scale Items***

Pearson's r	TIME WIF	STRAIN WIF	BEH WIF	TIME FIW	STRAIN FIW	BEH FIW	WIF	FIW	WFC
TIME WIF	1								
STRAIN WIF	.73**	1							
BEH WIF	.51**	.52**	1						
TIME FIW	.22**	.19*	.26**	1					
STRAIN FIW	.19*	.20*	.22**	.66**	1				
BEH FIW	.39**	.39**	.72**	.33**	.26**	1			
WIF	.88**	.89**	.78**	.26**	.24**	.58**	1		
FIW	.36**	.35**	.55**	.82**	.78**	.73**	.48**	1	
WFC	.76**	.76**	.79**	.58**	.54**	.74**	.91**	.81**	1

Notes:
** Correlation is significant at p< 0.01
* Correlation is significant at p< 0.05 level
BEH= Behaviour
WIF= Work-Interference with family
FIW= Family-Interference with work
BEH= Behaviour
WFC= Work-family conflict

Table 14: ***Pearson Correlations of Career Development Scale Items***

	Job Sat	Car Prog	Int Stay	Car Sat	Car Dev
Job Sat	1				
Car Prog	.30**	1			
Int Stay	.57**	.33**	1		
Car Sat	.39**	.42**	.31**	1	
Car Dev	.76**	.65**	.72**	.79**	1

Notes:
** Correlation is significant at *p*< 0.01 level (2-tailed).
Sat = Satisfaction
Car = Career
Prog= Progress
Int = Intention
Dev= Development

Table 15: ***Pearson Correlations of Psychological Well-Being Scale Items***

	Autonomy	Env Mastery	Pers Growth	Pos Rel	Purpose in life	Self Act	PWB
Autonomy	1						
Environmental Mastery	.45**	1					
Personal Growth	.18*	.28**	1				
Positive relations with others	.19*	.45**	.29**	1			
Purpose in life	.22**	.31**	.44**	.45**	1		
Self-actualisation	.31**	.42**	.51**	.39**	.46**	1	
PWB	.58**	.72**	.65**	.69**	.71**	.75**	1

Notes:

** Correlation is significant at p< 0.01 level (2-tailed).

* Correlation is significant at p< 0.05 level (2-tailed).

PWB= Psychological Well- Being

Table 16: ***Skewness and Kurtosis of Scale Items***

	Skewness	Kurtosis	Skewness: Std. Error	Kurtosis: Std. Error
Time WIF	0.13	-0.80	0.20	0.40
Strain WIF	-0.06	-0.80	0.20	0.40
Behaviour WIF	0.04	-0.32	0.20	0.40
WIF	0.08	-0.40	0.20	0.40
Time FIW	0.67	0.35	0.20	0.40
Strain FIW	1.15	1.18	0.20	0.40
Behaviour FIW	0.35	-0.41	0.20	0.40
FIW	0.43	0.29	0.20	0.40
WFC	-0.10	-0.44	0.20	0.40
Job Satisfaction	-0.70	0.10	0.20	0.40
Career Progress	-0.32	-0.72	0.20	0.40
Intent to Stay	0.10	-1.09	0.20	0.40
Career Satisfaction	-0.56	0.15	0.20	0.40
Career Development	-0.46	0.37	0.20	0.40
Autonomy	-0.32	-0.53	0.20	0.40
Environmental Mastery	0.12	-0.53	0.20	0.40
Personal Growth	-1.08	2.34	0.20	0.40
Positive Relationships with Others	-0.37	-0.09	0.20	0.40
Purpose in Life	-0.81	0.95	0.20	0.40

Self Acceptance	-0.69	0.93	0.20	0.40
Psychological Well-Being	-0.30	0.30	0.20	0.40

Table 17: *One Sample T- test on Strain of Work-Interference with Family*

One-Sample Test						
	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
STRAIN WIF	1.42	143	.16	0.12	-.05	.29

Table 18: *Pearson Correlations of Work-Family Conflict Measures and Demographic and Work Situation Information*

	WIF	FIW	WFC
Age_OverForty	.04	-.08	-.02
Married_YN	.10	.02	.07
Child_YN	.14	.13	.16
Child_UnderFive	.07	.20*	.14
Child_SchoolAge	.08	-.06	.02
Degree_YN	-.05	-.11	-.09
Job_Level	.14	.12	.16
OrgTen_morethanTwo	.11	.00	.07
Job_MorethanTwo	.09	-.13	-.01
Supervise	.10	.01	.07
Supervise_MorethanFive	.17	-.05	.09
WorkHrs_Morethan41	.22**	.03	.16

Notes:

* Correlation is significant at $p<0.05$ level (2-tailed).

** Correlation is significant at $p<0.01$ level (2-tailed).

Table 19: *Coefficients of Hierarchical Regression on Career Development*

Model		Unstandardised Coefficients		Standardised Coefficients	t	p
		B	Std. Error	Beta		
1	(Constant)	3.27	0.21		15.86	.00
	Age_OverForty	0.00	0.16	0.00	0.00	1.00
	Child_UnderFive	-0.39	0.13	-0.25	-2.95	.004
	Degree_YN	0.22	0.20	0.09	1.07	.29
2	(Constant)	3.25	0.26		12.33	.00
	Age_OverForty	0.08	0.17	0.04	0.46	.65
	Child_UnderFive	-0.39	0.13	-0.25	-2.96	.004
	Degree_YN	0.17	0.20	0.07	0.84	.40
	Job_Level	0.19	0.14	0.13	1.36	.18
	Job_MorethanTwo	-0.29	0.13	-0.19	-2.19	.03
	Supervise	0.09	0.15	0.06	0.64	.53
	WorkHrs<40	0.12	0.14	0.07	0.82	.41
3	(Constant)	3.45	0.36		9.55	.00
	Age_OverForty	0.08	0.17	0.05	0.48	.63
	Child_UnderFive	-0.37	0.13	-0.24	-2.77	.006
	Degree_YN	0.16	0.21	0.07	0.78	.44
	Job_Level	0.21	0.14	0.14	1.46	.15
	Job_MorethanTwo	-0.27	0.13	-0.18	-2.02	.05
	Supervise	0.09	0.15	0.06	0.63	.53
	WorkHrs<40	0.15	0.14	0.09	1.04	.30
	WIF	-0.08	0.08	-0.10	-1.05	.30
	FIW	0.00	0.11	0.00	0.03	.98

Table 20: *Pearson Correlations of Career Development Measures and Demographic Information*

	Job Sat	Car Prog	Int Stay	Car Sat	Career Development
Age_OverForty	.08	-.16	.28**	-.03	.05
Married_YN	.04	-.08	.06	-.14	-.05
Child_YN	-.09	-.05	-.16	-.14	-.15
Child_UnderFive	-.17*	-.04	-.29**	-.19*	-.24**
Child_SchoolAge	.09	-.01	.13	.04	.08
Degree_YN	.13	.20*	-.12	-.01	.06
Job_Level	.34**	-.11	.20*	.12	.20*
OrgTen_morethanTwo	.00	-.12	-.03	-.07	-.07
Job_MorethanTwo	-.07	-.17*	-.05	-.13	-.15
Supervise	.18*	-.05	.11	.12	.13
Supervise_MorethanFive	.03	-.07	-.15	.14	.00
WorkHrs_Morethan41	.14	.03	.13	.06	.12

Notes:

* Correlation is significant at p< 0.05 level (2-tailed).

** Correlation is significant at p<0.01 level (2-tailed).

Table 21: ***Summary of 3-item Hierarchical Regression***

	R	R^2	R^2 Change	F Change	Sig. F Change	Durbin-Watson	ANOVA F	ANOVA Sig.
Career Development								
a) Children <5 years old	.24	.06	.06	8.71	.004		8.71	.004
b) Job Tenure> 2 years	.30	.09	.03	5.14	.03		7.05	.001
c) Strain WIF	.31	.10	.01	0.93	.34	1.90	5.01	.002
Job Satisfaction								
a) Children <5 years old	.17	.03	.03	4.34	.04		4.34	.04
b) Job Tenure> 2 years	.20	.04	.01	1.27	.26		2.81	.06
c) Strain WIF	.21	.05	.01	0.95	.33	1.77	2.19	.09
Career Progress								
a) Children <5 years old	.04	.00	.00	0.28	.60		0.28	.60
b) Job Tenure> 2 years	.19	.04	.03	4.83	.03		2.56	.08
c) Strain WIF	.24	.06	.02	3.30	.07	2.01	2.84	.04
Intention to Stay								
a) Children <5 years old	.29	.08	.08	12.88	.00		12.88	.000
b) Job Tenure> 2 years	.30	.09	.01	1.42	.24		7.17	.001
c) Strain WIF	.30	.09	.00	.02	.89	1.82	4.75	.003
Career Satisfaction								
a) Children <5 years old	.19	.04	.04	5.23	.02		5.23	.02
b) Job Tenure> 2 years	.25	.06	.03	3.99	.05		4.67	.01
c) Strain WIF	.28	.08	.02	2.85	.09	2.10	4.10	.01

Table 22: ***Coefficients of 3-item Hierarchical Regression***

Coefficients#						
Model			Unstandardised Coefficients		Standardised Coefficients	t	p
			B	Std. Error	Beta		
	1	(Constant)	3.46	0.07		48.50	.00
		Child_UnderFive	-0.37	0.13	-0.24	-2.95	.00
	2	(Constant)	3.66	0.11		32.30	.00
		Child_UnderFive	-0.41	0.13	-0.27	-3.30	.00
		Job_MorethanTwo	-0.28	0.12	-0.18	-2.27	.03
	3	(Constant)	3.82	0.20		19.22	.00
		Child_UnderFive	-0.41	0.13	-0.27	-3.28	.00
		Job_MorethanTwo	-0.26	0.13	-0.17	-2.09	.04
		STRAINWIF	-0.06	0.06	-0.08	-0.96	.34

Notes:
#Dependent Variable: CAREERDEV

Table 23: ***Pearson Correlations between Psychological Well-being and Personal Demographic and Work Situation***

	Psychological Well-being
	Pearson's r
Job_Level	-0.04
Age_OverForty	-0.05
Married	0.02
Child_YN	-0.07
Child_UnderFive	0.02
Child_SchoolAge	-0.09
Degree	0.16
OrgTen_morethanTwo	-0.04
Job_MorethanTwo	0.06
Supervise	-0.10
Supervise_MorethanFive	-0.08
WorkHrs_MorethanForty	0.06

Table 24: ***Pearson Correlation between Psychological Well-being and Career Development Measures***

	Psychological Well-being
	Pearson's r
Job Satisfaction	0.06
Career Progress	.20*
Intent to Stay	0.00
Career Satisfaction	0.10
Career Development	0.12

Notes:
* Correlation is significant at p< 0.05 level (2-tailed).

Table 25: ***Hierarchical Regression of Moderating Effect of Psychological Well-being on All Career Development Measures using 3-items***

	R	R^2	R^2 Change	F Change	Sig. F Change	ANOVA F	ANOVA Sig.
Career Development (Durbin Watson =1.86)							
a) Children< 5 yrs	.24	.06	.06	8.71	.004	8.71	.004
b) Job Tenure >2 yrs	.30	.09	.03	5.14	.03	7.05	.001
c) Strain WIF	.31	.10	.01	0.93	.34	5.01	.002
d) PWB	.33	.11	.01	2.15	.15	4.32	.003
e) Strain WIF*PWB	.34	.12	.00	0.64	.43	3.58	.004
Job Satisfaction (Durbin Watson =1.77)							
a) Children< 5 yrs	.17	.03	.03	4.34	.04	4.34	.04
b) Job Tenure >2 yrs	.20	.04	.01	1.27	.26	2.81	.06
c) Strain WIF	.21	.05	.01	0.95	.33	2.19	.09
d) PWB	.23	.05	.01	1.25	.27	1.96	.11
e) Strain WIF*PWB	.24	.06	.01	0.74	.39	1.71	.14
Career Progress (Durbin Watson =1.98)							
a) Children< 5 yrs	.04	.00	.00	.28	.60	.28	.60
b) Job Tenure >2 yrs	.19	.04	.03	4.83	.03	2.56	.08
c) Strain WIF	.24	.06	.02	3.30	.07	2.84	.04
d) PWB	.30	.09	.03	4.91	.03	3.42	.01
e) Strain WIF*PWB	.36	.13	.04	6.00	.02	4.03	.00
Intention to Stay (Durbin Watson =1.82)							
a) Children< 5 yrs	.29	.08	.08	12.88	.00	12.88	.00
b) Job Tenure >2 yrs	.30	.09	.01	1.42	.24	7.17	.00
c) Strain WIF	.30	.09	.00	.02	.89	4.75	.00
d) PWB	.30	.09	.00	.02	.90	3.54	.01
e) Strain WIF*PWB	.30	.09	.00	.00	.95	2.81	.02
Career Satisfaction (Durbin Watson =2.08)							
a) Children< 5 yrs	.19	.04	.04	5.23	.02	5.23	.02
b) Job Tenure >2 yrs	.25	.06	.03	3.99	.05	4.67	.01
c) Strain WIF	.28	.08	.02	2.85	.09	4.10	.01
d) PWB	.29	.09	.01	.91	.34	3.30	.01
e) Strain WIF*PWB	.30	.09	.00	.14	.71	2.65	.03

Table 26: *Hierarchical Regression of Moderating effect of Psychological Well-being using 9 items*

	R	R^2	R^2 Change	F Change	Sig. F Change	ANOVA F	ANOVA Sig.
Career Development (Durbin Watson 1.91)							
a) Personal Demographics	0.26	0.07	0.07	3.32	0.02	3.32	0.02
b) Work Situation	0.37	0.14	0.07	2.72	0.03	3.05	0.01
c) WFC	0.38	0.15	0.01	0.71	0.49	2.52	0.01
d) PWB	0.40	0.16	0.01	2.14	0.15	2.50	0.01
e) WFC*PWB	0.41	0.17	0.01	0.54	0.59	2.16	0.02
Job Satisfaction (Durbin Watson 1.93**)**							
a) Personal Demographics	0.24	0.06	0.06	2.94	0.04	2.94	0.04
b) Work Situation	0.41	0.17	0.11	4.54	0.002	3.98	0.00
c) WFC	0.42	0.17	0.00	0.20	0.82	3.11	0.00
d) PWB	0.42	0.18	0.01	1.16	0.28	2.92	0.00
e) WFC*PWB	0.43	0.19	0.01	0.44	0.65	2.48	0.01
Career Progress (Durbin Watson 2.06)							
a) Personal Demographics	0.25	0.06	0.06	3.03	0.03	3.03	0.03
b) Work Situation	0.31	0.10	0.04	1.34	0.26	2.08	0.05
c) WFC	0.34	0.12	0.02	1.43	0.24	1.95	0.05
d) PWB	0.37	0.14	0.02	3.38	0.07	2.12	0.03
e) WFC*PWB	0.43	0.18	0.05	3.77	0.03	2.47	0.01
Intention to Stay (Durbin Watson 1.89)							
a) Personal Demographics	0.35	0.12	0.12	6.41	0.000	6.41	0.000
b) Work Situation	0.43	0.18	0.06	2.49	0.05	4.29	0.000
c) WFC	0.43	0.19	0.00	0.32	0.73	3.38	0.001
d) PWB	0.43	0.19	0.00	0.26	0.61	3.05	0.002
e) WFC*PWB	0.43	0.19	0.00	0.16	0.85	2.53	0.01
Career Satisfaction (Durbin Watson 2.06)							
a) Personal Demographics	0.21	0.05	0.05	2.24	0.09	2.24	0.09
b) Work Situation							

	0.29	0.08	0.04	1.40	0.24	1.77	0.10
c) WFC	0.32	0.10	0.02	1.37	0.26	1.69	0.10
d) PWB	0.33	0.11	0.01	0.96	0.33	1.62	0.11
e) WFC*PWB	0.33	0.11	0.00	0.20	0.82	1.36	0.19

Notes:

a Predictors: Degree, Child_UnderFive, Age

b Predictors: Degree, Child_UnderFive, Age, Supervise, WorkHrs, Job Tenure, Job_Level

c Predictors: Degree, Child_UnderFive, Age, Supervise, WorkHrs, Job Tenure, Job_Level, WIF, FIW

d Predictors: Degree, Child_UnderFive, Age, Supervise, WorkHrs, Job Tenure, Job_Level, WIF, FIW, PWB

e Predictors: Degree, Child_UnderFive, Age, Supervise, WorkHrs, Job Tenure, Job_Level, WIF, FIW, PWB, WIF*PWB, FIW*PWB

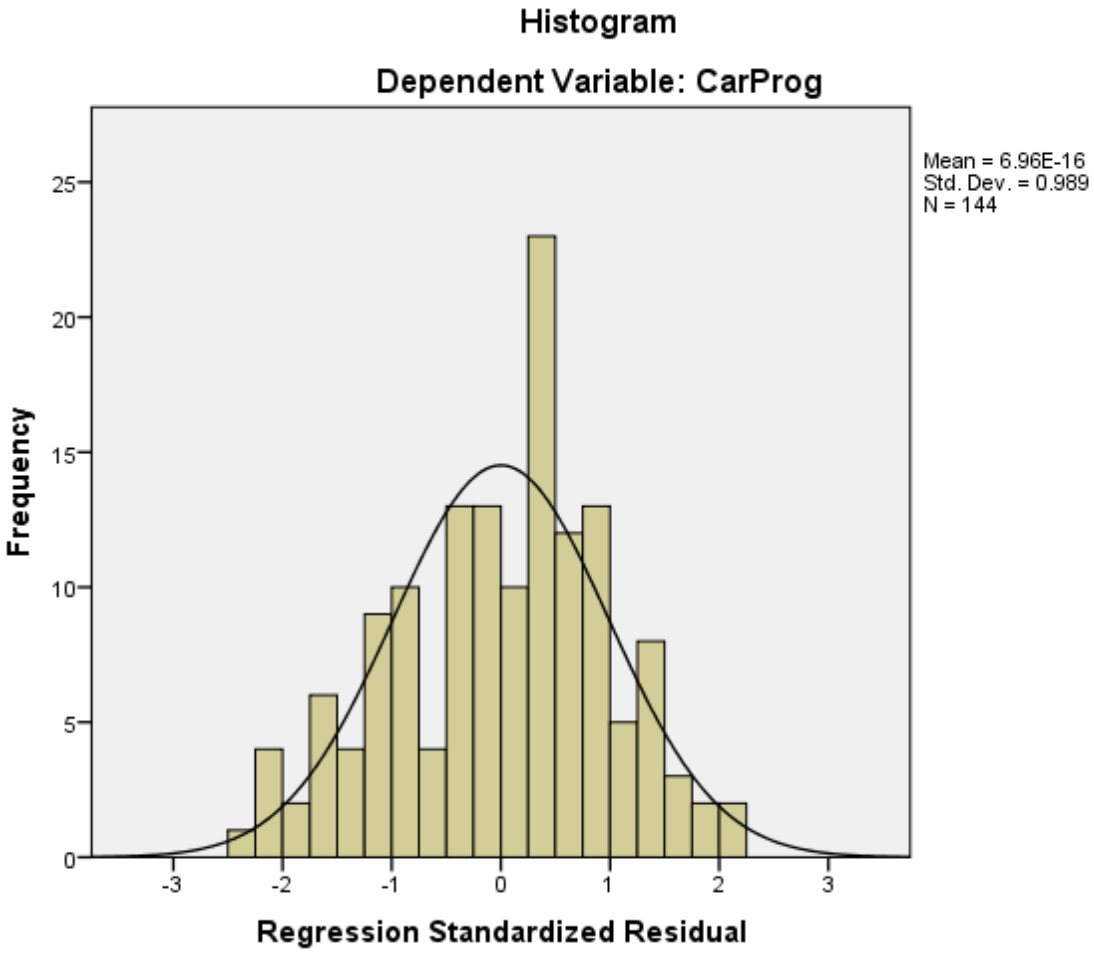

Figure 10: Histogram of career progress and strain of work-interference with family

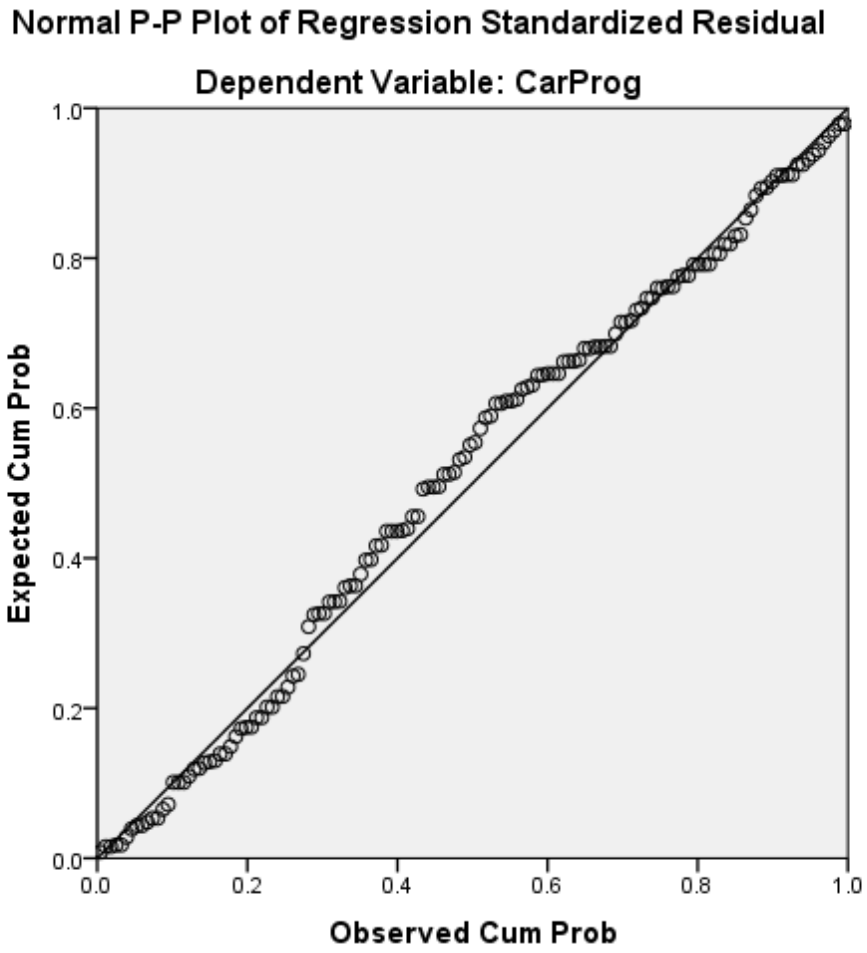

Figure 11: Partial linearity plot

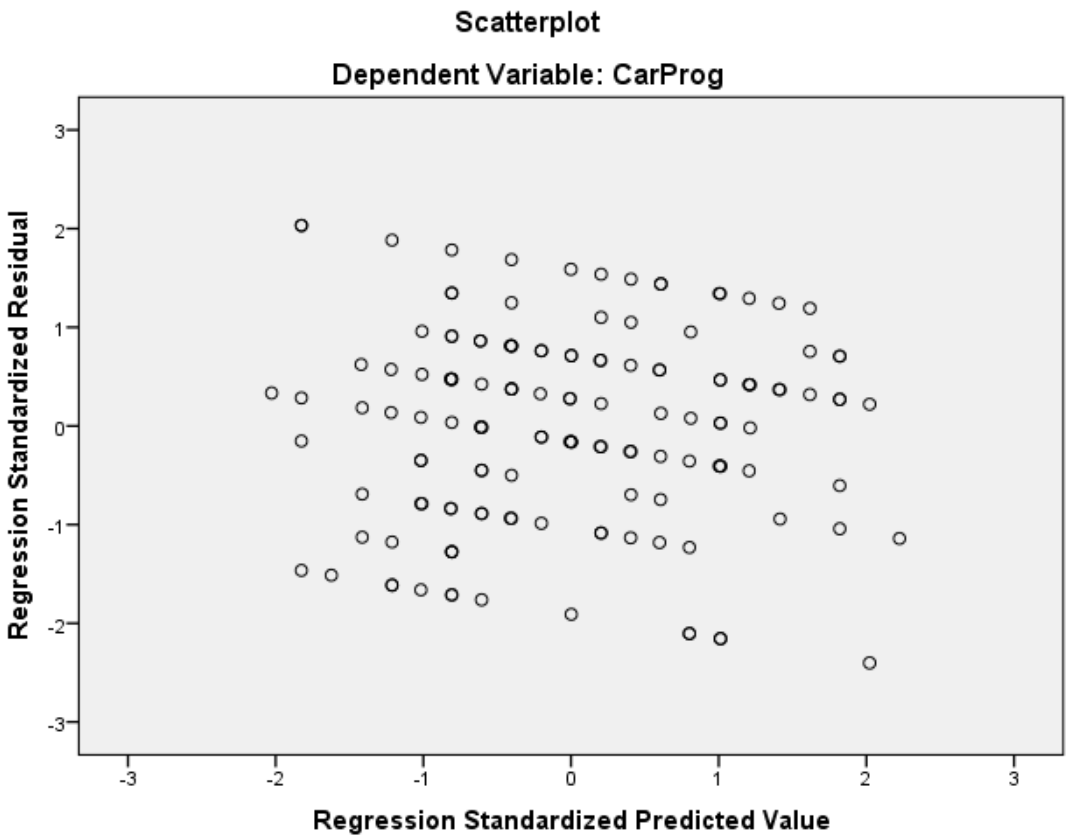

Figure 12: Scatter plot of residuals

Table 27: *Use of Private Wellness Programmes*

	Private Wellness	N	Mean	Std. Deviation	Std. Error Mean
Well-being	No	53	3.92	0.45	0.06
	Yes	91	4.07	0.41	0.04

Table 28: ***Independent Samples T-test of Psychological Well-being amongst Employees Using Private Wellness Programmes***

Independent Samples Test		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig.	Mean Difference	Std. Error Diff.	95% Confidence Interval of the Difference	
									Lower	Upper
Well-being	Equal variances assumed	0.03	0.88	-2.04	142	0.04	-0.15	0.07	-0.30	-0.00
	Equal variances not assumed			-1.99	101	0.05	-0.15	0.08	-0.30	-0.00