

https://dspace.org/

Job features and individual factors : testing a model of well-being.

Unterslak, Mandy

2009-09-04T05:59:23Z
http://hdl.handle.net/10539/7187

Downloaded from a DSpace repository. https://dspace.org/

JOB FEATURES AND INDIVIDUAL FACTORS: TESTING A MODEL OF WELL-BEING

Mandy Unterslak

A research project submitted in partial fulfilment of the requirements for the degree of MA by coursework and Research Report in the field of Industrial Psychology in the faculty of Humanities, University of the Witwatersrand, Johannesburg

FEBRUARY, 2009

Declaration

I declare that this research report is my own, unaided work. It has not been submitted before for any other degree or examination at this or any other university.

_____

Mandy Unterslak
February 2009

Abstract

In recent years, psychological well-being has emerged as an area of great importance. Whilst much research has been conducted to investigate the effects of personal and environmental factors on well-being, very little research has examined the combined effects of many factors on well-being. There exists in the literature a need for the development and testing of models which consider the combined influence of many features on well-being.

The primary aim of this study was to test a model of employee well-being and its determinants developed by Warr (1999).Whilst there is much theoretical support for this model, to date it does not appear to have been empirically tested. The model shows that the three dimensions of job-specific well-being (job satisfaction; anxiety-comfort; depression-enthusiasm) are affected by socio-demographic factors, individual factors and features of the environment. Affective disposition was used as the individual factor in this study, and the 12 features of work included in Warr's (1999) Vitamin Model were used as the environmental features. The 12 features are: opportunity for personal control, opportunity for skill use, externally generated goals, task variety, environmental clarity, contact with others, availability of money, physical security, valued social position, supportive supervision, career outlook, and equity. The socio-demographic features which were examined in this study are age, gender, marital status, education, tenure and race. A second aim of this study was to determine the linearity of the relationships between the 12 job features and well-being.

Data was collected by means of a questionnaire which was distributed to the employees of a large call centre in Johannesburg. The questionnaire consisted of a demographical questionnaire, Warr, Cook, and Wall's (1979) measure of Global Job Satisfaction to measure the first axis of well-being, Van Katwyk, Fox, Spector and Kelloway's (2000) Job-Related Affective Wellbeing Scale to measure the second and third axes of wellbeing, Warr's (1999) 26 Features of a Good or Bad Job to measure the twelve job features, and Watson, Clark and Tellegen's (1988) Positive and Negative Affect Schedule to measure affective disposition. The final sample consisted of 135 respondents.

The results of this study indicate that affective disposition and job features affect well-being. All of the job features except externally generated goals were significantly correlated with well-being, with the strongest correlations being found for career outlook and equity. The only significant correlation that was found for demographic features was the relationship between marital status and affective disposition. Thus the component of Warr's (1999) model which illustrates that demographic features influence affective disposition and job features was not supported. The finding that race explains a large amount of the variance in axis 2 of well-being indicates that, contrary to what is proposed by Warr's (1999) model, demographic features may have a direct influence on well-being. Overall, equity explained the greatest amount of variance in the first and second axes of well-being, and career outlook explained the greatest amount of variance in the third axis of well-being. It was not possible to identify any curvilinear relationships between job features and well-being.

Acknowledgements

I would like to thank the following people who made this research possible:

My supervisor and mentor, Professor Karen Milner, for her endless enthusiasm in guiding me through this project, and for sharing her vast wisdom and insight with me.

Mike Greyling for his statistical help and advice.

My mom and dad for their constant love and encouragement, and for always believing in me.

Jessie, for her unlimited patience and attention to detail.

Brandon, for his understanding and moral support.

All the individuals at the participating organisation who assisted me in this study.

For Mannie,

Your memory will be my inspiration forever.

TABLE OF CONTENTS

Declaration i

Abstract ii

Acknowledgements iv

Dedication v

Chapter 1: Introduction 1

PART 1: THEORETICAL AND CONCEPTUAL BACKGROUND 3

Chapter 2: Well-Being 4

Chapter 3: Job Design 8

1. Opportunity for Personal Control (AD) 10
2. Opportunity for Skill Use (AD) 12
3. Externally Generated Goals (AD) 14
4. Variety (AD) 15
5. Environmental Clarity (AD) 16
6. Contact with Others (AD) 18
7. Availability of Money(CE) 19
8. Physical Security (CE) 20
9. Valued Social Position (CE) 21
10. Supportive Supervision (CE) 23
11. Career Outlook (CE) 24
12. Equity (CE) 25
13. An Overall Evaluation of Warr's Vitamin Model 26

Chapter 4: Affective Disposition 28

Chapter 5: Demographic Factors 32

- Demographic Variables and Affective Disposition 32
- Demographic Variables and Job Features 33
- Demographic Features and Well-Being (Job Satisfaction) 34

PART 2: PRESENT RESEARCH 37

Chapter 6: Overview and Rationale 38

- Overview 38
- Rationale and Framework 40
- Research Questions 41

Chapter 7: Methodology 43

- Research Design 43
- Procedures 43
- Sample 44
- Measuring Instruments 45
- Ethical Considerations 46

Chapter 8: Results 49

- Descriptive Statistics and Reliabilities 49
- Research Question 1 51
- Research Question 2 58

Chapter 9: Discussion of Results 60

- Research Question 1 61
- Research Question 2 71
- Implications of the Study 71
- Limitations of the Study 72
- Directions for Future Research 74

Chapter 10: Conclusion 76

Reference List 80

TABLES

Table 1: Age of the Sample 45
Table 2: Biographical Details of the Sample 48
Table 3: Reliabilities 50
Table 4: Correlations for Well-Being 52
Table 5: T-tests for Gender 54
Table 6: Correlations for Demographics 54
Table 7: ANOVAs for Job Features 54
Table 8: ANOVAs for Affective Disposition 54
Table 9: Stepwise Regression for Axis 1 of Well-Being 57
Table 10: Stepwise Regression for Axis 2 of Well-Being 57
Table 11: Stepwise Regression for Axis 3 of Well-Being 57

FIGURES

Figure 1: Framework to be Examined in the Current Study 42

APPENDICES

Appendix A: Warr's (1999) Model 89
Appendix B: 2-Dimensional Model of Well-Being 90
APPENDIX C: 3-Dimensional Model of Well-Being 91
APPENDIX D: Full Questionnaire 92
APPENDIX E: Letter to Organisation 98
APPENDIX F: Letter of Organisational Consent 99

Chapter 1: Introduction

Well-being has become an area of great importance in recent years, and much research has been conducted to investigate the effects of personal and environmental factors on well-being. However, to date, very little research has examined the combined effects of many factors on well-being (Warr, 1999). There exists in the literature a need for the development and testing of models which consider the combined influence of many features on well-being. One such model is that developed by Warr (1999). Whilst there is much theoretical support for this model, to date it does not appear to have been empirically tested.

The primary aim of this research is to test a model of employee well-being and its determinants developed by Warr (1999) (see appendix A). The model looks at job-specific and context free wellbeing in terms of the three axes of well-being (displeasure-pleasure, anxiety-comfort and depression-enthusiasm). The model shows that well-being is affected by the environment; specifically, context-free well-being will be affected by non-job features and job-specific well-being will be affected by job features. Individual factors such as affective dispositions, standards of comparison and other personal characteristics will also affect these three axes of wellbeing. Furthermore, socio-demographic factors will influence both the environment and individual factors.

The model is large, and to test it in its entirety is beyond the scope of the current research. However, to disregard the model and examine only a few of the variables included in it would defeat the intentions of this study. Whilst much research has been conducted to investigate the relationships between certain variables included in this model in isolation, very few studies have looked at the combined effects of many of the variables together. Warr (1999, p. 407) believes that "the overarching need in this field is for more comprehensive investigations. Research has typically focused on narrow questions, avoiding an overview of the kind suggested [by the model]. It is now particularly desirable to seek to combine within single studies several elements of that model". From this statement it is clear that it is not necessary to test the entire model, but rather to test a number of components of the model collectively. For the purposes of this study, Warr's (1999) model will be divided vertically into two halves, one half including job-specific

well-being and the other comprising context-free well-being. The context-free side of the model will not be considered in the current research; this study will examine the model only in terms of job-specific features of the environment.

Warr (1999) intended for the 12 features of work included in his Vitamin Model to be used as the environmental features in this model of wellbeing. In order to keep the model as close as possible to Warr's (1999) conceptualisation, these features will be incorporated into the current study. For the same reason, affective disposition will be the individual factor in this study. The socio-demographic features which will be examined in this study are age, gender, marital status, education, job tenure and race.

The first part of this report will comprise a discussion of each of the variables investigated in this research, with each variable being discussed in its own chapter. In each of these chapters, a definition and some theoretical background of the variable will be provided, and previous research that is applicable to this study will be identified. Some information regarding the measurement of the variable will also be discussed. The first variable that will be discussed is well-being, as it is the central focus of the model. In the next chapter job design will be discussed, focusing on the 12 features in Warr's (1999) Vitamin Model. Following this, affective dispositions will be discussed. Finally, the effects of demographic features will be discussed.

In part two of this report, the main points made in section one will be summarized to provide an argument for the specific research questions in the current study. These research questions will be stated, and the methods, participants and procedures used in the current research will be explained. Following this, details of the analysis of the raw data will be provided, describing the analytical techniques used. Finally, the results of this research will be discussed and related to the findings in previous research, and the importance of these findings in the particular context of this research will be illuminated.

Part 1

Theoretical and Conceptual Background

Chapter 2: Well-Being

Well-being is an essential component of the current research, as it lies at the centre of the model that is being investigated. For this reason, it appears as the first chapter in this literature review section. In the following paragraphs, some of the key issues surrounding this variable will be outlined. First, the various constructs of well-being will be defined and discussed. Following this, some models for the measurement of well-being will be explained. Finally, previous research studies which have investigated well-being will be noted and critiqued.

In terms of the constructs of well-being, a distinction may be made between physical and psychological well-being. Physical well-being is usually operationalised through measures of physical health, such as heart health (Kubzansky et al., 1997), or other physical symptoms such as headaches, dizziness, and stomach problems (Ruthig, Chipperfield, Perry, Newall, & Swift, 2007). Psychological well-being is most frequently operationalised through measures of positive and negative emotions and life satisfaction (e.g. Ruthig et al., 2007).

Well-being may also be divided into two distinct components: context-free well-being and domain-specific well-being (Warr, 1987, 1994). Well-being may be examined in terms of people's general feelings of wellbeing in all aspects of their lives, as in context-free well-being. Alternatively, a researcher may focus on people's feelings of well-being in a specific aspect of their lives. Job-specific well-being refers to people's feelings of well-being in relation to their jobs (Warr, 1987, 1999). For the reasons laid out in the introductory section of this paper, the current research focuses on job-specific well-being.

It is important to note that various authors have construed well-being in different ways, with some referring to subjective well-being and others preferring the term affective well-being. Affective well-being is usually understood in terms of the balance between positive and negative emotions, and is usually measured more broadly. Subjective wellbeing, on the other hand, usually has a more cognitive construction, referring to an individual's own appraisal of his or her well-being, for example on a life satisfaction scale (Nieboer, Lindenberg, Boomsma, & Van

Bruggen, 2005). However, despite this distinction, the terms subjective well-being and affective well-being are used interchangeably by most researchers.

Well-being is often measured along a single dimension, from feeling good to feeling bad. However, the complexities of affective well-being are better understood through the use of two separate dimensions, namely 'pleasure' and 'arousal' (Warr, 1987). These dimensions are laid out in a two-dimensional model of well-being which may be viewed in Appendix B. In this model, a person's wellbeing may be described in terms of its location relative to these two dimensions and to the midpoint of the model (Warr, 1987). Warr (1999, p393) explains that "a particular degree of pleasure or displeasure may be accompanied by high or low levels of mental arousal, and a particular quantity of mental arousal (sometimes referred to as 'activation') may be either pleasurable or unpleasurable". The value of using a two dimensional model rather than a single dimension to understand wellbeing was supported by Matthews, Jones and Chamberlain (1990) in their research.

Warr (1987) further developed this two-dimensional model, elongating the shape of the model and expanding it to include two additional axes (see appendix C). Pleasure and arousal remain as the horizontal and vertical axes, respectively, with the pleasure dimension running from displeased to pleased. The poles of the arousal dimension are not labelled, as arousal does not stand alone as an indicator of well-being (Warr, 1987). As noted previously, the shape of the new model is elongated. This indicates that the importance of the pleasure dimension is greater than that of the arousal dimension. The two new axes, anxious-contented and depressed-enthusiastic, run diagonally across the model (from the top left to bottom right, and bottom left to top right respectively), and take into account both pleasure and arousal. Thus, the three principal dimensions of well-being identified by Warr (1999) are (1) displeasure-pleasure, (2) anxiety-comfort, and (3) depression-enthusiasm. The first axis of well-being (pleasure-displeasure) is often operationalised through measures of job satisfaction. The second axis of well-being (anxiety-comfort) is often operationalised through measures of job-related emotional exhaustion. The third axis of well-being (depression-enthusiasm) is often operationalised through measures of job-related depression. However, De Jonge and Schaufeli (1998, p.390) note that "the scales for job-related affective well-being cover the full range of the two principal axes (numbers 2 and

3 in [the model])". Whilst well-being may be measured along three axes, research has shown that when measuring job-specific well-being, the pleasure axis (which, as noted above, is often operationalised through measures of job satisfaction) represents the most important dimension of affective well-being (Warr, 1987).

Much research has been conducted to investigate the effects of variables such as age and gender on job-specific well-being (for example, Clark, Oswald, & Warr, 1996; Rystedt, Johnsson, & Evans, 1998). Rystedt et al. (1998) examined the effects of stressors on the wellbeing of male and female bus drivers. The sample consisted of 52 bus drivers who were employed full-time and worked at the same terminal in Central Stockholm, Sweden. These people participated in two waves of the study, set apart by one year. The researchers found higher negative affectivity for males than females; however this difference was not significant. No interaction was found between gender and occupational stressors. However, the small sample size in this study may have limited the possibility of finding significant effects. This lack of significant effects of gender was also found in a more recent study, conducted by Ha, Hong, Seltzer and Greenberg (2008). Their study investigated the effects of having children with mental problems on psychological well-being. The researchers in this study did, however, find differences for age, with older parents experiencing lower job-specific well-being than younger parents.

Research has also been conducted regarding the relationship between age and job satisfaction (a measure of the first dimension of well-being). It was initially thought that a positive linear relationship existed where job satisfaction increased with age (Clark et al., 1996). However, research suggests that there is in fact a U-shaped relationship between age and job satisfaction. Herzberg, Mausner, Peterson and Capwell (1957; as cited in Clark et al., 1996) found that young workers experienced high job satisfaction, but this level dropped over time, reaching its lowest point in workers from their mid-twenties to early thirties. From this point, job satisfaction increased again. These studies indicate that gender and age may influence well-being, however age has a stronger effect on well-being then gender does.

There has also been research interest in the effects of specific features of the work environment and personality factors on job-specific well-being. Holman (2002) conducted research in a call

centre environment to investigate the effects of job design, performance monitoring, HR practices and team leader support on employee well-being. These variables were looked at in relation to anxiety, depression, intrinsic job satisfaction and extrinsic job satisfaction, thus covering all three axes of well-being. The sample in this study included 557 customer service representatives working in the call centres of a bank in the United Kingdom. The results of this study suggest that having a high level of control over working methods is positively correlated with wellbeing (high job satisfaction and low anxiety and depression), as was having a supportive supervisor. A high level of performance monitoring was negatively associated with well-being. This finding is of particular interest, as the current research is conducted with a sample of call-centre employees. Performance monitoring is a common characteristic of the call-centre environment.

It may be seen from the review of literature found in this chapter that psychological well-being is a well researched issue; however the studies conducted in this area to date have focused mostly on the relationships between well-being and individual variables. The current research aims to extend previous studies by investigating the combined effects of a variety of factors on well-being. As the focus of the current research is on job-specific well-being, this report will now look at the issue of job design in relation to well-being.

Chapter 3: Job Design

This chapter presents a discussion of job design, focusing on the twelve job features in Warr's (1987) Vitamin Model. Firstly, an overview of job design will be provided. Following this, each of the job features in Warr's (2007) Vitamin Model will be discussed in greater detail. Research evidence will provided to show the importance of each of these job features in well-being research, and the expected effects of each of the features on the three dimensions of well-being will be noted. In addition, the interaction between the job features in the model will be discussed. Finally, some research evidence for the incorporation of these features into a model will be presented.

In broad terms, job design refers to the components of an individual job. Since the time of Scientific Management there has been an enduring interest in the area of job design, however recent research has focused on job characteristics-based approaches to job design (e.g. Garg & Rastogi, 2007). De Jonge and Schaufeli (1998) state that two of the most influential models of job design are the Job Characteristics Model (Hackman & Oldham, 1975) and the Demand-Control-Support Model (Karasek, 1979). Warr's (1987) Vitamin Model incorporates the characteristics laid out in these two models, thus it is important to briefly review these two models before moving on to a detailed explanation of Warr's (2007) Vitamin Model.

The Job Characteristics Model (Hackman & Oldham, 1980; as cited in Johns & Saks, 2005) was developed to measure employee motivation. It includes five core job characteristics (skill variety, task identity, task significance, autonomy and feedback) which result in three critical psychological states (experienced meaningfulness of the work, experienced responsibility for the outcomes of the work, and knowledge of the actual results of the work activity). These critical psychological states will affect employee wellbeing (Johns & Saks, 2005).

The Job Demands-Job Control model (Karasek, 1979) is based on the assumption that the interaction between job demands and job control will affect employee wellbeing. Jobs in which demands are high and control is low will be the most detrimental to employee well-being. This theoretical framework was later expanded into the Demand-Control-Support Model (Johnson &

Hall, 1988) which includes the effects of work related social support in this interaction. It has been found that an environment in which demands are high and both control and social support are low will be most detrimental to employee well-being (Johnson & Hall, 1988).

De Jonge and Schaufeli, (1998, p. 387) note that "although both models differ in scope and complexity, they assume *linear* relationships between job characteristics and indices of employee well-being". Warr's Vitamin Model (2007), however, proposes a non-linear relationship. The Vitamin Model is based on the idea that job characteristics affect employee wellbeing in the same way that vitamin intake affects physical health. Vitamins are essential in order for the human body to function optimally, and a lack of vitamins will result in vitamin deficiency disease. Vitamin intake will initially result in improved physical well-being; however after a certain point no further improvement will be noted. Beyond this point, two effects are possible: continued vitamin intake may not affect the body in any way, or it may lead to hypervitaminosis, which has detrimental effects. According to Warr (1987, 1994), excessive intake of vitamins C and E would not have any negative effects on the body, and thus the label CE (Constant Effect) was applied to the vitamins in this category. Vitamins A and D, among others, may become toxic if they exist in excessive levels in the body, therefore the label AD (Additional Decrement) is used to describe the vitamins which fall in this category.

Similarly, certain job characteristics are necessary in order for employees to have good psychological well-being; however excessive levels of some job characteristics may result in negative outcomes. Warr (1987) originally identified nine job characteristics which he regarded as 'work vitamins'. These nine job characteristics include the characteristics in the Job Characteristics Model (Hackman & Oldham, 1980; as cited in Johns & Saks, 2005), and the Demand-Control-Support Model (Johnson & Hall, 1988). Warr (1987) postulated that six of the vitamins fall into the AD category. The AD job characteristics are: job demands (externally generated goals), job autonomy (opportunity for personal control), social support (opportunity for interpersonal contact), skill utilization (opportunity for skill use), skill variety (Variety), and task feedback (environmental clarity). Excessive levels of these characteristics will be detrimental to employee well-being.

The remaining three job characteristics (safety [physical security], salary [availability of money] and task significance [valued social position]) fall into the CE category, and excessive levels of these characteristics will not harm employee well-being. Three more 'vitamins' were added to the model at a later stage (Warr, 1999, 2007). They are 'supportive supervision', 'career outlook' and 'equity', and they fit into the CE category.

Warr (2007) has written an exceptionally comprehensive paper, summarizing much of the research that has been conducted surrounding the twelve job features in his Vitamin model. In the following paragraphs, each of the 12 job characteristics that form part of Warr's (2007) Vitamin Model will be discussed in greater detail. Many of the research studies provided in the following chapters are noted by Warr (2007) in his summary work; however other relevant research studies are also discussed below.

1. Opportunity for Personal Control (AD)

There are many labels that have been applied to this characteristic, including decision latitude, autonomy, and participation in decision-making (Warr, 2007). Much research has been conducted on this variable in organizational settings. For example, Spector, Chen and O'Connell (2000) conducted a study using a sample of 110 graduates from the University of South Florida. They found a correlation of .55 between job satisfaction and autonomy at work. The results of this research study indicate that there is an association between opportunity for personal control and the first axis of well-being. In terms of axes 2 and 3, Warr (2007) notes that opportunity for personal control appears to be more strongly correlated with axis 3 of wellbeing (depression-enthusiasm) than with axis 2 (anxiety-comfort), with the strongest correlation being found for axis 1.

The research described above investigated opportunity for personal control as a single construct; however some researchers have looked at more specific forms of control. Opportunity for personal control may be divided into two components: intrinsic control and extrinsic control (Warr, 1987). Intrinsic control concerns the individual's control over his or her own job tasks, including goals and task variety, and has been shown to be important for subjective well-being. Warr (2007, p. 147) notes that:

> With substantial personal control, an employee is able to determine the amount of control that he or she exerts at any point in time. The nature of one's work can thus to some extent be adjusted temporarily or more permanently, increasing or reducing the amount of influence that is exerted. This form of adjustment is not available to those whose control opportunities are restricted.

In the call centre environment, work is often broken down into simple tasks so that less skilled, and therefore cheaper, labour may be utilised. In addition, scripts are often used in an attempt to improve efficiency. However, this decreases the intrinsic job control of call centre operators. The result is boring, repetitive jobs which are, nonetheless, demanding and stressful (Holman, 2005).

Extrinsic control involves participation in the organisation's decision making processes, with regard to aspects such as wages, working hours and company policies (Warr, 2007). This control may be exerted by the employee directly, or it may be exerted indirectly, for example through trade unions. Having a greater level of both intrinsic and extrinsic personal control has been shown in some studies to be associated with well-being. However, these associations may be indirect, through associated job features. Some job features which could be expected to be associated with opportunity for personal control include opportunity for skill use (job feature 2), number of externally generated goals (job feature 3) and amount of task variety (job feature 4). The reason for this association is that, as mentioned above, having a greater amount of personal control enables the individual to exert more influence over the decisions that are made regarding these job features.

Research findings regarding extrinsic control and well-being have been inconsistent. Jackson (1983) conducted a study to investigate the effects of involvement in decision making processes on job-related strain. The sample in this study consisted of 126 employees at a hospital, who worked in a variety of functions. She found a correlation of .28 with overall job satisfaction, .34 with intrinsic job satisfaction, and .15 with extrinsic job satisfaction. More recently, Bond and Bunce (2003) used a sample of 412 customer service centre workers in the United Kingdom financial institution to investigate the relationship between job control and job satisfaction. They

divided their sample into an experimental group and a control group; the members of the experimental group were involved in discussions to increase their participation in decision making processes. A year later, no differences were found between the control group and experimental group with regard to overall job satisfaction.

In terms of linearity, De Jonge and Schaufeli (1998) did not find any non-linear patterns with job satisfaction, emotional exhaustion or job-related anxiety. Fletcher and Jones (1993) conducted a research study to investigate the effects of the job characteristics in Karasek's (1979) model on anxiety, depression, and job satisfaction. They found a non-linear relationship between opportunity for personal control and job satisfaction for men, but not for women. Warr (1990) found a non-linear relationship with job satisfaction, but linear associations were found for axis 2 (anxiety-comfort) and axis 3 (depression-enthusiasm). The inconsistent findings of these studies indicate that there remains a need for more research to be conducted in this area.

2. Opportunity for Skill Use (AD)

Different labels that have been applied to this characteristic include skill utilisation, multi-skilling, and opportunity for learning, self-development or skill acquisition (Warr, 2007). There is substantial evidence to suggest that employees who have less opportunity for skill use are less happy than other employees. Sometimes, this reduction in happiness may be a result of other, related job features. For example, a job that provides little opportunity for skill use is likely to also provide little task variety (job feature 4), few externally generated goals (job feature 3), and a low level of personal control (job feature 1; Warr, 2007). There are two components of this job feature, both of which have implications for well-being. The first is the opportunity for employees to use the skills that they already possess, and the second is the opportunity for employees to develop new skills (Warr, 2007).

In an early study, Kornhauser (1965) conducted research with a sample of manual workers in a car assembly factory. He found that differences in job satisfaction were related to the workers' perception of their opportunity for skill use. More recently, Allen and van der Velden (2001) conducted research to determine the effects of skills mismatches on job satisfaction. They found a strong correlation between low job satisfaction and a self-report measure of skill-

underutilization, after controlling for demographic factors and other job features. Warr (2007) explains that the negative effects of having low opportunity for skill use are partly due to the frustration of having work that is not challenging.

As mentioned previously, the opportunity to develop new skills is also important for well-being. Wilson, DeJoy, Vandenberg, Richardson and McGrath (2004) conducted research using a sample of 1130 employees from nine branches of a large retail organization in the south-eastern United States. They found a correlation of .59 between opportunity to develop new skills and job satisfaction. In another environment, Patterson, Warr and West (2004) conducted research to investigate the effects of various aspects of organizational climate, including opportunity for skills development, on productivity and job satisfaction. Their sample included 4503 employees from 42 manufacturing companies in the United Kingdom. They found a strong correlation of .74 between employee's perceptions of opportunity for development and job satisfaction. These studies provide strong evidence for a relationship between opportunity for skill use and well-being. However, as these studies were conducted in America and the United Kingdom, respectively, there remains a need for research investigating these features in the South African context.

There is a need for research studies to determine the linearity of the relationship between the opportunity for acquisition of new skills and wellbeing (Warr, 2007). In his research, Van Dijkhuizen (1980; as cited in Warr, 2007) found a curvilinear relationship between opportunity for skill use and well-being. It is expected that opportunity for skill use will be more strongly associated with well-being axis 3 (depression-enthusiasm) than well-being axis 2 (anxiety comfort). Caplan, Cobb, French, Van Harrison and Pinneau (1975; as cited in Warr, 2007) found a correlation of .17 between skill underutilization and depression, but only .09 between skill underutilization and anxiety. Warr (2007) also notes an average correlation of - .2 between opportunity for skill use and emotional exhaustion and an average correlation of .4 between opportunity for skill use and job satisfaction. From the studies noted above, it appears that opportunity for skill use correlates most strongly with axis 1 of well-being, followed by axis 2 of well-being and then axis 3 of well-being. However, there remains a need for similar studies to be conducted in the South African context.

3. Externally Generated Goals (AD)

This characteristic has also been referred to as: "job or task demands, work pressure, role responsibility, and inter-role conflict (Warr, 2007). Externally generated goals refer to the extent to which the individual experiences external pressure to perform; if the individual has few externally generated goals he or she will experience less external pressure than someone with many externally generated goals (Warr, 2007). Research into the effects of unemployment has indicated the importance of externally generated goals for well-being. Unemployment is characterized by a reduction of externally generated goals, and research has found this to be one of the major contributors to the decrease in well-being found in unemployed people (Warr, 1987). On the other hand, research has found that the attainment of externally generated goals at work increases the job satisfaction of employees.

Many research studies have found that jobs which are characterized by extended conditions of low demands that are unchanging (underload) are likely to decrease employees' well-being. This may be a result of associations with other job features; jobs that are characterized by underload are often also characterized by low opportunity for personal control (job feature 1), opportunity for skill use (job feature 2) and task variety (job feature 4). In addition, jobs that offer few externally generated goals are often also characterized by a high level of environmental clarity (job feature 5) (Warr, 2007). In their study of blue-collar workers, Melamed, Ben-Avi, Luz and Green (1995) found correlations between underload and job satisfaction of - .21 for men and - .42 for women. This is in line with Warr's (1994) Vitamin Model which proposes that too little of a job feature (the deficiency range) will result in lower levels of well-being.

Warr's (1994) Vitamin Model also proposes that, since 'externally generated goals' is an AD job feature, too many externally generated goals (overload) will be detrimental to well-being. There is research evidence to suggest the accuracy of this suggestion. De Jonge and Schaufeli (1998) found a correlation of - .20 between high job demands and job satisfaction (axis 1 of subjective well-being). This pattern was also found for job-related anxiety (axis 2 of subjective well-being). In another study, Spector et al. (2000) found a correlation of .49 between job demands and job related anxiety. The relationship between job demands and depression (axis 3 of subjective well-being), however has been found to be nonsignificant in many research studies, including that of

Totterdell, Wood and Wall (2006). In the current study, the generalisability of these results to the South African context will be evaluated.

4. Variety (AD)

Some other labels that have been applied to this characteristic include non-repetitive work, skill variety and task variety (Warr, 2007). There are two main reasons that low variety is correlated with low subjective well-being. The first is that diversity is important to balance the monotony of routine tasks, thus a lack of variety is often unpleasant in itself. The second reason is that low variety is correlated with other environmental characteristics that reduce subjective well-being, including low opportunity for personal control (job feature 1) and low opportunity for skill use (job feature 2) (Warr, 2007).

The correlation between low task variety and low well-being has been illustrated in many research studies, including early studies conducted by the Industrial Fatigue Board. Wyatt and Ogden (1924; as cited by Warr, 2007) investigated a sample of British workers who were employed in jobs that were highly repetitive, such as packaging and assembling. Employee's performance attitudes were recorded under the normal job conditions, and again after task variety had been increased. The workers performance attitudes changed favourably in response to the increase in variety. However, negative results were found in these studies when very high levels of variety were introduced (Wyatt, Fraser, & Stock, 1928; as cited by Warr, 2007).

In Kornhauser's (1965) early study of manual workers in a car assembly factory, comparisons were made between workers in repetitive jobs and those whose jobs included more variety. Workers whose jobs included more variety displayed higher levels of job satisfaction than those with repetitive jobs. More recently, Podsakoff, MacKenzie and Bommer (1996) conducted a meta-analytical study to examine the relationships between leadership behaviours and subordinate attitudes, role perceptions and performance. They found a correlation of .22 between routine tasks and job satisfaction. Melamed et al. (1995) found a correlation between task variety and job satisfaction of .26 for men and .38 for women.

Some evidence of a curvilinear relationship between task variety and well-being has been noted in the previous paragraphs (e.g. Wyatt et al., 1928; as cited by Warr, 2007). However, there is a need for more research to be conducted in this area. The strong association between task variety and the first axis of well-being has been illustrated in the previous paragraphs. It has been proposed that low levels of variety will be more strongly positively correlated with axis 3 of well-being (depression-enthusiasm), whilst high levels of variety will be more strongly negatively correlated with axis 2 of well-being (anxiety-comfort; Warr, 2007). However, there is a need for more empirical evidence to confirm this expected relationship.

5. Environmental Clarity (AD)

Many labels have been applied to this characteristic, including information about the future, low role ambiguity, role clarity, and task feedback (Warr, 2007). Low environmental clarity is harmful to the individual because it limits his or her understanding of the current situation and makes it difficult to predict future situations (Warr, 2007). It may also harm the employee indirectly through associations with other job features. For example, when a person's job is characterized by low environmental clarity it may be difficult for the individual to predict the availability of money in the future (job feature 7) or their externally generated goals (job feature 3) (Warr, 2007). There are three types of clarity that are important for subjective well-being: future predictability, role ambiguity and feedback. Each of these will be discussed briefly in the following paragraphs.

In terms of the first type of clarity, future predictability, Caplan et al. (1975; as cited in Warr, 2007) conducted research in a sample of male workers, using a measure of 'job future ambiguity'. They found a correlation of .39 with job dissatisfaction, .24 with job-related depression and .12 with job-related anxiety. In a more recent study, Landeweerd & Boumans (1994) investigated the effects of various work dimensions on the job satisfaction of nurses. A correlation of .61 was found in this study between environmental clarity and job satisfaction.

Role ambiguity, the second type of lack of clarity, occurs when insufficient information is provided about what behaviours are required (Kahn, Wolfe, Quinn, & Snoek, 1964). Zellars and Perrewé (2001) conducted research in which they examined the relationships between affective

personality, emotional social support and burnout. Their sample consisted of 296 nurses working at two hospitals in the south-eastern United States. They found a correlation of .33 between role ambiguity and emotional exhaustion. Spector et al. (2000) found correlations of - .38 with job satisfaction and .30 with job-related anxiety.

In a discussion of the third type of clarity, Warr (2007) notes that it is important for an individual to obtain feedback about his or her performance so that the individual may maintain his or her control over the environment and develop and use their skills. In their meta-analysis, Podsakoff et al. (1996) found an average correlation of .42 between feedback and job satisfaction. A few years later, Patterson et al. (2004) found a correlation of .57 in their study. Bakker, Demerouti and Euwema (2005) conducted their research with a sample of 1012 employees at an institute of higher education in applied science in the Netherlands. A correlation of - .25 was found between feedback and job-related emotional exhaustion.

Little evidence exists for the proposed non-linear relationship between environmental clarity and well-being, since the majority of research into environmental clarity has been focused on environments characterized by low clarity. Ilgen, Fisher and Taylor (1979; as cited by Warr, 2007) put forward the argument that very high levels of feedback may be perceived by employees as a lack of personal control, and thus result in lowered levels of well-being. The design of jobs in call centres differs substantially from the design of most other types of jobs. Call centre jobs are characterised by the use of telephone-based technologies and continual performance monitoring and feedback (Holman, 2005). It is thus useful to investigate the linearity of this job feature in the call centre environment specifically.

Warr (2007) suggested that environmental clarity is most likely to be correlated with axes 2 and 3 of subjective well-being at lower levels; however the majority of research has investigated environmental clarity in relation to the first axis of subjective well-being. There is still a need for further research to investigate clarity in relation to job-related anxiety and depression. These relationships will be examined in the current study.

6. Contact with Others (AD)

Additional labels for this characteristic include quantity of social interaction, social density, quality of social interaction, social support, and freedom from abuse or bullying (Warr, 2007). Contact with others may be examined in terms of both its quality and its quantity. Research into this variable in organizational settings has mostly focused on the quality of social interactions.

In terms of quality of social contact, Oldham and Brass (1979) investigated the effects of moving from a conventional office layout to an open-plan office on employees' reactions to work. They conducted their study using a sample of 81 employees, each of whom was assessed three times; once before the move and twice after the change to the new office. They reported a correlation coefficient of .45 between job satisfaction and a self-report measure of friendship opportunities. At a later date, Podsakoff et al. (1996) found an average correlation across 16 samples of .33 between group cohesiveness and job satisfaction in their meta-analytical study.

Totterdell et al. (2006) conducted a longitudinal study to investigate Karasek's (1979) demands-support model of job strain. Their sample included 65 portfolio workers aged between 26 and 77 years old (M=48.63, SD=10.54). Participants were asked to keep a weekly diary for 26 weeks and to complete 2 questionnaires, one at the beginning and one at the end of the study. The results of the study indicated a strong correlation (r = .55) between emotional support and depression (axis 3 of subjective well-being), but only a very weak correlation (r = .02) was found between emotional support and job-related anxiety (axis 2 of subjective well-being).

The research studies discussed this far have investigated positive aspects of contact with others. It is, however, important to note that some research studies have investigated the effects of negative contact with others. Such negative contact may include bullying or aggression. Lapierre, Spector and Leck (2005) conducted a meta-analytical review of the relationship between job satisfaction and aggression in the workplace, finding a correlation of - .31 across 52 independent samples. This may be a direct effect of negative contact with others; however it is also possible for this negative contact with others to exert an indirect influence on well-being through its association with other job features. For example, an employee who is subject to aggression from others may perceive him or herself to have a reduced ability to control their

environment and reduce its harmful effects (job feature 1). If the aggression does not occur in a consistent pattern, the individual may also experience a low level of future predictability (an aspect of environmental clarity, which is job feature 5). In addition, aggression from others may be distracting, thus increasing the effects of externally generated goals (job feature 3) by diverting the attention of the employee.

There are some researchers who have chosen to focus on the quantity of social interactions. In their research, Hackman and Oldham (1975) illustrated that there is an association between job satisfaction and contact with others. Szilagyi and Holland (1980) conducted research using a measure of 'social density', which they defined as the number of people working within a distance of 50 feet. They found that reductions in social density resulted in a decrease in job satisfaction. This indicates that people with greater opportunity for contact with others are more satisfied in their jobs.

In terms of linearity, the results of the study conducted by Oldham and Brass (1979) indicated that an increase in social density may result in decreased job satisfaction. Possible reasons for this include an increase in noise levels and distractions, and a decrease in privacy and confidentiality (Warr, 2007). Similar relationships were found in more recent studies. For example, De Jonge, Reuvers, Houtman, Bongers, and Kompier (2000) found a non-linear relationship between social support and emotional exhaustion. Totterdell et al. (2006) found a correlation of .55 between social support and job-related depression and a correlation of .02 with job-related anxiety, supporting Warr's (2007) hypothesis that low to medium levels of contact with others will be more strongly correlated with well-being axis 3 (depression-enthusiasm) than axis 2 (anxiety-comfort). There is a need to investigate these relationships in other contexts, including that of South Africa.

7. Availability of Money (CE)

This characteristic has also been referred to using the following labels: "income level, amount of pay, salary, financial resources" (Warr, 2007, p.114). The amount of pay a person receives is important for two reasons: firstly, the amount of money a person has access to will determine his or her lifestyle, and secondly, pay level is a symbol of a person's status in society (Warr, 2007).

Many studies have been conducted in organisations to investigate employees' satisfaction with the pay they receive. High correlations have been found between wellbeing and pay level. Sloane and Williams (2000) conducted research to investigate the relationship between pay and job satisfaction. Data for the study were taken from the UK Social and Economic Life Initiative (SCELI) household survey that was conducted in 1986. They found a significant correlation between job satisfaction and the availability of money, with women experiencing a significantly higher level of satisfaction than men.

It has been suggested that there will be stronger association between income level and wellbeing in samples of poorer employees than among wealthier employees. In Kornhauser's (1965) early study with blue collar workers, he found that variations in income level had a greater impact on people with lower salaries. Simoens, Scott and Sibbald (2002) conducted their research using a sample of medical practitioners. They found no significant correlations between the household income of the medical practitioners and their job satisfaction. These two studies illustrate the fact that income level is more important for lower-earning employees.

The discussion in previous paragraphs has indicated that there is a significant association between the availability of money and job satisfaction, which is an indicator of the first axis of subjective wellbeing (displeasure-pleasure). The majority of research into pay has examined it in relation to the first axis of well-being, however there is some research, such as that by Kornhauser (1965), which supports the notion that associations with the second (anxiety-comfort) and third (depression-enthusiasm) axes of well-being will be greater at lower income levels, and will be non-significant at high income levels (Warr, 2007). There is still a need for further research to examine these relationships, and to investigate the generalisability of these findings to other contexts.

8. Physical Security (CE)

There are many different elements of physical security; the elements which are most important will depend on the people and environment that is being investigated. In a job setting, some of the most important elements of physical security include the absence of danger, ergonomically adequate equipment, and good working conditions (Warr, 2007). However, Taber, Beehr and

Walsh (1985) point out that these components of physical security are often classified as extrinsic features of the job, and are thus seldom investigated in occupational research studies.

Many research studies have been conducted to investigate the association between physical security and subjective well-being. For example, Wilson et al. (2004) found a correlation of - .38 between job satisfaction and perceptions of an unsafe physical work environment. Demerouti, Bakker, Nachreiner and Schaufeli (2001) investigated the relationship between the physical work environment and job-related emotional exhaustion (which is low well-being on axis 2). They found a correlation of .32 with poor quality of the work environment.

There are three ways in which poor physical security is expected to reduce employees' well-being. First, an unpleasant physical environment is likely to result in negative feelings. Second, a deterioration of physical health that is the result of the job (such as chronic back pain from lifting heavy objects) is likely to negatively affect the employee both physically and psychologically. Third, poor physical security may influence the employee through "correlated levels of other features" (Warr, 2007, p.121). For example, employees may perceive poor work conditions to be the result of an environment which they cannot control (job feature 1), or cannot predict (job feature 5). Employees may also perceive their unsafe work conditions to be illustrative of a lack of supervisory support (job feature 10) (Warr, 2007).

Warr (1987) proposed that physical security is a CE feature, i.e. beyond a certain level, variations in physical security will not affect well-being. Warr (2007) notes that evidence for this CE pattern in physical security is not yet available, and further research into this area is needed. There is also insufficient research evidence to determine the association between physical security and the second and third axes of subjective well-being (Warr, 2007).

9. Valued Social Position (CE)

Different terms that have been applied to this characteristic include task significance, meaningfulness of job, status in society, and contribution to the community (Warr, 2007). Society places different levels of value on different jobs; the value that society places on a job has been found to influence the job-holder's well-being. Bradburn (1969; as cited in Warr, 2007)

conducted a study in which various blue- and white-collar jobs were distinguished based on an accepted sociological classification. It was found that, for male primary wage earners, well-being and positive affectivity were greater in jobs which were classified as more prestigious. It should be noted that these variations in well-being that may be the result of other correlated factors, such as the possibility of promotion, or income level (Bradburn, 1969; as cited in Warr, 2007).

Valued social position is to a great extent subjective; two people performing the same role in the same organization may assign different value to their jobs. Wrzesniewski, McCauley, Rozin, and Schwartz (1997) conducted research to determine whether employees tended to view their work as a job, a career, or a calling. They defined a job as a position that was taken out of necessity rather than enjoyment. A career was defined as a position which was viewed in terms of its prospects for improvement in the future, and a calling was a position which was perceived to involve satisfying work that was of value to society. Their sample included 196 employees from two job sites who worked in a range of different occupations. They found that approximately one third of the employees in their sample placed their work in each of the three classifications. Even within a single job title, the participants were approximately evenly divided between the three categories.

The importance of personal interpretations of the value of one's job may be seen in Hughes' (1951; as cited in Warr, 2007) work on what he called "dirty work". Hughes (1951; as cited in Warr, 2007) investigated jobs which are perceived by society as disgusting and humiliating, such as the cleaners of public toilets and refuse collectors. It was found in this study that even though society views these jobs in a negative way, the people who occupy these roles often view their positions with greater value. Warr (2007) notes that it is important for a person to find value in his or her job, as the job a person holds plays a large part in their identity.

According to Warr (2007), all studies to date in this area of enquiry have investigated linear patterns, thus no conclusions can be drawn about the linearity of this job characteristic. However, "in conceptual terms, it remains unlikely that among jobs all of which are of high social value, small differences in that feature will be associated with variations in job holders' happiness" (Warr, 2007, p. 127). Whilst the relationship between valued social position and well-being axis

1 has been shown above, there is no research into the relationship between this job characteristic and well-being axes 2 and 3.

10. Supportive Supervision (CE)

A few of the many labels that have been applied to this characteristic include leader consideration and supportive management (Warr, 2007). This job feature has been linked to opportunity for personal control (feature 1) because the behaviours associated with 'consideration' include the leader's willingness to listen to suggestions made by employees (Warr, 2007). Research in this area has often focused on employees' satisfaction with their supervisor, rather than looking at an overall evaluation of employee well-being (Warr, 2007). Two such studies are discussed in the following paragraph.

Judge, Piccolo and Ilies (2004) conducted a meta-analytical study to investigate the relationship between leader consideration and employees' satisfaction with their supervisor. They found an average correlation of .68 across 49 samples. In addition, they found an average correlation of .40 between leader consideration and overall job satisfaction across 76 samples. Seltzer and Numeroff (1988) conducted research to investigate the relationship between leader consideration and job-related emotional exhaustion (an indicator of well-being axis 2), using a sample of 256 MBA students. They found a correlation of - .55 between leader consideration and emotional exhaustion.

In terms of the proposed linear pattern for supportive supervision, Judge et al. (2004) note that, whilst extremely high levels of support from supervisors would not be expected to reduce the well-being of subordinates, nonlinearity seems to be inevitable for this job feature, because "happiness cannot continue to increase at the same rate with more and more support at high levels" (Warr, 2007, p.131). Evidence of the relationship between supportive supervision and axis 1 of subjective well-being has been provided above. In terms of axes 2 and 3 of well-being, significant correlations are expected with low levels of supportive supervision. A lack of support from supervisors is likely to result in low well-being on axis 2 (high job-related anxiety).Some reasons for this include the fact that having an unsupportive supervisor may increase the ambiguity of the environment (job feature 5), thus lowering the employee's perception of his or

her own personal control over the situation (job feature 1) (Warr, 2007). In terms of axis 3, it would be expected that low levels of supervisory support would result in feelings of depression, however the majority of research on supportive supervision has focused on axis 1, and as such there is insufficient research evidence to confirm this (Warr, 2007).

11. Career Outlook (CE)

Career outlook refers to the opportunity for career progression or advancement. This may include upward moves, as in a promotion, or lateral moves across positions. The concept of career outlook has also been referred to as job security, opportunity for promotion, and opportunity for a shift to other roles (Warr, 2007). As labour markets have changed, it has become necessary for employees to plan their career progression (Warr, 2007). Thus career outlook has become more important in the lives of employees, and it has become necessary to include it as a feature in analysing job design. Warr (2007) notes two aspects of career outlook that must be considered. These will be discussed in the following paragraphs.

The first aspect of career outlook is the security that a job offers, i.e. if it will be available in the long term or not. This is similar to environmental clarity, and is often operationalised through measures of a person's perception of the likelihood of losing his or her job (Warr, 2007). Näswall, Sverke and Hellgren (2005) conducted research to investigate the relationship between job insecurity and strain. Their sample included 400 nurses at a hospital in Sweden. Of the sample, 91% were female, and the average age was 43 years (range = 20-68; SD = 10). They found a significant correlation of .18 between job insecurity and job dissatisfaction (axis 1 of well-being).

The second aspect of career outlook is the potential a job offers for promotions or lateral changes to other roles. This aspect of career outlook may be viewed as a component of environmental clarity (job feature 5), and may also be associated with a number of other job features, by virtue of the opportunities that arise from promotions or lateral job shifts. These job features include skills development (job feature 2), externally generated goals (job feature 3) and task variety (job feature 4) (Warr, 2007). Clark (1996) conducted research using a national sample of 5000 British employees. He found a significant relationship between job satisfaction and the perception of

good promotional prospects. Whilst correlations have been found between job satisfaction and both aspects of career outlook, there is a clear need for more research into the effects of this variable, particularly in relation to the second and third axes of well-being.

12. Equity (CE)

This job characteristic has also been referred to as distributive and procedural justice, equitable psychological contract, absence of unfair discrimination, and morality in an employer's relationship with society (Warr, 2007). It looks at two aspects of equity: the fairness of the relationship between an employee and employer, and the fairness of the relationship between the organization and broader society. The first aspect of equity has also been investigated under the heading of 'organizational justice', which may be divided into two components: distributive justice, which concerns the fairness of the way resources are allocated, and procedural justice, which refers to the fairness with which decisions regarding the distribution of resources are made (Warr, 2007). The second aspect of equity is often been referred to as 'corporate social responsibility' (Warr, 2007). Correlations may be found between equity and a number of other job features. First, perceived injustice may result in environmental clarity (job feature 5) being reduced, as well as reducing the individual's perceived opportunity for personal control (job feature 1). In addition, when low justice is perceived to be caused by one's supervisor, a relationship may be found between equity and supportive supervision (job feature 10) (Warr, 2007). In addition, justice may be seen in terms of the distribution of work-load (job feature 3), money (job feature 7), opportunities for promotion (job feature 11), and skills development (job feature 2) (Warr, 2007).

Correlations between equity and well-being have been found by a number of research studies. Colquitt, Conlon, Wesson, Porter and Ng (2001) conducted a meta-analytical review of the literature on organizational justice, finding an average correlation of .46 between distributive justice and job satisfaction, and .51 between procedural justice and job satisfaction. Taris, Kalimo and Schaufeli (2002) conducted research to investigate the relationship between inequity and the health and well-being of employees. They found a correlation of - .22 between equity and job-related emotional exhaustion (a measure of axis 2 of well-being). In addition, using three sub-groups of employees, they found a curvilinear relationship between well-being and equity.

Whilst the relationship between equity and well-being has been established in the literature, there is a need for more empirical research into the exact nature of this relationship with the three axes of well-being.

13. An Overall Evaluation of Warr's Vitamin Model

De Jonge and Schaufeli (1998) conducted research to test the overall validity of Warr's (1987) Vitamin Model. Sixteen institutions were randomly from all the general hospitals in the Netherlands and asked to participate in the study. 1437 volunteers from 64 different units who completed and returned a self-report questionnaire were included in the study. Of the participants, 46% worked full time, 83% were female, and on average the participants had 10.2 years work experience (SD = 7.2). The average age of the participants was 30.7 years (SD = 8.4, range = 17-59). The model was tested using structural equation modelling, and the findings indicate that the non-linear Vitamin Model is superior to linear models (De Jonge & Schaufeli, 1998).

Whilst De Jonge and Schaufeli's (1998) study was useful in that it highlighted the value of Warr's (1987, 1994) Vitamin Model in understanding employee well-being, it does not consider the effects of affective disposition and other factors, such as demographic features, on well-being. The current research will add to the current body of knowledge by discussing the cumulative effects of various factors on well-being.

In summation, the job features found in the Job Characteristics Model (Hackman & Oldham, 1975) and the Demand-Control-Support Model (Karasek, 1979) were combined to form the basis of Warr's (1987) Vitamin model, which proposes non-linear relationships with well-being for some of the job features. Initially, nine job features were included in the model, however three additional features were added to the model at a later stage, resulting in the inclusion of twelve job features in Warr's (2007) Vitamin model.

Six of the job features are expected to have non-linear relationships with wellbeing. They are: opportunity for personal control, opportunity for skill use, externally generated goals, task variety, environmental clarity, and contact with others. The remaining six job features are

expected to have linear relationships with well-being. They are: availability of money, physical security, valued social position, supportive supervision, career outlook, and equity. De Jonge and Schaufeli (1998) conducted research which provides support for the use of Warr's (1987) Vitamin model in investigations of the relationships between well-being and the physical environment. Having discussed job design, this report now turns to another important component of Warr's (1999) model, namely affective disposition.

Chapter 4: Affective Disposition

Affective disposition refers to an individual's propensity to respond to situations in a particular way. Schaubroeck, Ganster and Kemmerer (1996, p.191) explain that "individuals have enduring traits that predispose them to view different contexts in consistent ways" and that "over time one's positive or negative evaluation of the environment will often remain quite stable, even when the job situation changes" (Schaubroeck et al., 1996, p.191). Two broad categories of affectivity have been identified, namely: positive affectivity (PA) and negative affectivity (NA). A person with a positive disposition is likely to respond more positively to a situation than a person with a negative disposition (Johns & Saks, 2005).

It is also important to distinguish between trait affectivity and state affectivity. State affectivity refers to short-term feelings that a person experiences in a particular situation (such as being in a positive mood at work). Trait affectivity, on the other hand, refers to a personality characteristic; it is an individual's general propensity towards either positive or negative emotions (George, 1991). As current research focuses on trait affectivity, the literature that follows will discuss this aspect of affectivity.

Much research has been conducted to investigate the relationship between affective disposition and job satisfaction (the first axis of well-being). Staw, Bell and Clausen (1986) conducted a longitudinal research study in which they used measures of affective disposition from adolescence to predict job attitudes later in life. They used data from the Intergenerational Studies (IGS) conducted at by the Institute of Human Development at the University of California, Berkeley, to conduct their investigation. The IGS data is an amalgamation of the data from three individual longitudinal studies. Although each of the three studies was conducted by different researchers, had different research aims and used different samples, enough similarities were found to enable the samples to be combined into a single pool of data (Staw et al., 1986).

Staw et al. (1986) do not state the exact sample size that was used in their study, however they do note that although the sample for their study was derived from a large database of information, the sample size is relatively small. They found that affective dispositions are a

strong indicator of job satisfaction. Furthermore, they found that affective dispositions are stable over time, and as such the affective dispositions of adolescents could be used as predictors of their job attitudes later in life. Levin and Stokes (1989) conducted research to investigate the effects of negative affectivity on job satisfaction. They found job characteristics to have a greater impact on job satisfaction than trait negativity did.

Cropanzano, James and Konovsky (1993) conducted two research studies to investigate the relationship of both positive and negative affectivity to organizational commitment, turnover intentions, job satisfaction and job performance. The first study focused on positive and negative affectivity, organizational commitment, turnover intentions and job performance. The sample in this study consisted of 97 female nurses who worked at a medium-sized hospital in the South-eastern United States. Both positive affectivity and negative affectivity were found to be correlated with organizational commitment and turnover intentions; however no correlations were found with job performance.

The aim of the second study was to examine the effect of positive and negative affectivity on other work attitudes, including job satisfaction. The sample for this study included 198 employees in a variety of jobs at a privately-owned pathology lab in the South-eastern United States. The findings of this study indicate that both positive and negative affectivity are related to job satisfaction. In addition, it was found that an interaction effect between positive affectivity and tenure may predict job performance.

Brief, Burke, George, Robinson and Webster (1988) conducted research to investigate the relationship between affective dispositions and job stress. Their sample consisted of 497 managers and professionals. The results of their investigation indicate that there is a positive relationship between negative affectivity and job stress. Chen and Spector (1991) found a similar relationship between negative affectivity and physical strains; however their findings indicate only a weak relationship between negative affectivity and affective strains, including job satisfaction (r = -.29).

Negative affectivity has been related to the second axis of well-being (anxiety-comfort). Brief et al. (1988) conducted their research using a sample of 497 managerial and professional employees of an insurance company in the United States. They found a correlation of .57 between trait negative affectivity and state negative affect (anxiety) at work. George (1989) conducted research to investigate the relationship between absenteeism and affective dispositions. The sample in this study included 210 salespeople at a department store in the United States with a minimum tenure of 30 days. She recorded a correlation of .34 between negative affectivity and negative moods at work.

Elliot, Chartrand and Harkins (1994) conducted research to examine the effect of affective dispositions on occupational stress and emotional distress. They used two separate samples in their study in order to increase the generalisability of their findings. The first sample comprised of 127 public school teachers working in the metropolitan and suburban areas of a city in the middle Atlantic region of the United States, and the second sample comprised of 126 professional journalists throughout the United States and some other countries. Elliot et al. (1994) found that negative affectivity mediates peoples' responses to occupational stress such that people with high negative affectivity will experience negative emotional reactions to occupational stress to a greater extent than people with high positive affectivity.

From these studies it is clear that trait affective disposition is likely to affect the state affectivity of people at work; it would be expected that people with high negative affect will display more anxiety at work (low scores on well-being axis 2) and people with high positive affect will display greater enthusiasm at work (high scores on well-being axis 3). In an early study, George (1989) found a correlation of .34 between trait negative affectivity and job-specific wellbeing on axis 2 (anxiety-comfort), but a correlation of only - .03 with axis 3 of well-being (depression-enthusiasm), indicating that the relationship between negative affect and axis 2 of well-being is stronger than the relationship between negative affect and axis 3 of well-being.

Little research has been conducted to investigate the relationships between job-related depression (axis 3 of well-being) and personality factors such as affective dispositions. In his summative work, Warr (2007) notes only one study which investigated affective disposition in relation to

axis 3 of well-being (depression-enthusiasm). That is the study by Heinisch and Jex (1997) in which a correlation of .52 was found between trait negative affectivity and depression. There is a need for more research to be conducted in this area.

It is evident that the majority of research on affective dispositions that has been conducted to date has looked its relation to job satisfaction. Very little research has looked at the effect of affective dispositions on other dimensions of well-being. The current research will add to the existing body of knowledge by analyzing positive and negative affectivity in relation to all three dimensions of well-being.

This chapter illustrates some of the primary issues surrounding affective dispositions. The distinction between state and trait affectivity was explained, and it was noted that trait affectivity, which is a personality characteristic, is the focus of the current study. Research was presented to demonstrate the relationship between affective dispositions and axis 1 of well-being (Staw et al., 1986). Affective dispositions have also been linked with certain job attitudes, including organizational commitment, turnover intentions and job performance (Cropanzano et al., 1993). Some research studies in which relationships were found between affective dispositions and well-being were also cited (for example George, 1989). Affective dispositions appear to be more strongly correlated with the first axis of well-being than with the second or third axes (Warr, 1999). Having discussed these three aspects of Warr's (1999) Model of Well-being, it remains to look at the effects of demographic factors.

Chapter 5: Demographic Factors

One of the factors that Warr (1999) describes as being important in the study of job-specific well-being is demographic features. Demographic factors can affect an individual's perception of his or her environment (Warr, 1999), and, in line with the nurture component of the nature-nurture debate, they may also affect individual factors (Santrock, 2003). Thus it is important to take the effects of demographic variables into account when measuring well-being. For the purposes of the current research, gender, age, marital status, education, job tenure and race will be investigated in relation to job features and individual factors. In Warr's (1999) model, it is proposed that demographic features do not influence well-being directly. Rather, demographic variables affect individual factors and job features, which in turn influence well-being.

For this reason, the primary aim of this chapter is to describe the effects of demographic features on job features and individual factors, rather than on well-being. Having said that, many research studies have examined the effects of demographic variables on the first (and most important) axis of well-being. Although not the focus of this research, it is worth noting the direct effects of demographic features on wellbeing; some of the research on the effects of demographic features on axis 1 of well-being (job satisfaction) will be noted in this chapter.

Demographic Variables and Affective Disposition

Many research studies have found significant effects of demographic variables on affective disposition. In their study, Rystedt et al. (1998) found higher negative affectivity for males than females, however this difference was not significant. In terms of age, Staw et al. (1986) found affective disposition to be stable over time, so that the affective disposition of an individual in adolescence could predict their affective dispositions later in life.

Contradictory findings were reported by Pinquart (2001), who conducted a meta-analysis of 125 studies on age differences in affective dispositions. The results of this study indicated a small decrease in positive affect associated with age, as well as a small age-related increase in negative affect. In addition, a decrease of the positive and negative feelings associated with high arousal was found with age, as was an increase of the positive and negative feelings associated with low

arousal. In terms of race, Pinquart (2001) notes that older people from Eastern European countries which had formerly been communist showed the strongest decline in positive affect and increase in negative affect with age.

Little research has been conducted to determine the relationship between affective dispositions and education and marital status. In her research, George (1989) recorded a correlation of .10 between negative affectivity and education. Correlations between negative affectivity and age (r = - .14) and correlations between negative affectivity and tenure (r = - .12) were also found in this research. As may be seen from the review above, much research has focused on the relationship of age and gender with affective disposition, however there is a need for more research to be conducted regarding the relationship between affective disposition and other demographic variables.

Demographic Variables and Job Features

Much research has been conducted to determine the gender differences in the perception of job features. Warr (2007, p.294) notes that "certain job characteristics may on average be judged as less personally salient by women than by men, so that lower levels of those features have a smaller negative impact on women's well-being". Melamed et al. (1995) found a correlation between task variety (job feature 4) and job satisfaction of .26 for men and .38 for women. Centers and Bugental (1966) found that women valued social support (job feature 6) more than men, whereas men saw the opportunity for skill use (job feature 2) as more important than women did. Mottaz (1986) reported that men valued autonomy (job feature 1) and task significance (job feature 9) most highly, whilst women believed supportive supervision (job feature 10) to be more important. Clark (1997) conducted research to examine the effects of gender on job satisfaction. He found that men placed more value on pay (job feature 7), whereas women valued supportive supervision (job feature 10) and convenient working hours (a component of job feature 3) more highly.

Differences have also been found in the value placed on job features across age. Warr (1997) expected younger employees to place more value on task variety (job feature 4) and money (job feature 7) than older workers. Older workers would be expected to place more value on job

security and physical security (job feature 8). Kalleberg and Loscocco (1983) conducted research to investigate the effects of age on job satisfaction. The data for their study were taken from the 1972-1973 Quality of Employment Survey (QES). This data set was obtained by the Institute for Social Research at the University of Michigan, and was representative of the American labour force at the time. Similarities were found between the importance placed by young and old workers on many job features. However, it was found that younger workers placed more value on the availability of money (job feature 7) than older workers.

In an early study, Steers (1977) found a relationship between job characteristics and organizational commitment. As was noted previously, organizational commitment may be used as a predictor of organizational tenure, as people with high organizational commitment would be expected to have longer tenure. A similar relationship between job characteristics and turnover intentions was found by Igbaria and Siegel (1992).

Searches on the Pro-quest and Psych INFO databases did not yield relevant information on the relationships between marital status, education or race and job characteristics. There remains a need for more research to focus on these variables in relation to job features. Having discussed the effects of demographic features on affective disposition and job features, this chapter will now move to a discussion of the effects of demographic features on job satisfaction.

Demographic Variables and Well-Being (Job Satisfaction)

In terms of gender, Crossman and Abou-Zaki (2003) investigated the job satisfaction of Lebanese banking staff. Their findings suggest that women are generally less satisfied with their jobs than men, except with regard to salary. As was noted in chapter two, research indicates that the relationship between job satisfaction and age is curvilinear, with workers in their mid-twenties and early thirties experiencing the lowest job satisfaction (Herzberg et al., 1957; as cited in Clark et al., 1996).

Clark et al.'s (1996) study of age and job satisfaction included a sample of 5,192 employees, ranging in age from 16 to over 60. They found a U-shaped relationship between age and job satisfaction, and also identified significant relationships between job satisfaction and a number of

other variables, including gender, job tenure, marital status and number of children in the household. Men were generally more satisfied than women, as were people with longer tenure in their jobs. Long hours were found to decrease job satisfaction, as was a high level of education. Significant effects of marital status and presence of children on job satisfaction were found. A stronger positive association between age and job satisfaction was found for men than for women. Positive attitudes and higher socio-economic status also improve levels of satisfaction (Little, Peake, & Richardson, 1985). Sloane and Williams (2000) found a positive effect of marriage on job satisfaction for women and a negative effect of marriage on job satisfaction for men. However, they found no significant effects of race on job satisfaction.

Hinks and Gruen (2007) conducted research to determine whether the structure of happiness was the same for South Africans as for people in other developed countries. The data for their study was taken from the Durban Quality of Life Studies. They found no relationship between marital status and happiness or level of education and happiness. In terms of race, Powdthavee (2005) found lower well-being scores for Black people than for Coloured people, however no significant differences were found with White or Asian people. In addition to these findings, Powdthavee's (2005) research supported the U-shaped relationship between age and job satisfaction that was proposed by Clark et al. (1996) in South Africa.

Many studies have investigated gender and age in relation to affective disposition, job features and job satisfaction. However, relatively fewer studies have investigated the effects of other demographic features, such as marital status, education, job tenure and race on affective disposition, job characteristics or job satisfaction. These are, nonetheless, important factors to investigate, particularly in the South African context. Whilst some research has been conducted to investigate the effects of many of these demographic factors on well-being directly, the current research aims to investigate the effects of these factors, in combination with both personality and environmental factors. Thus the current research will be filling a gap which exists in the literature.

In part one of this report, each of the variables to be investigated the current study was examined. In part two, the research questions that were asked in the current study will be stated, and the

procedures and instruments that were used will be described. Next, the methods that were used to analyse the data will be explained, and the results of these analyses will be presented. Finally, these results will be discussed in relation to the findings of previous research, and the implications of this research will be examined.

Part 2

Present Research

Chapter 6: Overview and Rationale

Overview

In part one of this report some of the key research findings relevant to the current study were presented. The first chapter in part one focused on well-being. It was noted that a distinction must be made between physical and psychological well-being, as well as between context-free well-being and job-specific well-being. In addition, the difference between subjective well-being and affective well-being was noted. Following these definitions and distinctions, Warr's (1987) three-dimensional framework for the measurement of well-being was presented, and proposed for use in the current study.

It was explained that the three principal dimensions of well-being identified by Warr (1999) are (1) displeasure-pleasure, (2) anxiety-comfort, and (3) depression-enthusiasm. The first axis of well-being (pleasure-displeasure) is often operationalised through measures of job satisfaction, the second axis of well-being (anxiety-comfort) is often operationalised through measures of job-related emotional exhaustion, and the third axis of well-being (depression-enthusiasm) is often operationalised through measures of job-related depression. Much research has been conducted to determine the effects of age and gender on well-being, however fewer studies have examined the effects of specific features of the work environment and personality factors on job-specific well-being. There is therefore a need for further research to be conducted to investigate these relationships.

The next chapter, some of the literature that exists in the area of job design was reviewed. It was explained that the job features found in the Job Characteristics Model (Hackman & Oldham, 1975) and the Demand-Control-Support Model (Karasek, 1979) were combined to form the basis of Warr's (1987) Vitamin model, which proposes non-linear relationships with well-being for some of the job features. Initially, nine job features were included in the model, however three additional features were added to the model at a later stage, resulting in the inclusion of twelve job features in Warr's (2007) Vitamin model.

Six of the job features are expected to have non-linear relationships with wellbeing. They are: opportunity for personal control, opportunity for skill use, externally generated goals, task variety, environmental clarity, and contact with others. The remaining six job features are expected to have linear relationships with well-being. They are: availability of money, physical security, valued social position, supportive supervision, career outlook, and equity. De Jonge and Schaufeli's (1998) study was presented, as it provides support for the use of Warr's (1987) Vitamin model in investigating relationships between well-being and the physical environment.

In the next chapter of part one in this report, affective disposition was discussed in some detail. The distinction between state and trait affectivity was explained, and it was noted that trait affectivity, which is a personality characteristic, is the focus of the current study. Research was presented to demonstrate the relationship between affective dispositions and axis 1 of well-being (Staw et al., 1986). Affective dispositions have also been linked with certain job attitudes, including organisational commitment, turnover intentions and job performance (Cropanzano et al., 1993). Some research studies in which relationships were found between affective dispositions and well-being were also cited (for example George, 1989). Affective dispositions appeared to be more strongly correlated with the first axis of well-being than with the second or third axes of well-being in these studies (Warr, 1999).

Finally, following this discussion of affective dispositions, a chapter on demographic features was provided. This included a discussion of the effects of gender, age, marital status, education, job tenure and race on affective dispositions and job features. It was noted that relationships have been found between gender, age, race, job tenure and affective dispositions, however there is a need for future research to investigate the relationship of affective disposition with education and marital status. Similarly, little information was found regarding the relationships between job features and education, marital status, and race.

In the following chapters, the main points from section one of this report will be summarized to provide an argument for the specific research questions in the current study. These research questions will be stated, and the procedures, sample and measuring instruments used in the current research will be explained. Ethical considerations in this study will also be noted.

Following this, details of the analysis of the raw data will be provided, and the analytical techniques that were used will be described. Finally, the results of the current research will be discussed and related to the findings in previous research, and the importance of these findings will be illuminated.

Rationale and Framework

It is clear that psychological well-being is a well researched issue; however the studies conducted in this area to date have looked at the relationships of single variables with well-being. The current research aims to extend previous studies by investigating the combined effects of a variety of factors on well-being. Whilst previous research has highlighted the value of Warr's (1987, 1994) Vitamin Model in understanding employee well-being, the combined effects of job features and other factors such as affective disposition and demographic features on well-being has seldom been considered. The current research will add to the current body of knowledge by discussing the cumulative effects of various factors on well-being.

The majority of research on affective dispositions that has been conducted to date has looked its relation to job satisfaction. Very little research has looked at the effect of affective dispositions on other dimensions of well-being. Thus the current research will add to the existing body of knowledge by analyzing positive and negative affectivity in relation to all three dimensions of well-being. In addition, whilst research has been conducted to investigate the effects of many of these demographic factors on well-being, the current research aims to investigate the effects of these factors, in combination with both personality and environmental factors. It is of particular importance to consider the effects of demographic features in this model in the South African context, due to the diversity that exists in this country. The current research will, therefore, be filling a gap which exists in the literature.

As was noted previously, the aim of the current research is to test a model of employee well-being and its determinants developed by Warr (1999). The full model appears as appendix A. It was explained in the introduction to this report that Warr's (1999) model looks at job-specific and context free wellbeing in terms of the three axes of well-being (displeasure-pleasure, anxiety-comfort and depression-enthusiasm). It shows that well-being is affected by the

environment, with context-free well-being being affected by non-job features and job-specific well-being being affected by job features. Individual factors such as affective dispositions, standards of comparison and other personal characteristics are also shown to affect these three axes of wellbeing. Socio-demographic factors are shown to influence both the environment and individual factors.

It has also been explained that the model is large, and to test it in its entirety is beyond the scope of the current research. However, there exists in the literature a need for the validation of theoretical models which look at the combined effects of many variables on well-being, rather than examining relationships with individual variables in isolation. Warr (1999, p. 407) explains that "the overarching need in this field is for more comprehensive investigations. Research has typically focused on narrow questions, avoiding an overview of the kind suggested [by the model]. It is now particularly desirable to seek to combine within single studies several elements of that model".

For the purposes of this study, Warr's (1999) model will be divided vertically into two halves, one half including job-specific well-being and the other comprising of context-free well-being. The context-free side of the model will not be considered in the current research; this study will examine the model only in terms of job-specific features of the environment. The framework to be examined in the current study appears as figure 1 on page 42.

Research Questions

Based on this model, the following questions were asked in this research:

1. How do job design variables, affective variables and demographic variables combine to influence wellbeing?
2. To what extent are the relationships between job features and well-being linear?

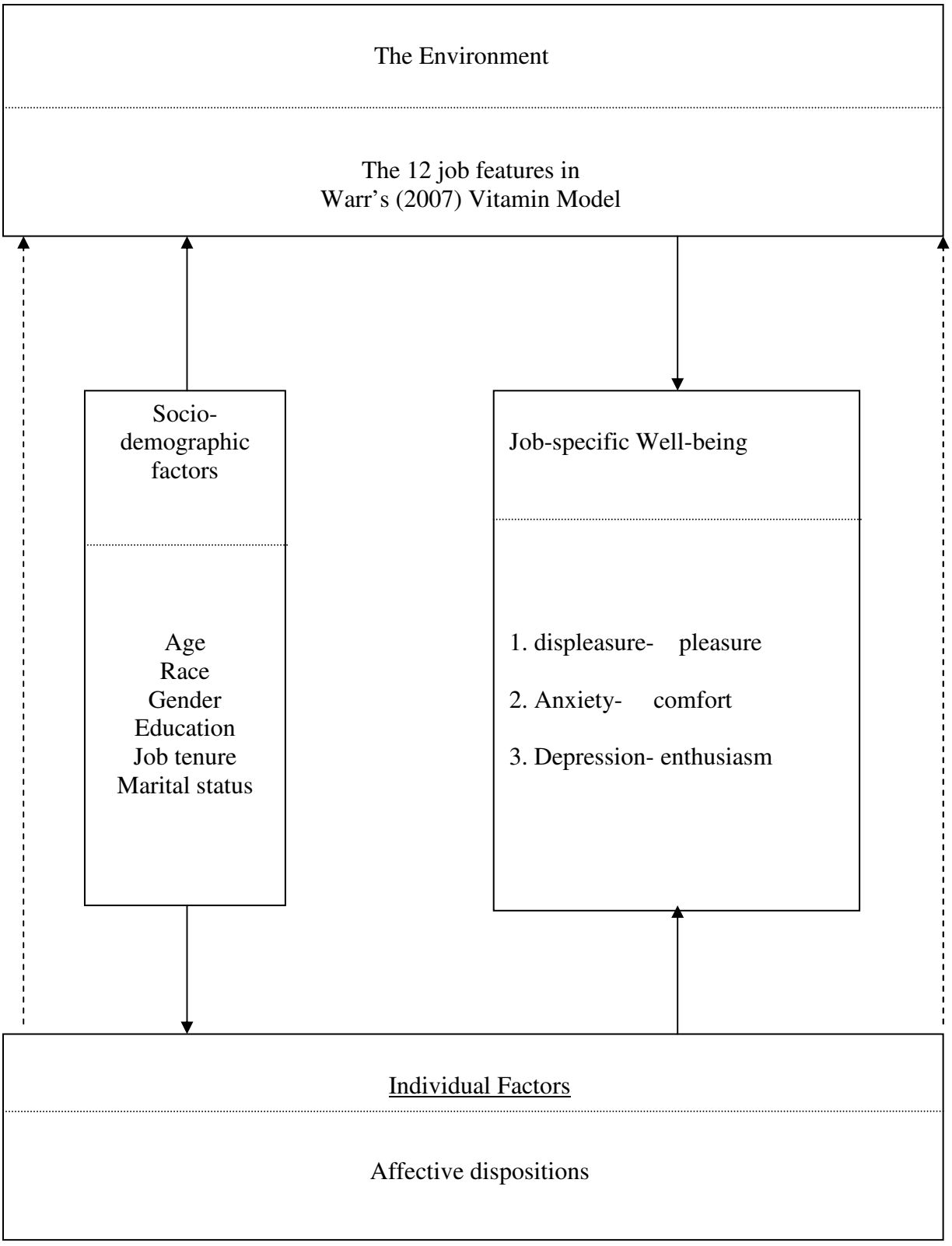


Figure 1: Framework to be Examined in the Current Study

Adapted from Warr (1999, p.400)

Chapter 7: Methodology

Research Design

This research was quantitative in nature (Rosnow & Rosenthal, 1996). A non-experimental design was utilized, as manipulation of variables was not possible. Furthermore, no control group was defined, and selection of subjects was not random. Using this type of research design means that it is not possible to draw causal conclusions (Rosnow & Rosenthal, 1996); however this research was merely intended to show relationships between the variables in the model, and to provide a platform for further research in this area. This research was not longitudinal, as it was conducted at once, with no pre-testing; thus a cross-sectional design was used (Rosnow & Rosenthal, 1996).

Procedures

In order to answer the research questions just presented, data was collected from volunteers by means of questionnaires. Questionnaires were selected to form the basis of this research as they are relatively time and cost effective, and can be administered to a large population with ease. The questionnaires used in this study were anonymous to reduce the likelihood that respondents would modify their answers to be in accordance with perceived societal expectations. The complete questionnaire, which appears as Appendix D consisted of a cover page, a demographic questionnaire, a questionnaire on job features, a questionnaire on job satisfaction, a questionnaire on well-being, and a questionnaire on affective dispositions.

The researcher first requested permission from the head of the human resources department at the participating organisation to conduct research in the organisation. The letter that was sent to the organisation requesting permission to conduct research there and the consent letter that was signed by a representative at the organization appear as Appendix E and F respectively. Once access had been granted, the researcher supplied the human resources department at the organisation with 600 copies of the questionnaire. A participant information sheet outlining the research and explaining its purpose was attached to each questionnaire. Employees willing to participate in the research were asked to leave their completed questionnaires in a sealed box.

This box was collected by the researcher on a date agreed upon by the researcher and the organisation.

Due to an insufficient sample size, a further 250 questionnaires were supplied to the human resources department. These questionnaires were distributed by the human resources department to a further 250 employees. The procedures used for the distribution and collection of these questionnaires were the same as those described above.

Sample

A large outsourced call centre in Johannesburg employing in excess of 1000 people was selected for this research. Of the total 850 questionnaires that were distributed, 140 were returned, of which 5 had to be discarded as they were incomplete. This represents a relatively low return rate of 16%. As may be seen in table 1 on pages 45 and table 2 on page 48, of the remaining 135 questionnaires, 53 (40%) were completed by men and 79 (60%) by women. When asked about their marital status, 101 (76%) of respondents reported being single, 13 (10%) were married, 13 (10%) were living with a partner and 6 (4%) were divorced. The age of respondents ranged from 18 to 41 years, with an average age of 23 years. The standard deviation for age was 4.65, indicating that the majority of participants were between 23 and 36 years old. In terms of race, 47 (36%) of the respondents were Indian, 40 (30%) were Black, 29 (22%) were Coloured, 7 (5%) were White, and 9 (7%) did not fall into any of these categories.

Of the respondents, 88 (67%) reported English as being their primary language, 16 (12%) reported Afrikaans as their primary language, 10 (8%) were Zulu speaking, and 17 (13%) speak other languages most frequently. In terms of education, 106 (80%) of the participants have completed their Matric certificate, 19 (14%) have a diploma, 5 (4%) have completed an undergraduate degree, and 3 (2%) have completed schooling up to standard 8 or 9 level. Of the respondents, 90 (67%) reported having no children, 28 (21%) have one child, 13 (9%) have two children, 3 (2%) have three children, and 1 (1%) has four children. In terms of tenure, 79 (60%) of the respondents have been working for the organization for less than six months, 26 (20%) have been there between six months and 1 year, 16 (12%) have been there for up to 2 years, 7 (5%) have been there for up to 3 years, and 4 (3%) have been there for more than three years.

Table 1: Age of the Sample

Variable	N	Mean	SD	Minimum	Maximum
Age	133	23	4.65	18	41

Measuring Instruments

Well-being: The three axes of well-being were measured using two scales. Axis 1 of well-being (job satisfaction) was measured using Warr, Cook, and Wall's (1979) measure of Global Job Satisfaction, which consists of 15 items on a Likert-type scale. The alpha coefficient for this scale in the current study is .91. Well-being axis 2 (anxiety-comfort) and axis 3 (depression-enthusiasm) were both measured using Van Katwyk, Fox, Spector, and Kelloway's (2000) Job-Related Affective Well-Being Scale (JAWS). JAWS consists of 30 items which are rated on a Likert-type scale. It includes four subscales, one for each of the four quadrants in Warr's (1987) 2-dimensional model of well-being. The four subscales are: High Pleasure-High Arousal (HPHA), High Pleasure-Low Arousal (HPLA), Low Pleasure-High Arousal (LPHA), and Low Pleasure-Low Arousal (LPLA), each of which consists of five items. The alpha coefficient for the full scale in the current study is .93.

For the purposes of the current study, the 30 items of JAWS were divided to form two subscales, one for axis 2 of well-being and one for axis 3 of well-being. This was so that each of the axes of well-being could be used more easily in statistical analyses. The subscale for axis 2 of well-being includes the items for the LPHA subscale and the HPLA subscale. The subscale for axis 3 of well-being includes the items for the LPLA subscale and the HPHA subscale. The reason for these subscales to be combined in this way is that axis 2 of well-being lies in the LPHA and HPLA quadrants of Warr's (1987) 2-dimensional model, and axis 3 of well-being lies in the LPLA and HPHA quadrants of Warr's (1987) 2-dimensional model.

Job features: the 12 job features described in part 1 of this report were measured using Warr's (1999) 26 Features of a Good or Bad Job, which includes questions to account for each of the 12 features in his Vitamin model. None of the items are reverse-scored. Warr (1999) does not note the alpha coefficient for this scale, however the alpha coefficient for the full scale in the current study is .88. A high score on the overall job features scale would indicate an enjoyable job. This

scale is divided into 12 subscales, one for each of the 12 job features in Warr's (2007) Vitamin model. Unfortunately, it was not possible to determine the reliability of all the subscales due to the low number of items in each subscale. Reliabilities were calculated for the subscales which included three or more items. The subscales for which reliabilities could be determined are job demands (r = .45), feedback (r = .66) and safety (r = .83).

Affective disposition: Affective disposition was measured using Watson, Clark and Tellegen's (1988) Positive and Negative Affect Schedule (PANAS). The PANAS consists of 20 items in two subscales, namely positive affect and negative affect. Ten items are included in each subscale. The alpha coefficient for the total scale is .84 in the current study.

These scales have been found to be valid and reliable in numerous studies, both internationally and in South Africa. However, the reliability of the scales was assessed in the current study to ensure they are usable in this context.

Ethical Considerations

Prior to conducting this research, permission was obtained from the relevant authorities in the participating call centre. Once this permission had been granted, questionnaires were distributed to the call centre employees. A participant information sheet outlining the research was attached to each questionnaire. The participant information sheet explained that participation in the study was voluntary and employees would not be advantaged or disadvantaged in any way for choosing to complete or not complete the questionnaire. It also stated that return of the completed questionnaire was regarded as consent to participate in the study. Anonymity of all participants was guaranteed, as no identifying information was requested.

Participants placed their completed questionnaires in a sealed box which was be placed in an area that is easily accessible to the employees. The box was collected by the researcher on a specified date. The answers to all questions were treated as confidential, and as such, only the researcher had access to the completed questionnaires. The grouped data is being kept in an electronic file which is password protected. The confidentiality of participants has also been assured through reporting only grouped data. Risks to participants of this research are not overtly

evident, however the researcher's contact details were provided on the participant information sheet, and participants were invited to contact the researcher if they had any questions or concerns about the research study.

Table 2: Biographical Details of the Sample

Variable		N	%
Gender	Male	53	40
	Female	79	60
	Total	132	100
Marital Status	Single	101	76
	Married	13	10
	Divorced	13	10
	Living with a Partner	6	4
	Total	133	100
Race	Indian	47	36
	Black	40	30
	Coloured	29	22
	White	7	5
	Other	9	7
	Total	132	100
Language	English	88	67
	Afrikaans	16	12
	Zulu	10	8
	Other	17	13
	Total	131	100
Highest Level of Education	Standard 8	3	2
	Matric	106	80
	Diploma	19	14
	Undergraduate Degree	5	4
	Total	133	100
Number of Children	None	90	67
	One	28	21
	Two	13	9
	Three	3	2
	Four	1	1
	Total	135	100
Tenure	Less than 6 months	79	60
	6 - 12 months	26	20
	13 - 24 months	16	12
	25 - 36 months	7	5
	More than 36 months	4	3
	Total	132	100

Chapter 8: Results

The research procedure that was described above yielded a data set that consists of the following variables: job features (as scored on Warr's (1999) scale to measure 26 Features of a Good or Bad Job), well-being (as scored on Van Katwyk et al.'s (2000) 30-item Job-Related Affective Well-being scale and Warr at al.'s (1979) 15-item measure of Global Job Satisfaction), affective dispositions (as scored on Watson et al.'s (1988) 20-item Positive and Negative Affect Schedule), and demographic variables (including gender, age, race, highest level of education, organizational tenure, and marital status). These measures will be used in this chapter to address the research questions set out in the previous chapter.

The raw data collected from participants was computed and then inputted into the SAS software, and descriptive statistics and frequency statistics were generated to determine the nature of the sample. In this chapter, the results of these analyses will be described. First, the reliabilities of the instruments used in this study will be presented. Following this, the results pertinent to the first research question will be presented. Finally, the results of the analyses that were conducted in order to answer the second research question will be presented.

Descriptive Statistics and Reliabilities

In order to understand the data that has been collected and to ensure that this data was reliable, Cronbach Alphas were calculated for each of the scales used, as well as for all of the subscales of these instruments. The results of these correlations appear in table 3 on page 50. As may be seen in the table, all of the alpha coefficients for the overall scales are above .7, indicating acceptable reliability. For the three subscales for which alpha coefficients could be generated, the Cronbach's alphas were also above .7, with the exception of the job demands subscale of the job features scale (r = .45) and the feedback subscale of the job features scale (r = .66). Due to its relatively low reliability, the job demands subscale of the job features scale will not be used in the current study, however the reliability of the feedback subscale of the job features scale has a relatively acceptable reliability to justify its inclusion.

Table 3: Reliabilities

Measuring Instrument	Subscale	Number of Items	M	SD	α
Job Satisfaction		15	57.68	16.28	0.91
Well-Being		30	86.81	15.26	0.93
	HPHA	5	17.54	6.55	0.74
	HPLA	5	14.74	4.27	0.83
	LPHA	5	13.21	4.01	0.77
	LPLA	5	13.42	4.38	0.76
Job Features		26	117.41	21.02	0.88
	Job Demands	5	16.54	4.19	0.45
	Feedback	3	14.2	3.37	0.66
	Safety	3	13.85	3.84	0.83
Affective Disposition		20	59.86	7.67	0.84
	Positive	10	38.21	6.78	0.86
	Negative	10	21.98	6.33	0.77

Research Question 1: How do job design variables, affective variables and demographic variables combine to influence wellbeing?

In order to answer this question, a LISREL model would have been ideal. However, it was not possible to conduct such an analysis due to an insufficient sample size. Thus, in answering this question, a number of analyses needed to be undertaken. First, affective dispositions and job features were correlated with the three dimensions of well-being. Following this, the effects of the demographic variables on affective dispositions and job features were investigated. Finally, stepwise regressions were conducted on the three dimensions of well-being in order to assess the combined effects of all of the variables in the model. The results of these analyses are presented below.

As was mentioned above, correlations were first conducted between the three dimensions of well-being and job features and affective dispositions. The results of these correlations appear in table 4 on page 52. In terms of job features, a significant correlation was found between opportunity for personal control and job satisfaction. Opportunity for skill use was found to be significantly correlated with all three axes of well-being. No significant correlations were found between externally generated goals and the three dimensions of well-being. A significant correlation was found between task variety and job satisfaction; however the correlations between task variety and the second and third axes of well-being were not significant.

Environmental clarity was found to be significantly correlated with job satisfaction and the second axis of well-being. Significant correlations were also found for contact with others and axes 1 and 2 of well-being. Significant correlations were found with all three dimensions of well-being for availability of money, physical security, valued social position, supportive supervision, career outlook and equity. In terms of affective dispositions, all but the correlation between negative dispositions and job satisfaction were significant. Now that these correlations have been discussed, the results of the analyses pertaining to the effects of the demographic variables on affective dispositions and job features will be provided.

Table 4: Correlations for Well-being

	Axis 1 Job Satisfaction	Axis 2 (anxiety-comfort)	Axis 3 (depression-enthusiasm)
Opportunity for Personal Control	0.39* 133	0.14 125	0.15 119
Opportunity for Skill Use	0.33* 134	0.18* 126	0.25* 120
Externally Generated Goals	-0.03 128	-0.07 122	-0.17 115
Task Variety	0.17* 134	0.02 124	-0.01 118
Environmental Clarity	0.30* 132	0.21* 124	0.13 118
Contact with Others	0.21* 134	0.18* 126	0.16 120
Availability of Money	0.54* 134	0.46* 126	0.44* 121
Physical Security	0.58* 133	0.39* 126	0.40* 120
Valued Social Position	0.38* 134	0.29* 126	0.29* 120
Supportive Supervision	0.46* 135	0.49* 127	0.46* 121
Career Outlook	0.64* 134	0.58* 126	0.52* 120
Equity	0.73* 131	0.62* 123	0.49* 117
PANAS Positive	0.44* 130	0.40* 124	0.41* 118
PANAS Negative	-0.16 126	-0.31* 120	-0.33 113

Note: * indicates significance at 0.05

In answering the first part of this research question it is useful to look at each of the 12 job features individually. In answering the second part of this research question, however, it is more sensible to look at the job features overall as one single variable. One of the reasons for this is that, due to the small number of items on the questionnaire for each of the 12 job features subscales, the reliabilities of each of the subscales could not be calculated; The reliability for the job features scale overall, however, was high. Another reason for using the job features scale overall, rather than the 12 subscales individually, is to reduce the large number of variables in this part of the study. For these reasons, it is sensible to use job features as one variable in answering this part of the research question. The results of these analyses appear in tables 5, 6, 7 and 8 on page 54.

The results of the t-tests indicated no significant effects of gender on the scores of job features or affective disposition. Correlations were conducted to determine the effects of age, education, and tenure on the scores of job features and affective disposition. No significant effects were found for any of these variables. In addition, one-way analysis of variance tests were conducted to determine the effects of race and marital status on the scores of job features and affective disposition. The results of these analyses indicate no significant relationships for race, however there is a significant relationship between marital status and affective disposition ($f = 4.34$; $p = 0.006$).

Following these results for the effects of demographic features on job features and affective dispositions, the results of the stepwise regressions for the three dimensions of well-being will now be presented. First the regression analysis for job satisfaction will be presented, followed by the regression analysis for the second dimension of wellbeing (anxiety-comfort), and finally the regression analysis for the third dimension of well-being (depression-enthusiasm).

Table 5: T-tests for gender

Variable	N	T	P
Job Features	132	0.08	0.9398
Affective Disposition	132	0.65	0.5141

Table 6: Correlations for Demographics

		Job Features	Affective Disposition
Age	r	0.07	0.12
	N	133	133
Education	r	-0.11	-0.07
	N	133	133
Tenure	r	0.04	0.02
	N	132	132

Note: * indicates significance at 0.05

Table 7: ANOVAs for Job Features

	DF	SS	MS	F	P
Race	4	1756.57	439.14	10.4	0.39
Marital Status	3	2129.93	709.98	1.62	0.19

Table 8: ANOVAs for Affective Disposition

	DF	SS	MS	F	P
Race	4	164.54	41.14	0.68	0.6
Marital Status	3	711.48	237.16	4.34	0.01

For job satisfaction, the results of the forward stepwise regression that was conducted appear in table 9 on page 57. These results indicate that equity, when included in the model, provides the most significant contribution to job satisfaction. The R-square value obtained for this variable implies that the inclusion of equity in this model explains 56.2% of the variance in job satisfaction scores. The forward stepwise procedure further indicates that opportunity for personal control (*R-square* = 3.7%), physical security (*R-square* = 2.2%) and career outlook (*R-square* = 1.7%) also make a significant contribution to the explanatory model. These four factors explain a total of 63.8% of the variance in job satisfaction. One should however be aware that equity is a broad term, and its scope for interpretation may result in some multicollinearity in the model. This will be discussed in greater detail in the discussion section.

For the second axis of well-being (anxiety-comfort), the results of the forward stepwise regression that was conducted appear in table 10 on page 57. These results also indicate that equity, when included in the model, provides the most significant contribution to well-being axis 2 (anxiety-comfort). The R-square value obtained for this variable implies that the inclusion of equity in this model explains 41.7% of the variance in scores on the second axis of well-being. The forward stepwise procedure further indicates that career outlook (*R-square* = 4.8%), race (*R-square* = 3.9%) and task variety (*R-square* = 2.5%) also make a significant contribution to the explanatory model. These four factors explain a total of 52.9% of the variance in scores for axis 2 of well-being.

For the third axis of well-being (depression-enthusiasm), the results of the forward stepwise regression that was conducted appear in table 11 on page 57. These results indicate that career outlook, when included in the model, provides the most significant contribution to axis 3 of well-being (depression-enthusiasm). The R-square value obtained for this variable implies that the inclusion of career outlook in this model explains 30.3% of the variance in scores on the second axis of well-being. The forward stepwise procedure further indicates that tenure (*R-square* = 6.0%), negative affectivity (*R-square* = 6.3%), equity (*R-square* = 3.5%) and environmental clarity (*R-square* = 3.7%) also make a significant contribution to the explanatory model. These five factors explain a total of 49.7% of the variance in scores on axis 3 of well-being.

A higher overall R-square was achieved in the regression for job satisfaction than in the regressions for either the second or the third dimensions of well-being. Thus it appears that the proposed model investigated in this study is better equipped to deal with job satisfaction than it is to deal with the other dimensions of well-being.

Table 9: Stepwise Regression for Axis 1 of Well-Being

Step	Variable Entered	Partial R-Square	Model R-Square	C(p)	F Value	Pr > F
1	Equity	0.562	0.562	22.755	115.62	<.0001
2	Opportunity for Personal Control	0.037	0.600	15.246	8.36	0.0048
3	Physical Security	0.022	0.622	11.764	5.04	0.0273
4	Career Outlook	0.017	0.638	9.576	3.98	0.0492

Table 10: Stepwise Regression for Axis 2 of Well-Being

Step	Variable Entered	Partial R-Square	Model R-Square	C(p)	F Value	Pr > F
1	Equity	0.417	0.417	12.305	62.29	<.0001
2	Career Outlook	0.048	0.465	6.379	7.63	0.007
3	Race	0.039	0.504	1.800	6.75	0.011
4	Task Variety	0.025	0.529	-0.346	4.43	0.0383

Table 11: Stepwise Regression for Axis 3 of Well-Being

Step	Variable Entered	Partial R-Square	Model R-Square	C(p)	F Value	Pr > F
1	Career Outlook	0.303	0.303	27.156	35.57	<.0001
2	Tenure	0.060	0.363	19.948	7.61	0.0072
3	Negative Affectivity	0.063	0.425	12.276	8.77	0.004
4	Equity	0.035	0.460	8.963	5.06	0.0273
5	Environmental Clarity	0.037	0.497	5.275	5.74	0.019

Research question 2: To what extent are the relationships between job features and well-being linear?

In order to answer this question, scatter plots of the relationships between each of the job features and well-being were generated and analyzed. The scatter plots were non-uniform in their appearance, and none of the plots for the 'AD' job features indicated curvilinear relationships with well-being. However, a few of the scatter plots suggested that non-linearity may have been observed if the metrics used were more detailed and could indicate a greater range of results, or if the sample had been larger. This will be discussed in greater detail in the limitations section. These findings were supported by the lack of significance of the quadratic term in a series of linear regressions with each regression having one of the dependent variables and one of the independent variables both as a linear term and as a quadratic term. These linear regressions yielded a large amount of data, which is not presented in this report as the results were not significant; however this data is available on request. The implications of the findings for this research question are indicated in the discussion chapter of this report.

In this chapter, the results of the statistical analyses that were undertaken to determine the reliability of the measuring instruments and to answer the research questions were presented. First, the scales and subscales used for the measurement of the variables in this research were found to be reliable. Following this, the statistical analyses pertaining to each of the research questions were presented. In answering the first research question, a number of analyses were conducted. Many of the correlations between job features and the three dimensions of well-being were found to be significant. In considering the effects of demographic features, only the relationship between marital status and affective well-being was found to be significant. Finally, stepwise regressions were conducted for each of the three dimensions of well-being. Equity, opportunity for personal control, physical security and career outlook were found to explain the majority of the variance on axis 1 of well-being. For axis 2 of well-being, equity, career outlook, race, and task variety explained the most variance, and for axis 3 of well-being, career outlook, tenure, negative affectivity, equity and environmental clarity explained most of the variance.

In terms of the second question, none of the proposed non-linear patterns were found, although this may have been due to the relatively small sample size or the nature of the measuring

instrument. This will be discussed in greater detail in the limitations section. In the following chapter, the results presented here will be discussed in greater detail. They will be compared to the results found in previous studies and the theoretical and practical implications of these results will be noted. In addition, the limitations of the study will be considered, and recommendations will be made for future research.

Chapter 9: Discussion of Results

In chapter 7, the framework that was tested in this research was laid out and the two main research questions were outlined. The results of the statistical analyses that were undertaken to answer these questions were presented in chapter 8. In this chapter, these results are discussed in relation to the literature that was presented on well-being, affective dispositions, job features and demographic features in the first part of this report.

To begin with, the implications of the correlations and regressions that were conducted to answer the first research question, which concerns the framework proposed in chapter 7, are explored. Next, the implications of the results relating to the second research question, namely the linearity of the relationships between job features and well-being, are discussed. Finally, the limitations of this study are considered, and recommendations are made for future research. First, however, an overview of the job features described by the sample will be presented, as this will enable the reader to better understand the environment in which the participants in this study work.

Overall, the sample appears to be relatively satisfied with their jobs. In terms of opportunity for personal control, the participants in this study said they had high level of intrinsic control over their jobs (M = 5.37, SD = 1.33), but a lower level of extrinsic control (M = 3.35, SD = 1.62). They also had fairly high opportunity for skill use (M = 5.0, SD = 1.46), and ample opportunities to develop new skills (M = 5.10, SD = 1.55). The participants felt that they had a high number of job demands (M = 4.64, SD = 1.58); however the tasks were not difficult (M = 4.04, SD = 1.57). They said that the task variety in their jobs was average (M = 4.25, SD = 1.59), but environmental clarity was reasonably high (M = 4.48, SD = 1.70), as their role requirements were clear (M = 4.95, SD = 1.32) and feedback on their performance was available (M = 4.74, SD = 1.33). The participants rated their contact with others to be high, both in terms of quantity (M = 5.20, SD = 1.57) and quality (M = 4.99, SD = 1.61); however they rated their salaries as being low (M = 3.15, SD = 1.43).

In terms of physical security, participants felt that their work environment was pleasant (M = 4.55, SD = 1.46), work practices were safe (M = 4.59, SD = 1.51), and they had adequate

equipment to use (*M* = 4.70, *SD* = 1.46). Task significance was rated as high by the participants, who felt that their job held high value in society (*M* = 5.01, *SD* = 1.35) and high significance to themselves (*M* = 5.14, *SD* = 1.46), and they felt that the supervision they received was mostly supportive (*M* = 4.72, *SD* = 1.74). The career outlook of the sample was average; participants felt that they had reasonably good job security (*M* = 4.05, *SD* = 1.91) and future prospects (*M* = 4.47, *SD* = 1.80). In terms of equity, the participants felt that employees could be treated more fairly (*M* = 40.6, *SD* = 1.84); however they rated the organization's morality in society as being quite high (*M* = 4.60, *SD* = 1.66).

The majority of research into the design of work in call centres indicates that call centre jobs are characterised by a relatively poor design. It has been found that many jobs in call centres are comprised of low task control, skill use and task variety, with an excessively high level of performance monitoring and feedback, which overall results in a less desirable job (Holman, 2005). The responses of the participants in this research indicate that the design of jobs in call centres may not be as bad as earlier call centre research suggests. These responses may, however, be the result of a biased sample; the respondents in this research were very young and very inexperienced, and may thus have a relatively limited knowledge of the scope of their jobs. This will be discussed in more detail in the limitations section of this report. Having described the participants' jobs overall, the results pertaining to the first research question will now be discussed.

<u>Research Question 1: How do job design variables, affective variables and demographic variables combine to influence wellbeing?</u>

This research question concerns the framework which was proposed in chapter 7. This framework is based on the job-specific component of Warr's (1999) model of well-being. As was explained previously, the model proposes that demographic features influence affective dispositions and job features, which in turn have an effect of the three axes of well-being, which are (1) displeasure-pleasure, (2) anxiety-comfort, and (3) depression-enthusiasm. In answering this question, therefore, a number of statistical analyses had to be conducted. First, affective dispositions and job features were correlated with the three dimensions of well-being. Following this, the effects of the demographic variables on affective dispositions and job features were

investigated, and finally, stepwise regressions were conducted on the three dimensions of well-being in order to assess the combined effects of all of the variables in the model. The results of all these analyses are discussed in greater detail in this section. First, the results of the correlations of affective disposition and job features with the three dimensions of well-being will be discussed.

As expected, many of the correlations between job features and well-being were found to be significant. Opportunity for personal control was found to be significantly positively correlated with axis 1 of well-being, indicating that people with high opportunity for personal control are likely to have high job satisfaction. This is in line with the findings of Jackson (1983) and Spector et al. (2000); however the findings of this study contradict the work of Bond and Bunce (2003), who found no significant relationship between opportunity for personal control and job satisfaction in a call centre environment. Warr (2007) proposed that opportunity for personal control would be most strongly correlated with axis 1 of well-being, followed by axes 3 and then axis 2. This was found in the current study, however the correlations with axes 2 and 3 of well-being were non-significant, which is in contrast to previous research. This discrepancy may be attributed to the nature of the sample used in this study, which was relatively small and homogeneous, and may not have allowed for sufficient variance in the scores to result in significant results for axis 2 and axis 3 on this dimension.

Opportunity for skill use was found to be significantly positively correlated with all three axes of well-being, however these correlations were not very strong. Positive correlations have been found in studies conducted in the United States (Wilson et al., 2004) and the United Kingdom (Patterson et al., 2004), and this convergence indicates the generalisability of the findings of these studies into the South African context. However, the correlations found in these studies were higher than the correlations found in the current study. This may be due to the particular context in which this research was conducted; employees in call centres would be expected to have lower opportunity for skill use than employees in other industries. For example, Rose and Wright (2005) note that the majority of call centre work is low-skilled. The strongest correlation for opportunity for skill use in this study was with axis 1, followed by axis 3 and then axis 2. This indicates that people with high opportunity for skill use are more likely to display high job

satisfaction, comfort rather than anxiety, and enthusiasm rather than depression. This finding is supported by previous research (e.g. Caplan et al., 1975; as cited in Warr, 2007, and Warr, 2007).

Task variety was found to be significantly positively correlated with job satisfaction (r = .17), indicating that employees with higher task variety were more satisfied with their jobs than employees with lower task variety. This correlation is relatively weak, possibly as a result of the nature of the sample used in this study. As the participants in this study were all performing the same job, it is inevitable that little variance should exist in their perceptions of their task variety. This weak correlation is in line with the findings of previous research: Melamed et al. (1995) found correlations between task variety and job satisfaction of .26 for men and .38 for women, and Podsakoff et al. (1996) found an average correlation of only .22 across a number of studies in their meta-analytical review. The correlations between task variety and the second and third axes of well-being were not significant.

Environmental clarity was found to be significantly positively correlated with axis 1 and axis 2 of well-being, however the correlation with axis 3 of well-being was not significant. These results indicate that more environmental clarity is likely to be associated with higher job satisfaction and more enthusiasm for one's job. The correlation with job satisfaction was stronger than the correlation with axis 2 of well-being in this study. This is in line with the findings of Spector et al. (2000) and Caplan et al. (1975; as cited in Warr, 2007). Furthermore, the correlation found by Caplan et al. (1975; as cited in Warr, 2007) for environmental clarity and job satisfaction (r = .39) is very similar to the correlation found in this study (r = .40). In addition, the findings in the current study converge with the results of the study conducted by Landeweerd and Boumans (1994), who found a high correlation between environmental clarity and job satisfaction.

For contact with others, significant correlations were found with axes 1 and 2 of well-being, however, these correlations were not very strong. This indicates that more social interaction at work may to be associated with higher job satisfaction and lower anxiety. The finding that contact with others is significantly positively correlated with job satisfaction is in accordance with the work of Oldham and Brass (1979) and Podsakoff et al. (1996) who also found positive

correlations with job satisfaction. As in this study, Totterdell et al. (2006) found a weak correlation between emotional support and job-related anxiety (axis 2 of well-being).

Strong positive correlations were found between availability of money and all three axes of well-being in the current study; however the strongest correlation was found with job satisfaction, followed by axis 2 of well-being and then axis 3. This is consistent with the findings of Sloane and Williams (2000), whose research was conducted with a British sample. In part 1 of this paper, research studies were presented which indicate that the association between income level and well-being is likely to be stronger at lower income levels. This was shown for axis 1 of well-being (in research by Kornhauser (1965) and Simoens et al. (2002) and for axes 2 and 3 of well-being (Kornhauser, 1965). Whilst no data was collected regarding the salaries of participants in the current research, one may deduce that whilst call centre operators are not extremely low earners, they are unlikely to be earning in the upper income bracket. In this context, it makes sense that availability of money should be a significant contributor to well-being in the current study.

Physical security was found to be significantly correlated with all three axes of well-being in the current study. These correlations were positive and very strong, indicating that high physical security is very likely to be associated with high job satisfaction, and low anxiety and depression. This is consistent with the findings of Wilson et al. (2004), who found a strong correlation between physical security and job satisfaction (axis 1 of well-being), and Demerouti et al. (2001), who found a strong correlation between physical security and job-related emotional exhaustion (axis 2 of well-being).

It is interesting to note that, whilst strong correlations have been found between physical security and well-being in other contexts, the correlation found in the current study is particularly high. This may be due to the specific context in which this study was conducted; The South African environment at the time of this study is characterized by high crime rates, which are likely to make people feel insecure. People working in this environment are likely to place a higher value on physical security than would people working in areas characterised by lower security risk.

In chapter 3, research by Hughes (1951; as cited in Warr, 2007) was cited, which illustrated that people generally tend to view their own job as having high significance in society. As would be expected, respondents in the current study reported having high task significance, both in terms of their jobs' value in society, and its significance to themselves. Relatively strong positive correlations were found between valued social position and all three axes of well-being in the current study. This indicates that working in a role which is perceived to be of greater value in society is likely to be associated with higher levels of job-related well-being on all three dimensions. These strong correlations are in line with the findings of Bradburn (1969; as cited in Warr, 2007), who found that people whose jobs were classified as more prestigious had higher well-being.

As expected, significant correlations were found between supportive supervision and all three axes of well-being in the current study. These correlations were strong and positive for all three dimensions of well-being, which indicates that employees who have a supportive supervisor are likely to display higher job satisfaction, and lower job-related anxiety and depression. These findings are consistent with those of Judge et al. (2004) who found a strong positive correlation between supportive supervision and job satisfaction, and Seltzer and Numeroff (1988) who found a strong correlation between low supportive supervision and job-related emotional exhaustion (axis 2 of well-being).

Career outlook was found to be very strongly positively correlated with all three axes of well-being in the current study. This is in accordance with Warr's (2007) note that, as a result of changing labour markets, career outlook has become a very important aspect of job design. However, the participants in this study reported only average levels of career outlook. As in this study, Clark (1996) found a significant relationship between job satisfaction and career outlook. However, the findings in this study oppose those of Näswall et al. (2005) who found only a small correlation between job insecurity (one component of career outlook) and job dissatisfaction. This indicates that, whilst high levels of career outlook are strongly associated with high levels of job satisfaction, the opposite may not be true.

Very strong significant correlations were also found for equity and all three dimensions of well-being. These correlations were positive, indicating that having employees who perceive their relationship with the company at which they work to be fair, and their company's relationships with society to be fair, are likely to display higher job satisfaction and lower job-related anxiety and depression. This finding is in line with those of Colquitt et al. (2001) who found strong positive correlations with job satisfaction, and with Taris et al. (2003), who found a significant negative correlation with job-related emotional exhaustion (axis 2 of well-being).

Having discussed the correlations between job features and well-being, this paper will now turn to a discussion of the correlations that were found between affective dispositions and the three axes of well-being. As may be seen in table 4 on page 52, all but the correlation between negative dispositions and job satisfaction were significant.

In terms of positive disposition, a strong positive correlation was found with job satisfaction, indicating that people with a positive disposition are likely to be more inclined towards higher job satisfaction. This is consistent with the findings of Staw et al. (1986) and Cropanzano et al. (1993), who found positive affectivity to be a strong indicator of job satisfaction. The correlations between positive affectivity and both axis 2 and axis 3 of well-being were strong and positive as well, indicating that people with a positive disposition are less likely to display high job-related anxiety or depression.

In terms of negative disposition, relatively strong negative correlations were found between negative disposition and axes 2 and 3 of well-being, indicating that people who have a negative disposition are more likely to display higher job-related anxiety and depression. This is in line with the findings of Brief et al. (1988), who found that negative affectivity is correlated with the second axis of well-being, and Heinisch and Jex (1997) who found a strong correlation between negative affectivity and axis 3 of well-being. In this study, the correlation for axis 3 was marginally higher than the correlation for axis 2. Conversely, these findings contradict the work of George (1989) in which a stronger correlation was found for axis 2 than for axis 3. However, the difference between the two correlations is very slight in the current study, and may be attributed to the relatively small sample size, and the homogeneity of the sample, which indicates

that certain groups of employees elected not to participate in this research, thus allowing for very little variance in scores.

In summation, the strongest correlations with the three dimensions of well-being were found for career outlook and equity. The correlations between the first axis of well-being and both availability of money and physical security were also particularly high. The correlations between contact with others and the first and second axes of well-being were particularly low, as were the correlations between task variety and the first axis of well-being, and opportunity for skill use and the second axis of well-being.

Overall, the results of these correlations provide support for this part of Warr's (1999) model of well-being, indicating that job features are associated with well-being. The results that have been discussed this far have concerned the first part of the model, which focuses on the effects of job features and affective dispositions on well-being. The results pertaining to the effects of demographic variables on affective disposition and job features will now be discussed. As may be seen in table 8 on page 54, the only significant result that was found for demographic variables was the relationship between marital status and affective disposition. It was noted in part 1 of this report that insufficient research has been conducted to investigate the relationship between affective disposition and marital status. Thus the component of Warr's (1999) model which illustrates that demographic features influence affective disposition and job features was not supported. The finding of this study emphasizes the need for more research to be conducted in this area.

Having discussed the effects of demographic features on job features and affective disposition, as well as the effects of affective dispositions and job features on the three dimensions of well-being, it remains to talk about the model as a whole. Stepwise regression was conducted to determine which factors in the model were most influential. The results of these analyses are discussed below.

As may be seen in table 9 on page 57, equity, when included in the model, makes the greatest contribution to the first dimension of well-being, explaining 56.2% of the variance in job

satisfaction. Other factors that contribute substantially to the model include opportunity for personal control, physical security, and career outlook. Together, these four factors explain 63.8% of the variance in job satisfaction scores. For the second dimension of well-being (anxiety-comfort), it may be seen in table 10 on page 57 that equity was again an important predictor, explaining 41.7% of the variance in scores on the second axis of well-being. Other important characteristics include career outlook, race, and task variety. These four characteristics explain a total of 52.9% of the variance in scores on axis 2 of well-being. Table 11 on page 57 shows that career outlook contributes substantially to the model, explaining 30.3% of the variance in scores on axis 3 of well-being. The other important contributing factors for this dimension of well-being include tenure, negative affectivity, equity and environmental clarity.

In part one of this paper, it was noted that some of the job features exert an indirect influence on well-being through their association with other job features. This is the case for equity, the variable which explains the most variance in both axis 1(job satisfaction) and axis 2 (anxiety-comfort) of wellbeing; this variable has some direct influence on axes 1 and 2 of well-being, however some of the influence it exerts is indirect, through other variables which are theoretically associated with it. It makes sense, then, that equity should explain such a large portion of the variance in both job satisfaction and axis 2 of well-being (anxiety-comfort), since it is associated with many other variables, and exerts an indirect influence through them.

As was explained in part 1 of this paper, these variables include opportunity for personal control (job feature 1), opportunity for skill use (job feature 2), externally generated goals (job feature 3), environmental clarity (job feature 5), availability of money (job feature 7), supportive supervision (job feature 10) and career outlook (job feature 11). The implication of this is that all of these variables may be working together to explain 63.8% of the variance in job satisfaction and 41.7% of the variance in scores on axis 2 of well-being. This job feature also contributes to axis 3 of well-being, however it is only the fourth most important variable for this dimension of well-being, despite its correlations with many other job features. In this study, equity has emerged as an extremely important aspect of job design; it appears that one of the greatest desires of employees is that they are treated fairly by their employer, and that the organisation in which they work does not negatively impact on society.

Career outlook is another feature that contributes significantly to all three dimensions of well-being. It explains the greatest amount of variance in scores on axis 3 of well-being (depression-enthusiasm), is the second most important contributor to axis 2 of well-being, and explains a large enough portion of the variance in axis 1 of well-being (job satisfaction) for it to be included in the regression model. As was the case for equity, the vast influence exerted by this variable may be due to its associations with other job features; it was explained in part 1 of this paper that career outlook is associated with the opportunity for skill use (job feature 2), externally generated goals (job feature 3), task variety (job feature 4) and environmental clarity (job feature 5), and exerts an indirect influence on well-being through them. It was noted in part 1 that career outlook is becoming increasingly more important in the lives of employees. The high unemployment rates that currently exist in South Africa mean that job security is even more important for employees in the country at this time. Thus it makes sense that career outlook has been found to exert such a large influence over well-being in the current study.

The two other job features that contribute significantly to axis 1 of well-being (job satisfaction) are opportunity for personal control (job feature 1) and physical security (job feature 8). These job features have been shown to be important contributors to job satisfaction in previous research (for example, Spector et al., 2000; Wilson et al., 2004). Opportunity for personal control is associated with opportunity for skill use (job feature 2), externally generated goals (job feature 3) and task variety (job feature 4), and thus exerts an indirect influence on job satisfaction through these variables as well. Physical security is associated with the opportunity for personal control (job feature 1), environmental clarity (job feature 5) and supportive supervision (job feature 10), and thus exerts an indirect influence on job satisfaction through these variables. It is interesting to note that all four of the most significant contributing variables for job satisfaction are inter-related.

For axis 2 of well-being (anxiety-depression), race was an important contributor to the variance in scores. This is an interesting finding, since race did not exert any influence on affective dispositions or job features, as was proposed in the model. It appears that, contrary to what is proposed by the model, race has a direct effect on well-being, particularly on well-being axis 2.

This was not a hypothesised relationship, therefore it is difficult to explain why this relationship has emerged. Further research in this area may be necessary. For axis 2 of well-being, task variety (job feature 4) also explained a large enough percentage of the variance in well-being to be included in the regression model. This variable is associated with job features 1 and 2 (opportunity for personal control and opportunity for skill use), and may exert an indirect effect on well-being through these variables as well.

Finally, for axis 3 of well-being (depression-enthusiasm), job tenure emerged as the second most significant contributor to the variance in well-being. As with race, this variable was not found to have any significant association with affective disposition or job features. This finding opposes the proposed model, as it indicates that the effect of demographic features may be direct, rather than being an indirect effect as in the model. Negative affectivity also explains a large portion of the variance in scores on axis 3 of well-being. Such a finding seems logical, as it would be expected that people with a negative disposition are more inclined towards low scores on axis 3 of well-being (depression). Similar findings were found in previous research by Heinisch and Jex (1997), who found a strong correlation between negative affectivity and depression. However, as was noted in part 1 of this report, there is a need for more research to be conducted on this relationship.

It should also be noted that, in line with the findings in most previous research studies, job satisfaction emerged as the most significant dimension of well-being in the current study. This is evident in the fact that a higher overall R-square was achieved in the regression model for job satisfaction than in the regression models for either the second or the third dimensions of well-being.

Overall, equity and career outlook emerged as the two job features which contribute the most to well-being, as they contributed to all three dimensions of well-being. The other variables which were found to be important contributors to well-being are opportunity for personal control and physical security for axis 1 of well-being, race and task variety for axis 2 of well-being, and tenure, negative affectivity and environmental clarity for axis 3 of well-being. It is evident that

job features, affective disposition and demographic features influence well-being, however the degree to which these features affect well-being is varied.

Research question 2: To what extent are the relationships between job features and well-being linear?

As was explained in chapter 8, the scatter plots that were used in this research to determine the linearity of the relationships between job features and well-being were non-uniform in appearance, and it was not possible to identify any curvilinear relationships between job features and well-being. Some of the scatter plots suggested that non-linearity may have been observed with a larger and more varied sample, or if the metrics that were used allowed for the measurement of a greater level of variance. However, the findings of this research did not mirror the patterns proposed by Warr (2007). This may be due to the nature of the instrument that was used to measure the 12 job features. As was noted previously, the instrument includes a subscale for each of the 12 job features. However, each subscale only comprises a small number of items, thus this instrument did not allow for the identification of a great amount of variance in the scores. The use of a more sophisticated instrument may have allowed more accurate conclusions to be drawn regarding this question.

Implications of the Study

The aim of this study was to test the model of well-being developed by Warr (1999). The model shows that socio-demographic factors influence both an individual's perception of features of their job environment, and features of the individual's personality. These personality factors and environmental features, in turn, affect the individual's well-being at work. The findings of this study have both theoretical and practical implications. These implications will be discussed in the following paragraphs.

Many studies have been conducted in the area of psychological well-being, however the vast majority of these studies have investigated the implications of relationships between well-being and single variables. This study extended the body of knowledge in the area of psychological well-being by investigating the collective effect of various factors on well-being. In addition, most research into well-being to date has investigated only one dimension of well-being, namely

job satisfaction. This research added to the body of knowledge by investigating the effects of job features and affective disposition on three dimensions of well-being.

Furthermore, most studies in the areas of well-being, job features, and affective disposition have been conducted in first world countries such as America and the United Kingdom. The current study expanded on the findings of these investigations and applied them to the unique context of the South African environment.

Greater knowledge of the effect of specific job features on the well-being of employees may enable managers to adapt the features of the work environment to make them more agreeable, in order to improve employee well-being. Similarly, greater knowledge of the effects of affective disposition on well-being may enable managers to recruit candidates who are more likely to cope in the specific working environment.

It is important to note that these implications must be used cautiously, as there are various limitations to the significance and generalisability of the findings of this study. Whilst the findings of this study may be useful in the context of the specific call centre environment, they may be less applicable to other contexts. The limitations of this study will be discussed in the following paragraphs.

Limitations of the Study

The significance and generalisability of the results of this research are limited by a number of factors. These include issues about the research design of used in this study, the nature of the sample that was acquired, the measuring instruments used in this study, and the statistical analyses that were conducted.

The first limitation of this study is the research design that was selected. Since this study is predominantly correlational in design, no causal conclusions may be drawn from the results. Another factor which resulted in limitations in this study is the nature of the sample that was acquired. There are two limitations that are linked to this factor: the size of the sample and the homogeneity of the sample. Since this research was aimed at testing a relatively large model, a

large number of measures were used in the data collection. In order for the statistical analyses that were conducted to be accurate and reliable, a larger sample size was necessary. In addition, the small response rate in this study may indicate that the sample that was acquired is biased. Furthermore, a larger sample may have resulted in a greater amount of variance in the responses.

Further limitations of this study that are related to the nature of the sample are the low response rate and the homogeneity of the respondents. Analysis of the demographical questionnaire indicated that the majority of the sample were young, single, and had been working in the organization for less than six months. In addition, the low response rate in this research suggests that the sample in this study may not be entirely representative of the population from which it was drawn. The homogeneity of the sample, coupled with the low response rate, indicates that certain groups of employees chose not to participate in this study. It is possible that the older employees, or those with longer job tenure, decided not to participate in this study. Furthermore, these older and more experienced employees may be the individuals who are feeling anxious or depressed at work. These employees may have elected not to participate in the study due to the sensitive nature of the questions pertaining to feelings of anxiety and depression at work.

An additional limitation of this study pertains to the way in which the data was obtained. Participants in the study were asked to complete a paper-and-pencil self-report questionnaire, as this was the most time and cost effective method of acquiring information. Participants were informed that the questionnaires were anonymous in order to reduce the likelihood of participants modifying their answers in accordance with social norms. Nonetheless, some participants may have still had concerns about the anonymity or confidentiality of their responses. Socially desirable responses may also have been reported due to the nature of some of the questions, which asked participants about their experiences of anxiety and depression at work. These are sensitive areas of enquiry as social norms tell people to limit their emotional tenor at work, so most people do not want to admit to experiencing feelings of anxiety or depression at work.

The results that were obtained in this study may be in part due to the fact that the young, new employees who chose to participate in the study have not yet had enough time in the organization

to fully experience the extent to which each of the 12 job features exists in the organization. In addition, they may not have had enough exposure in the work environment to become either depressed or enthused by their work. Furthermore, in answering the second research question, which concerned the linearity of the job features, a more varied sample may have resulted in a greater amount of variance in the responses, enabling the identification of curvilinear relationships.

Another factor that resulted in limitations to the generalisability and significance of the results found in the current study relates to the nature of the measuring instruments used for the collection of data. Of particular importance is the scale that was used to measure the 12 job features used in this study, which was Warr's (1999) 26 Features of a Good or Bad Job. This scale allowed for responses on 12 subscales, one for each of the 12 job features in Warr's (2007) Vitamin Model, however, each subscale only comprises a small number of items. Thus this instrument did not allow for the identification of a great amount of variance in the scores, which made it difficult to identify the patterns in the scatter plots that were generated to answer the first research question in this study. The use of a more sophisticated measuring instrument which allowed for greater variance in responses may have allowed for more accurate conclusions to be drawn in answering the first research question.

A final limitation of this research study concerns the statistical analyses that were conducted. In answering the second research question, a LISREL model would have been most appropriate, as it would have enabled the model to be tested in its entirety. However, it was not plausible to conduct such a sophisticated statistical analysis in this research study due to the relatively small sample that was acquired.

Directions for Future Research

The first research question that was asked in this research study concerned the linearity of the relationships between the 12 job features in Warr's (2007) Vitamin Model and well-being. Unfortunately, as was mentioned in the limitations section above, the nature of the sample and the measuring instruments in the current research study made it difficult to answer this question accurately. There remains, therefore, a need for future research to examine the linearity of the

relationships between job features and well-being in the South African context. Such studies would benefit from using a larger and more varied sample than was used in the current study, and to make use of more intricate metrics which would pick up more of the variance in scores.

There is a need for research studies to be conducted in the future to for the purpose of scale development. There is a need for more intricate instruments to be developed for the measurement of job design. These instruments should include a wider variety of questions on each job feature, so that the reliability of each of the subscales can be tested. More advanced scales for the measurement of job design would make it possible to pick up more variance in scores.

In addition, future studies in this area should include a larger range of organizations, and include people working in a wider range of positions within the organization. This would allow for more variance to be recorded in job design, and therefore would enable more generaliseable conclusions to be drawn regarding the relationship between job design and well-being.

It may also be useful for future research to examine the model proposed by this research, but to make use of more advanced statistical analyses, such as a LISREL model, which would enable the full model to be tested in its entirety. In addition, future research in this direction should utilize a more powerful research design so that causal conclusions may be drawn from them. In addition, this study investigated only a part of the broader model that was proposed by Warr (1999). There is a need for more research to be conducted in this area in the future, looking at the entire model that Warr (1999) proposes, rather than merely examining a component of it.

Chapter 10: Conclusion

In recent years, well-being has emerged as an area of great importance, and previous research studies have indicated that personality factors and the design of jobs are critical factors influencing the well-being of people at work. However there exists in the literature a need for the development and testing of models which consider the combined influence of many features on well-being. This research aimed to fill the gap that exists in the literature by testing a model of employee well-being that was developed by Warr (1999).

For the purposes of this research, the model was operationalised using the 12 features in Warr's (2007) Vitamin Model as environmental features, affective disposition as a personality feature, age, gender, race, education, job tenure and marital status as demographic indicators, and Warr's (1987) 3-dimensional model to investigate well-being. In the first part of this report, each of these variables was discussed in some detail. Definitions were provided for each of the constructs and the theory surrounding these constructs was considered.

Following this, the framework that was investigated in this research was presented, and the two primary questions in this research were put forward. The first question concerned the investigation of Warr's (1999) model overall. The second question pertained to the linear and non-linear patterns proposed by Warr (2007) for the relationships between the 12 features in his Vitamin Model and well-being. In order to answer these questions, data was collected from volunteers by means of anonymous questionnaires. The questionnaires included a demographics page as well as scales for the measurement of well-being axes 1 and 2, job satisfaction, job features and affective dispositions.

Axis 1 of well-being was measured using Warr et al.'s (1979) measure of Global Job Satisfaction, and Van Katwyk et al.'s (2000) Job-Related Affective Well-Being Scale (JAWS) was used to measure axes 2 and 3 of well-being. Job features were measured using Warr's (1999) 26 Features of a Good or Bad Job, and affective disposition was measured using Watson et al.'s (1988) Positive and Negative Affect Schedule (PANAS). The sample for this research included 135 employees of a call-centre in Johannesburg. Details of the sample as well as the

scales and procedures used for the collection of data in this study appear in chapter 7 of this report.

Prior to conducting statistical analyses to answer the research questions, the reliabilities of the instruments used for the collection of data were examined. All of the scales were found to be reliable. In answering the first research question, a LISREL model would have been ideal, however it was not possible to conduct this type of statistical analysis in this study due to an insufficient sample size. Instead, a number of statistical analyses were undertaken. First, affective dispositions and job features were correlated with the three dimensions of well-being. Following this, the effects of the demographic variables on affective dispositions and job features were investigated. Finally, stepwise regressions were conducted on the three dimensions of well-being in order to assess the combined effects of all of the variables in the model.

As was expected, most of the correlations between well-being and both job features and affective disposition were found to be significant. For axis 1 of well-being (job satisfaction), only the correlations with externally generated goals and negative affect were found to be non-significant. For axis 2 of well-being (anxiety-comfort), the non-significant correlations were with opportunity for personal control, externally generated goals, and task variety. For axis 3 of well-being (depression-enthusiasm), fewer of the correlations were found to be significant. For this dimension of well-being, the correlations with opportunity for personal control, externally generated goals, task variety, environmental clarity and contact with others were found to be non-significant, as was the correlation with negative affect. Overall, the only variable which did not appear to be correlated with well-being was externally generated goals. The results of these correlations provided support for the first part of Warr's (1999) model of well-being.

In order to test the second part of Warr's (1999) model of well-being, the effects of demographic variables on job features and affective disposition were investigated using a t-tests for gender, correlations for age, education and tenure, and one-way ANOVAs were conducted for race and marital status. The only significant relationship that was found for demographic features was between marital status and affective disposition. Thus the second part of Warr's (1999) model was not supported by this study.

For the stepwise regression for axis 1 of well-being (job satisfaction), equity was found to be the most significant variable, explaining a large portion of the variance in job satisfaction scores. The other variables which were found to be significant were opportunity for personal control, physical security and career outlook. For the stepwise regression for axis 2 of well-being (anxiety-comfort), Equity was again found to explain most of the variance in scores on axis 2 of well-being. The other influential variables for this dimension of well-being were career outlook, race and task variety. For the stepwise regression for axis 3 of well-being (depression-enthusiasm), Career Outlook was found to be the most influential variable. Other variables that explained a significant portion of the variance in scores on axis 3 of well-being were tenure, negative affectivity, equity and environmental clarity.

It was noted in chapter 9 of this report that some of the influence that these variables exert over well-being may be indirect through associations with other job features. As such, the effects of some other job features on well-being may be indicated in these results. The finding in this research that both race and tenure explained a significant portion of the variance in well-being may indicate that, contrary to what is proposed in Warr's (1999) model, demographic features do not affect well-being indirectly through job features and affective disposition, but rather the effect of demographic features on well-being is direct. In line with the findings of previous research, job satisfaction was found to be the most important dimension of well-being.

In answering the second research question, scatter plots were generated and analyzed. No curvilinear relationships were found, however this was attributed to the nature of the sample and the measuring instruments used, which did not allow for the identification of sufficient variance. It was concluded that more research should be conducted to investigate whether the proposed patterns exist in the relationships between the 12 features of Warr's (2007) Vitamin model and well-being in the South African context.

Overall, this research provided support for the part of Warr's (1999) model which proposes that features of the environment as well as individual factors influence well-being. However, contrary to Warr's (1999) model, demographic features were found to have a direct relationship with

well-being, rather than an indirect relationship through job features and individual factors. Some factors which limit the significance and generalisability of the findings of this study include the nature of the sample, which was small and relatively homogenous, and the nature of the measuring instrument for job features, which did not allow for the identification of enough variance in scores to answer the second research question effectively. Future research should examine the linear and curvilinear relationships between the 12 features of Warr's (2007) Vitamin model and well-being. Another area of interest for future research concerns the examination of Warr's (1999) model in its entirety, rather than looking at one section alone, as was the focus of the current study.

Reference List

Allen, J., & van der Velden, R. (2001). Educational mismatches versus skill mismatches: effects on wages, job satisfaction, and on-the-job search. *Oxford Economic papers, 3,* 434-452.

Bakker, A. B., Demerouti, E., & Euwema, M. C. (2005). Job resources buffer the impact of job demands on burnout. *Journal of Occupational Health Psychology, 10,* 170-180.

Bond, F. W., & Bunce, D. (2003). The role of acceptance and job control in mental health: job satisfaction and work performance. *Journal of Applied Psychology, 88*, 1057-1067.

Brief, A. P., Burke, M. J., George, J. M., Robinson, B. S., & Webster, J. (1988). Should negative affectivity remain an unmeasured variable in the study of job stress? *Journal of Applied Psychology*, *73,* 193-198.

Centers, R., & Bugental, D.E. (1966). Intrinsic and extrinsic job motivations among different segments of the working population. *Journal of Applied Psychology*, *50*, 193-197.

Chen, P. Y., & Spector, P. E. (1991). Negative affectivity as the underlying cause of correlations between stressors and strains. *Journal of Applied Psychology, 76,* 398-407.

Clark, A. E. (1996). Job satisfaction in Britain. *British Journal of Industrial Relations, 34,* 189-217.

Clark, A. E. (1997). Job satisfaction and gender: why are women so happy at work? *Labour Economics, 4,* 341-372.

Clark, A., Oswald, A., & Warr, P. (1996). Is job satisfaction U-shaped in age? *Jounal of Occupational & Organzational Psychology, 69,* 57-81.

Colquitt, J. A., Conlon, D. E., Wesson, M. J., Porter, C. O. L. H., & Ng, K. Y. (2001). Justice at the millennium: A meta-analytic review of 25 years of organizational justice research. *Journal of Applied Psychology*, *86,* 425-445.

Cropanzano, R., James, K., & Konovsky, M. A. (1993). Dispositional affectivity as a predictor of work attitudes and job performance. *Journal of Organizational Behavior*, *14,* 595-606.

Crossman, A., & Abou-Zaki, B. (2003). Lebanese banking staff. *Journal of Managerial Psychology, 18. (4),* 368-379

De Jonge, J., & Schaufeli, W. B. (1998). Job characteristics and employee well-being: a test of Warr's Vitamin Model in health care workers using structural equation modeling. *Journal of Organizational Behavior, 19,* 387-407.

De Jonge, J., Reuvers, M. M. E. N., Houtman, I. L. D., Bongers, P. M., & Kompier, M. A. J. (2000). Linear and non-linear relations between psychosocial job characteristics, subjective outcomes, and sickness absence: baseline results from SMASH. *Journal of Occupational Health Psychology, 5,* 256-268.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology, 86,* 499-512.

Elliot, T. R., Chartrand, J. M., & Harkins, S. W. (1994). Negative affectivity, emotional distress, and the cognitive appraisal of occupational stress. *Journal of Vocational Behaviour, 45,* 185-201.

Fletcher, B. C., & Jones, F. (1993). A reputation of Karasek's demand-discretion model of occupational stress with a range of dependent measures. *Journal of Organizational Behavior, 14,* 319-330.

Garg, P., & Rastogi, R. (2007). New model of job design: monitoring employees' performance. *Journal of Workplace Design*, *19 (5),* 269-285.

George, J. M. (1989). Mood and Absence. *Journal of Applied Psychology, 74,* 317-324.

George, J. M. (1991). State or Trait: Effects of positive mood on prosocial behaviors at work. *Journal of Applied Psychology, 76,* 299-307.

Ha, J., Hong, J., Seltzer, M. M., & Greenberg, J. S. (2008). Age and gender differences in the well-being of midlife and aging parents with children with mental health or developmental problems: Reports of a national study. *Journal of Health and Social Behavior, 49,* 301-317.

Hackman, J. R., & Oldham, G. R. (1975). Development of the Job Diagnostic Survey. *Journal of Applied Psychology, 60,* 159-170.

Heinisch, D. A., & Jex, S. M. (1997). Negative affectivity and gender as moderators of the relationship between work-related stressors and depressed mood at work. *Work and Stress, 11,* 46-57.

Hinks, T., & Gruen, C. (2007). What is the structure of South African happiness equations? Evidence from quality of life surveys. *Social Indicators Research, 82,* 311-336.

Holman, D. (2002). Employee wellbeing in call centers. *Human Resources Management Journal, 12(4),* 35-50.

Holman, D. (2005). In Wall, T. D., Clegg, C. W., Sparrow, P., & Howard, A. (Eds). *The essentials of the new workplace: a guide to the human impact of modern working practices*. John Wiley & Sons, Ltd.

Igbaria, M., & Siegel, S. R. (1992). The reasons for turnover of information systems personnel. *Information and Management, 6,* 321-331.

Jackson, S. E. (1983). Participation in decision making as a strategy for reducing job-related strain. *Journal of Applied Psychology, 68,* 3-19.

Johns, G., & Saks, A. M. (2005). *Organizational Behaviour* (6th ed.). Toronto: Pearson Education Canada Inc.

Johnson, J. V., & Hall, E. M. (1988). Job strain, work place social support, and cardiovascular disease: A cross-sectional study of a random sample of the Swedish working population. *American Journal of Public Health, 78 (10),* 1336-1342.

Judge, T. A., Piccolo, R. F., & Ilies, R. (2004). The forgotten ones? The validity of consideration and initiating structure in leadership research. *Journal of Applied Psychology, 89,* 36-51.

Karasek, R. A., Jr. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly, 24,* 285-308.

Kahn, R. L., Wolfe, D. M., Quinn, R. P., & Snoek, J. D. (1964). *Organizational stress: Studies in role conflict and ambiguity*. New York: John Wiley and Sons, Inc.

Kalleberg, A. L., & Loscocco, K. A. (1983). Aging, values and rewards: Explaining age differences in job satisfaction. *American Sociological Review, 48,* 136-153.

Kornhauser, A. W. (1965). *Mental Health of the industrial worker: a Detroit study*. New York: Wiley.

Kubzansky, L. D., Kawachi, I., Spiro, A., Weiss, S. T., Vokonas, P. S., & Sparrow, D. (1997). Is

worrying bad for your heart? A prospective study of worry and coronary heart disease in the normative aging study. *Circulation, 95,* 818-824.

Landeweerd, J. A., & Boumans, N. P. G. (1994). The effect of work dimensions and need for autonomy on nurses' work satisfaction and health. *Journal of Occupational and Organizational Psychology, 67,* 207-217.

Lapierre, L. M., Spector, P. E., & Leck, J. D. (2005). Sexual versus non-sexual workplace aggression and victims' overall job satisfaction: A meta-analysis. *Journal of Occupational Health Psychology, 10,* 155-169.

Little, J., Peake. L., & Richardson, P. (1985). *Women in cities: gender and urban environment*. Macmillan: London.

Levin, I., & Stokes, J. P. (1989). Dispositional approach to job satisfaction: role of negative affectivity. *Journal of Applied Psychology, 74,* 752-58.

Matthews, G., Jones, D. M., & Chamberlain, A. G. (1990). Defining the measurement of mood: The UWIST mood adjective checklist. *British Journal of Psychology, 81,* 17-42.

Melamed, S., Ben-Avi, I., Luz, J., & Green, M. S. (1995). Objective and subjective work monotony: effects on job satisfaction, psychological distress, and absenteeism in blue-collar workers. *Journal of Applied Psychology, 80,* 29-42.

Mottaz, C. J. (1986). Gender differences in work satisfaction, work-related rewards and values, and the determinants of work satisfaction. *Human Relations, 39,* 359-378.

Näswall, K., Sverke, M., & Hellgren, J. (2005). The moderating role of personality characteristics on the relationship between job insecurity and strain. *Work and Stress, 19,* 37-49.

Nieboer, A., Lindenberg, S., Boomsma, A., & Van Bruggen, A. C. (2005). Dimensions of well-being and their measurement: The SPF-IL Scale. *Social Indicators Research, 73,* 313-353.

Oldham, G. R., & Brass, D. J. (1979). Employee reactions to an open-plan office: A naturally-occurring quasi-experiment. *Administrative Science Quarterly, 24,* 267-284.

Patterson, M. J., Warr, P. B, & West, M. A. (2004). Organizational climate and company productivity: the role of employee affect and employee level. *Journal of Occupational and organizational Psychology, 77,* 193-216.

Pinquart, M. (2001). Age differences in perceived positive affect, negative affect, and affect balance in middle and old age. *Journal of Happiness Studies, 2,* 375-405.

Podsakoff, P. M., MacKenzie, S. B., & Bommer,W. H. (1996). Meta-analysis of the relationships between Kerr and Jermier's substitutes for leadership and employee job attitudes, role perceptions, and performance. *Journal of Applied Psychology, 81,* 380-399.

Powdthavee, N. (2005). Unhappiness and crime: evidence form South Africa. *Economica*, *72,* 531-547.

Rose, E., & Wright, G. (2005). Satisfaction and dimensions of control among call centre customer service representatives. *The International Journal of Human Resource Management, 16,* 136-160.

Rosnow, R., & Rosenthal, R. (1996). *Beginning behavioural research: a conceptual primer*. Englewood Cliffs, NJ: Prentice-Hall.

Ruthig, J. C., Chipperfield, J. G., Perry, R. P., Newall, N. E., & Swift, A. (2007). Comparative risk and perceived control: Implications for psychological and physical well-being among older adults. *The Journal of Social Psychology, 147,* 345-367.

Rystedt, L. W., Johnsson, G., & Evans, G. W. (1998). A longitudinal study of workload, health and well-being among male and female urban bus drivers. *Journal of Occupational and Organizational Psychology, 71,* 35-45.

Santrock, J. W. (2003). *Psychology* (7th edition). Texas: McGraw-Hill.

Schaubroeck, J., Ganster, D. C., & Kemmerer, B. (1996). Does trait affect promote job attitude stability? *Journal of Organizational Behavior, 17,* 191-196.

Seltzer, J., & Numeroff, R. E. (1988). Supervisory leadership and subordinate burnout. *Academy of Management Journal, 31,* 439-446.

Simoens, S., Scott, A., & Sibbald, B. (2002). Job Satisfaction, Work-related stress and intentions to quit of Scottish GPs. Scottish Medical Journal, *47 (4),* 80-86.

Sloane, P. J., & Williams, H. (2000). Job satisfaction, comparison earnings, and gender. *Labour, 14,* 473-502.

Spector, P. E., Chen, P. Y., & O'Connell, B. J. (2000).A longitudinal study of relations between job stressors and job strains while controlling for prior negative affectivity and strains. *Journal of Applied Psychology, 85,* 211-218.

Staw, B. M., Bell, N. E., & Clausen, J. A. (1986). The dispositional approach to job attitudes: A lifetime longitudinal test. *Administrative Science Quarterly, 31,* 56-77.

Steers, R. M. (1977). Antecedents and outcomes of organizational commitment. *Administrative Science Quarterly, 22,* 46-56.

Szilagyi, A. D., & Holland, W. E. (1980). Changes in Social Density: relationships with

functional interaction and perceptions of job characteristics, role stress and work satisfaction. *Journal of Applied Psychology, 65,* 28-33.

Taber, T. D., Beehr, T. A., & Walsh, J. T. (1985). Relationships between job evaluation ratings and self ratings of job characteristics. *Organizational Behavior and Human Decision Processes, 35,* 27-45.

Taris, T. W., Kalimo, R., and Schaufeli, W. B. (2002). Inequity at work: its measurement and association with worker health. *Work and Stress, 16,* 287-301.

Totterdell, P., Wood, S., & Wall, T. (2006). An intra-individual test of the demands-control model: a weekly diary study of psychological strain in portfolio workers. *Journal of Occupational and Organizational Psychology, 79,* 63-84.

Van Katwyk, P. T., Fox, S., Spector, P. E., & Kelloway, E. K. (1999). Using the Job-related Affective Well-being Scale (JAWS) to investigate affective responses to work stressors. *Journal of Occupational Health Psychology, 5,* 219-230.

Warr, P. (1987). *Work, unemployment and mental health*. Oxford UK: Oxford University Press.

Warr, P. (1990). Decision latitude, job demands and employee well-being. *Work and Stress, 4,* 285-294.

Warr, P. (1994). A conceptual framework for the study of work and mental health. *Work and Stress, 8, (2),* 84-97.

Warr, P. (1997). Age, work and mental health. In K.W. Schaie & C. Schooler (Eds.), *The impact of work on older adults* (pp. 252-296). New York: Springer.

Warr, P. (1999). Well-Being and the Workplace. In D. Kahneman, E. Diener & N.

Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp.392-412). New York, U.S: Russell Sage Foundation.

Warr, P. (2007). *Work, Happiness, and Unhappiness*. Lawrence Erlbaum Associates, Inc., Publishers: New Jersey

Warr, P., Cook, J., & Wall, T. (1979). Scales for the measurement of some work attitudes and aspects of psychological well-being. *Journal of Occupational Psychology, 52,* 129-148.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS Scales. *Journal of Personality and Social Psychology, 54,* 1063-1070.

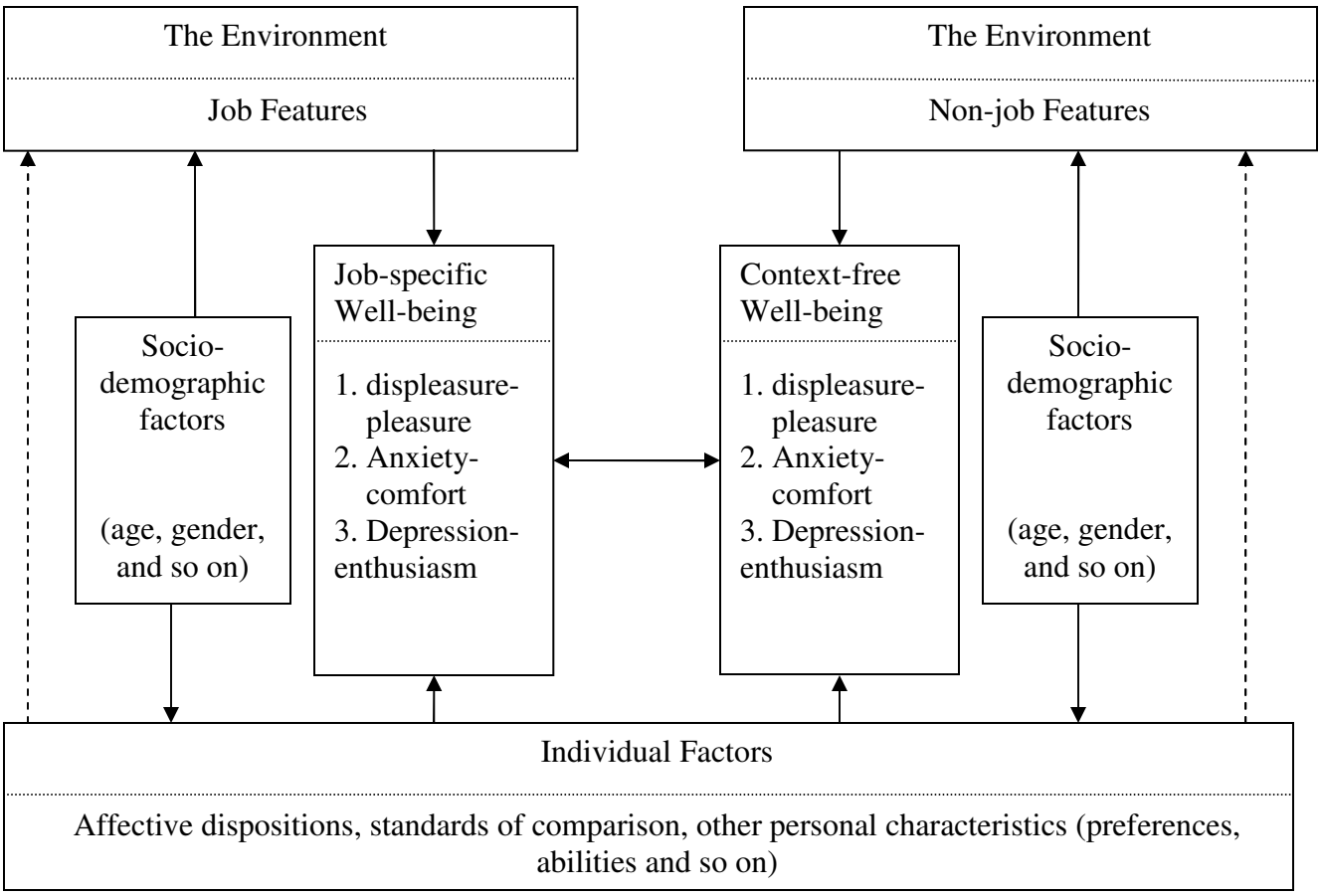
Wilson, M. G., DeJoy, D. M., Vandenberg, R. J., Richardson, H. A., & McGrath, A. L. (2004). Work characteristics and employee health and well-being: test of a model of healthy work organization. *Journal of Occupational and Organizational Psychology, 77,* 565-588.

Wrzesniewski, A., McCauley, C., Rozin, P., & Schwartz, B. (1997). Jobs, careers, and callings: People's reactions to their work. *Journal of Research in Personality, 31,* 21-33.

Zellars, K. L., & Perrewé, P.L. (2001). Affective personality and the content of emotional social support: coping in organizations. *Journal of Applied Psychology, 86,* 459-467.

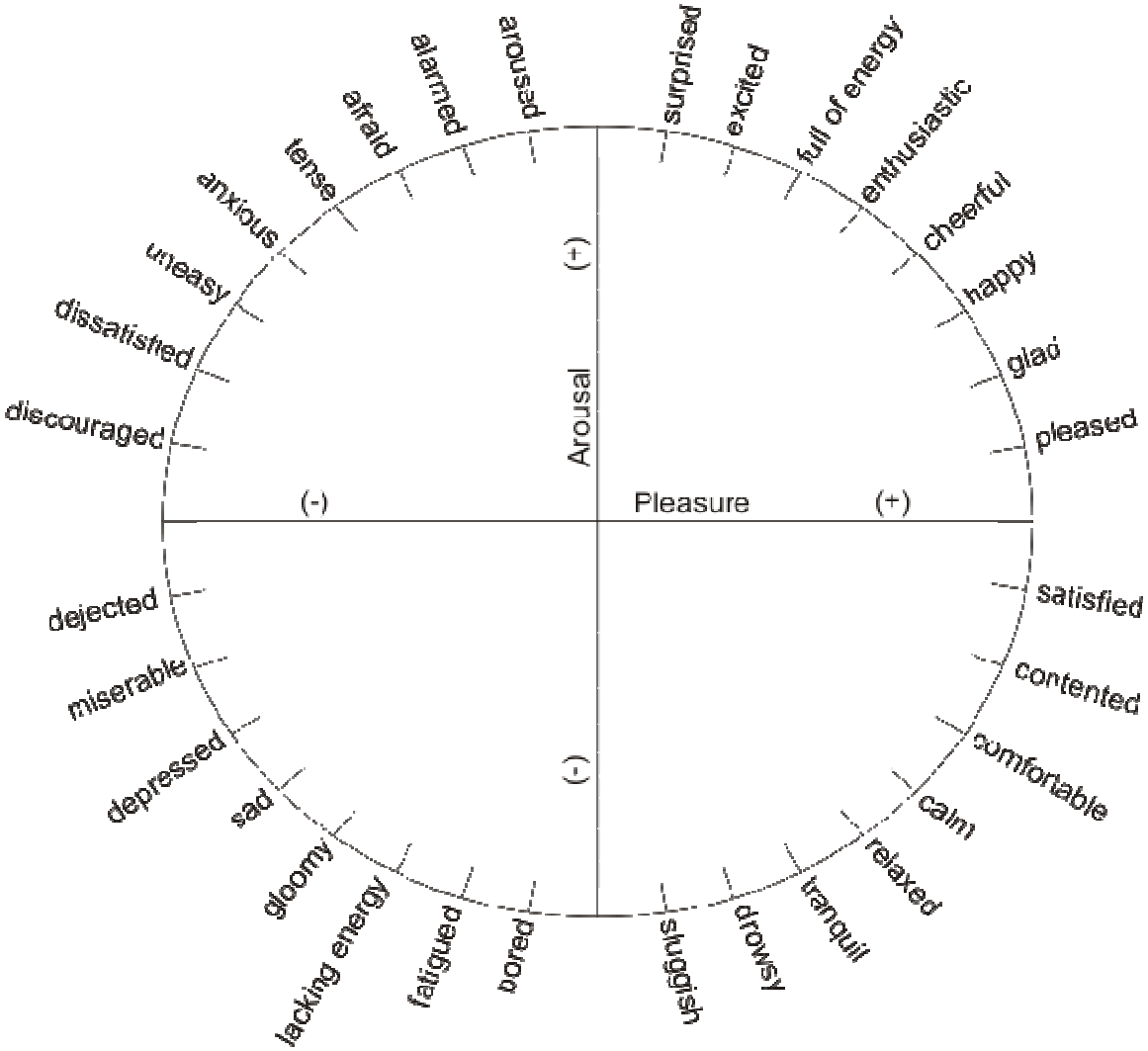
Appendix A

Warr's (1999) Model of Employee Well-Being and its Determinants



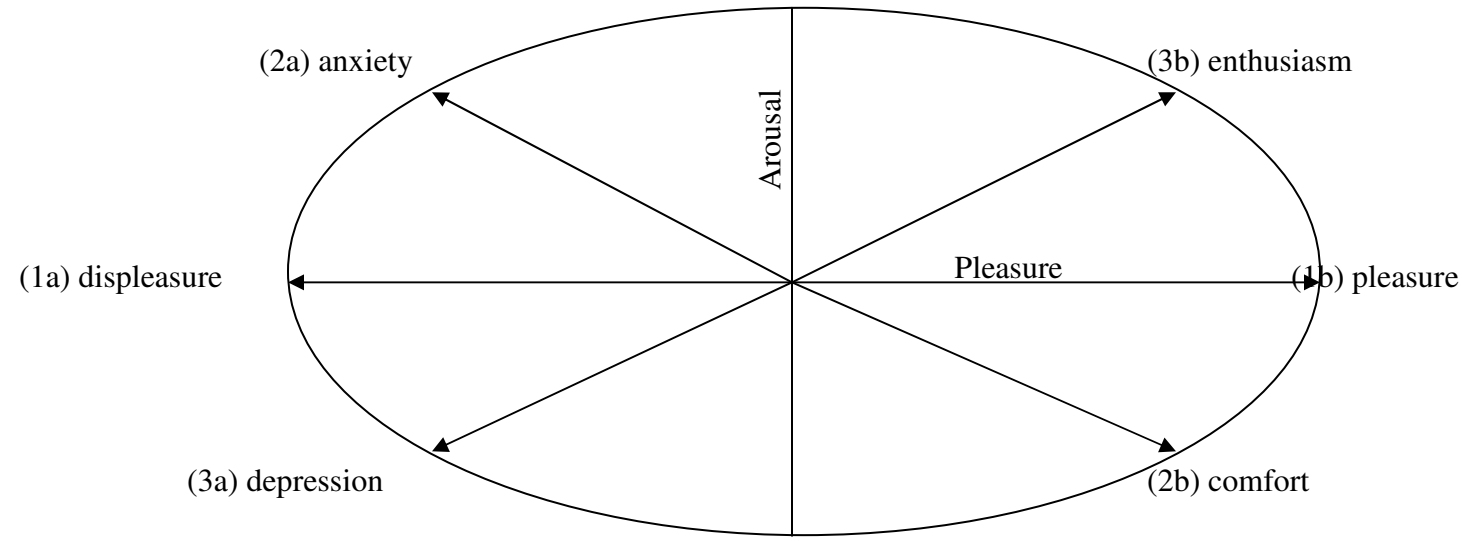
Appendix B

Warr's (1987) Two-Dimensional View of Well-Being



Appendix C

Warr's (1987) Three Axes for the Measurement of Well-Being



Appendix D

Full Questionnaire

Dear Sir/ Madam

My name is Mandy Unterslak and I would like to invite you to participate in a research study I am currently conducting for the purposes of obtaining my Masters degree in Industrial Psychology at the University of the Witwatersrand. My research focuses on wellbeing, and how it is affected by an individual's personality, the way their job is designed, and demographic features.

Well-being has become a pertinent area of investigation over the last few decades; however the combined effects of individual personalities, job design and demographic features have not been examined. I would therefore like to invite you to participate in this research.

Participation in this research will involve completing the attached questionnaire, which should take under 1 hour. Participation in this study is completely voluntary. You will not be advantaged or disadvantaged in any way for choosing to complete or not complete this questionnaire. Furthermore, whilst some questions are asked about your personal circumstances, no identifying information such as your name or ID number are required of you, and as such you will remain anonymous. In addition, your completed questionnaire will not be seen by anyone but myself. Your responses will also be looked at only in relation to all other responses in order to establish trends.

If you are willing to participate in the study, please complete the attached questionnaires as honestly and carefully as possible. Submission of the completed questionnaire is regarded as consent to participate in the study. Once you have completed the questionnaire, please place it in the sealed box in the HR office, which I will collect personally. In doing so, no one will have access to your completed questionnaire but myself.

Your participation in the study would be greatly appreciated. This research is aimed at adding to the body of knowledge on the well-being of employees. The results should be available by April 2009, and will be available to you from the head of group: human resources. If you have any queries, please do not hesitate to contact either myself, or my supervisor, Karen Milner.

Yours Sincerely

Mandy Unterslak
Industrial Masters Student
Mandy.Unterslak@students.wits.ac.za

Karen Milner
Research Supervisor
Karen.Milner@wits.ac.za

Please answer the following questions as accurately as possible

Please mark the appropriate block with a cross where necessary.

1. Gender:

male	female

2. Age: _____

3. Race: _____

4. What is your primary language? _____

5. What is the highest level of education you have completed?

Standard 8-9	Matric	Diploma	Undergraduate degree	Postgraduate degree

6. How long have you been working for this organization? _____

7. How long have you been in your current job? _____

8. Which area of the organization do you work in?

call centre	support

9. What is your job title? _____

* If you feel that answering question 9 will compromise your anonymity feel free to omit it.

10. What is your current marital status?

single	married	divorced	widowed	partner

11. Do you have any children? _____

12. If so, how many? _____

Directions

Please indicate the degree of your satisfaction with each of the following features of your job by circling the appropriate statement where 1 is 'extremely low' and 7 is 'extremely high'.

1. Ability to work independently

1	2	3	4	5	6	7

extremely low extremely high

2. Influence over decisions made in the organization

1	2	3	4	5	6	7

3. Skill use

1	2	3	4	5	6	7

4. New learning

1	2	3	4	5	6	7

5. Number of job demands

1	2	3	4	5	6	7

6. Difficulty of job demands

1	2	3	4	5	6	7

7. Ability to perform a complete task, from beginning to end

1	2	3	4	5	6	7

8. Conflict between job demands

1	2	3	4	5	6	7

9. Conflict between work and home

1	2	3	4	5	6	7

10. Range of different tasks

1	2	3	4	5	6	7

11. Future predictability

1	2	3	4	5	6	7

12. Clear role requirements

1	2	3	4	5	6	7

13. Availability of feedback

1	2	3	4	5	6	7

14. Amount of social contact

1	2	3	4	5	6	7

15. Quality of social contact

1	2	3	4	5	6	7

16. Pay level

1	2	3	4	5	6	7

17. Pleasant work environment

1	2	3	4	5	6	7

18. Safe work practices

1	2	3	4	5	6	7

19. Adequate equipment

1	2	3	4	5	6	7

20. Value to society

1	2	3	4	5	6	7

21. Significance to self

1	2	3	4	5	6	7

22. Concern for staff

1	2	3	4	5	6	7

23. Job security

1	2	3	4	5	6	7

24. Good future prospects

1	2	3	4	5	6	7

25. Fair treatment of employees

1	2	3	4	5	6	7

26. The organization's business ethics

1	2	3	4	5	6	7

Directions

This scale consists of a number of words that describe different feelings and emotions. Read each item and then circle the appropriate answer next to that word. Indicate to what extent you feel this way in general.

Use the following scale to record your answers.

(1) = Very slightly or not at all (2) = A little (3) = Moderately (4) = Quite a bit (5) = Extremely

	Very slightly or not at all	**A little**	**Moderately**	**Quite a bit**	**Extremely**
1. Interested	1	2	3	4	5
2. Distressed	1	2	3	4	5
3. Excited	1	2	3	4	5
4. Upset	1	2	3	4	5
5. Strong	1	2	3	4	5
6. Guilty	1	2	3	4	5
7. Scared	1	2	3	4	5
8. Hostile	1	2	3	4	5
9. Enthusiastic	1	2	3	4	5
10. Proud	1	2	3	4	5
11. Irritable	1	2	3	4	5
12. Alert	1	2	3	4	5
13. Ashamed	1	2	3	4	5
14. Inspired	1	2	3	4	5
15. Nervous	1	2	3	4	5
16. Determined	1	2	3	4	5
17. Attentive	1	2	3	4	5
18. Jittery	1	2	3	4	5
19. Active	1	2	3	4	5
20. Afraid	1	2	3	4	5

Directions

Please indicate the degree of your satisfaction with each of the following questions regarding your work experiences by placing a cross on the appropriate statement where 1 is "extremely dissatisfied" and 7 is "extremely satisfied".

1. The physical work conditions

1	2	3	4	5	6	7
extremely dissatisfied						extremely satisfied

2. The freedom to choose your own method of working

1	2	3	4	5	6	7

3. Your fellow workers

1	2	3	4	5	6	7

4. The recognition you get for good work

1	2	3	4	5	6	7

5. Your immediate boss

1	2	3	4	5	6	7

6. The amount of responsibility you are given

1	2	3	4	5	6	7

7. Your rate of pay

1	2	3	4	5	6	7

8. Your opportunity to use your abilities

1	2	3	4	5	6	7

9. Industrial relations between management and workers in your firm

1	2	3	4	5	6	7

10. Your chance of promotion

1	2	3	4	5	6	7

11. The way your firm is managed

1	2	3	4	5	6	7

12. The attention paid to suggestions you make

1	2	3	4	5	6	7

13. Your hours of work

1	2	3	4	5	6	7

14. The amount of variety in your job

1	2	3	4	5	6	7

15. Your job security

1	2	3	4	5	6	7

Directions

Below are a number of statements that describe different emotions that a job can make a person feel. Please indicate the amount to which any part of your job (e.g., the work, coworkers, supervisor, clients, pay) has made you feel that emotion in the past 30 days.

Please check **one** response for each item that best indicates how often you've experienced each emotion at work over the past 30 days.	Never	Rarely	Sometimes	Quite ofter	Extremely often
1. My job made me feel at ease					
2. My job made me feel angry					
3. My job made me feel annoyed					
4. My job made me feel anxious					
5. My job made me feel bored					
6. My job made me feel cheerful					
7. My job made me feel calm					
8. My job made me feel confused					
9. My job made me feel content					
10. My job made me feel depressed					
11. My job made me feel disgusted					
12. My job made me feel discouraged					
13. My job made me feel elated					
14. My job made me feel energetic					
15. My job made me feel excited					
16. My job made me feel ecstatic					
17. My job made me feel enthusiastic					
18. My job made me feel frightened					
19. My job made me feel frustrated					
20. My job made me feel furious					
21. My job made me feel gloomy					
22. My job made me feel fatigued					
23. My job made me feel happy					
24. My job made me feel intimidated					
25. My job made me feel inspired					
26. My job made me feel miserable					
27. My job made me feel pleased					
28. My job made me feel proud					
29. My job made me feel satisfied					
30. My job made me feel relaxed					

Appendix E

Letter to Organisation

Dear _____,

My name is Mandy Unterslak and I would like to invite your organization to participate in a research study I am currently conducting for the purposes of obtaining my Masters degree in Industrial Psychology at the University of the Witwatersrand. My research focuses on wellbeing, and how it is affected by an individual's personality, the way their job is designed, and demographic features. The results of this research will be published in my maters dissertation.

Well-being has become a pertinent area of investigation over the last few decades; however the combined effects of individual personalities, job design and demographic features have not been examined. I would therefore like to invite your organization to participate in this research. Strict confidentiality will be ensured as the name of the participating organization will not be mentioned in any published documents whatsoever.

All employees of the organization will be invited to complete a questionnaire, which should take under 1 hour. The participation of each individual in this study is completely voluntary and all responses to the questionnaires will be anonymous, as no identifying information such as employees' names or ID numbers are required. In addition, completed questionnaires will not be seen by anyone but myself. Responses will also be looked at only in relation to all other responses in order to establish trends.

Employees who are willing to participate in the study will be requested to complete the questionnaire as honestly and carefully as possible, and to submit it in a sealed box, which will be placed in a convenient area in the office. Submission of the completed questionnaire is regarded as consent to participate in the study. I will collect the sealed box containing the completed questionnaires personally; in doing so, no one will have access to the completed questionnaires but myself.

The participation of your organization in the study would be greatly appreciated. This research is aimed at adding to the body of knowledge on the well-being of employees. The results should be available by April 2009; as soon as they are available a report of the findings will be provided to you. Should you have any queries, please do not hesitate to contact either myself, or my supervisor, Karen Milner.

If you are willing to allow me access to conduct the abovementioned research in your organization, please complete and return the attached letter of consent.

Yours Sincerely

Mandy Unterslak
Industrial Masters student
Mandy.Unterslak@students.wits.ac.za

Karen Milner
Research Supervisor
Karen.Milner@wits.ac.za

Appendix F

Letter of Organisational Consent

I, the undersigned, hereby grant consent for the researcher, Mandy Unterslak, to conduct research in this organization, (_____), for the purposes of obtaining a Masters degree in Industrial Psychology at the University of the Witwatersrand. The research focuses on
Wellbeing, and how it is affected by an individual's personality, the way their job is designed and demographic features. I understand that the results of this research will be published in a Masters dissertation, and that the name of this organization will not be mentioned in any published documents whatsoever, thus ensuring confidentiality.

All employees of the organization will be invited to complete a questionnaire, which should take under 1 hour. The participation of each individual in this study is completely voluntary and all responses to the questionnaires will be anonymous, as no identifying information such as employees' names or ID numbers are required. In addition, completed questionnaires will not be seen by anyone but the researcher. Responses will also be looked at only in relation to all other responses in order to establish trends.

Employees who are willing to participate in the study will be requested to complete the questionnaire as honestly and carefully as possible, and to submit it in a sealed box, which will be placed in a convenient area in the office. Submission of the completed questionnaire is regarded as consent to participate in the study. The researcher will collect the sealed box containing the completed questionnaires personally; in doing so, no one will have access to the completed questionnaires but the researcher

The results of this research should be available by April 2009; as soon as they are available a report of the findings will be provided to (_____).

Name_____

Signature _____

Position in Organization _____

Date _____