THE PSYCHOFORTOLOGY OF POST-GRADUATE LEARNERS IN THE FACULTY OF HEALTH SCIENCES AT THE NELSON MANDELA METROPOLITAN UNIVERSITY

by

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Table of Contents

Acknowledgements ii

Table of Contents iii

List of Appendices ix

List of Tables x

List of Graphs xii

Abstract xiii

Chapter 1: Introduction and Problem Statement

1.0 Introduction 1

1.1 General Orientation to the Study 1

1.2 The Current Context of Higher Education in South Africa 2

1.2.1 The Merger Process 2

1.2.2 Student Demographics 3

1.2.3 Holistic Student Development 3

1.3 Psychofortology as a Theoretical Model for Research Purposes 4

1.4 Rationale for the Study 5

1.5 Aims of the Study 7

1.6 Outline of the Study 8

1.7 Conclusion 8

Chapter 2: Positive Psychology

2.0 Introduction 10

2.1 Defining Positive Psychology 10
Chapter 2: Positive Psychology: A new paradigm

2.2 Positive Psychology: A new paradigm
2.2.1 Pathogenesis versus Salutogenesis
2.2.2 Sense of Coherence
2.2.3 Related Constructs
2.2.4 The Good Life
2.2.5 Brain Mechanisms and Chemistry
2.3 Positive Psychology and Emotionality
2.4 Positive Psychology and Motivation
2.5 Positive Psychology and Goal-setting
2.6 Positive Psychology Research
2.7 Conclusion

Chapter 3: Stress, Coping and Coping Resources

3.0 Introduction
3.1 Stress
3.1.1 Response-based Model
3.1.2 Stimulus-based Model
3.1.3 Interactional Model
3.1.4 Conservation of Resources Model
3.2 Coping
3.2.1 Coping Types
3.2.1.1 Problem-focused Coping
3.2.1.2 Emotion-focused Coping
3.3 Coping Resources
3.4 Sense of Coherence (SOC) 45
3.4.1 Sense of Coherence and Coping 47
3.4.2 Sense of Coherence and Boundaries 48
3.4.3 Sense of Coherence and Psychological Well-being 49
3.5 Conclusion 49

Chapter 4: Subjective Well-Being

4.0 Introduction 51
4.1 Defining Subjective Well-being 51
4.2 Theoretical Approaches and Predictive Variables of Subjective Well-being 54
  4.2.1 Positive Self-esteem 55
  4.2.2 Sense of Perceived Control 56
  4.2.3 Extroversion 57
  4.2.4 Optimism 58
  4.2.5 Positive Social Relationships 58
  4.2.6 Sense of Meaning and Purpose in Life 59
  4.2.7 Resolution of Inner Conflicts and Low Neuroticism 59
4.3 Satisfaction with Life 60
4.4 Happiness 61
4.5 General Psychiatric Health 64
4.6 Measuring Subjective Well-being 65
4.7 Conclusion 67
Chapter 5: Psychofortology and Student Well-being

5.0 Introduction 69
5.1 Positive Psychology in Educational Settings 71
5.2 Student Wellness in South Africa 71
5.3 Nelson Mandela Metropolitan University (NMMU) 73
5.3.1 The Faculty of Health Sciences 74
5.4 Coping Resources at the NMMU 75
5.5 Student Well-being at NMMU 76
5.6 Conclusion 77

Chapter 6: Research Design and Methodology

6.0 Introduction 79
6.1 Primary Aims of the Study 79
6.2 Research Design and Methodology 80
6.3 Participants and Sampling 81
6.4 Biographical Data 83
6.4.1 Age 83
6.4.2 Gender 84
6.4.3 Language 84
6.4.4 Marital Status 85
6.4.5 Children 86
6.4.6 Degree 87
6.4.7 Department in Faculty 88
6.4.8 Belief in God/Superior Force 89
### 6.4.9 Subjective Rating of Health

6.4.10 Subjective Rating of Stress

6.5 Measures

6.5.1 The Biographical Questionnaire

6.5.2 The Coping Resources Inventory (CRI)

6.5.3 The Orientation to Life Questionnaire/Sense of Coherence Scale (SOC-29)

6.5.4 The Satisfaction with Life Scale (SWLS)

6.5.5 The Affectometer-2 Scale (AFM-2)

6.5.6 The General Health Questionnaire (GHQ-28)

6.6 Procedure

6.7 Data Analysis

6.8 Ethical Considerations

6.9 Conclusion

**Chapter 7: Results and Discussion**

7.0 Introduction

7.1 Results of the Measures

7.1.1 Coping

7.1.1.1 Coping Resources

7.1.1.2 Sense of Coherence

7.1.2 Subjective Well-being

7.1.2.1 Satisfaction with Life

7.1.2.2 Happiness
7.1.2.3 General Psychiatric Health

7.2 Conclusion

7.3 Cluster Analysis

7.3.1 Cluster One

7.3.2 Cluster Two

7.3.3 T-tests Grouping: Cluster

7.3.4 Individual T-tests

7.3.5 Chi-square Investigation

7.4 Conclusion

Chapter 8: Conclusions and Limitations

8.0 Introduction

8.1 Objectives of the Study Revisited

8.2 Conclusions based on the Present Study

8.2.1 Description of the Coping of the Sample

8.2.2 Description of the Subjective Well-being of the Sample

8.2.3 Description of the Problems of Coping and Subjective Well-being of the Sample

8.3 The Value of the Research

8.4 Limitations of the Research

8.5 Recommendations

8.6 Conclusion

References
List of Appendices

Appendix A. Organigram of the Faculty of Health Sciences at NMMU 162
Appendix B. Distribution of Learners within the Faculty of Health Sciences 164
Appendix C. Information Letter 167
Appendix D. Consent Form 170
Appendix E. Biographical Questionnaire 173
List of Tables

1. Mean and Standard Deviation of the Age Variable 83
2. Frequency Table: Gender 84
3. Frequency Table: Language 85
4. Frequency Table: Marital Status 86
5. Frequency Table: Dependent Children 86
6. Frequency Table: Degree 87
7. Frequency Table: Department within Faculty 89
8. Frequency Table: Belief in God/Superior Force 89
9. Frequency Table: Subjective Rating of Health 90
10. Frequency Table: Subjective Rating of Level of Stress 91
11. Means and Standard Deviations of the Coping Resources Inventory 107
12. Means and Standard Deviations of the Sense of Coherence Questionnaire 111
13. Means and Standard Deviations of the Satisfaction with Life Questionnaire 114
15. Means and Standard Deviations of the General Health Questionnaire 118
16. Descriptive Statistics for Cluster 1 (37 participants) 123
17. Descriptive Statistics for Cluster 2 (23 participants) 124
18. T-tests; Grouping: Cluster 125
19. Summary Frequency Table, Clusters: Stress Level (self-reported) 127
20. Summary Frequency Table, Clusters: Health (self-reported) 127
21. Summary Frequency Table, Clusters : Gender  
22. Summary Frequency Table, Clusters : Marital Status
Graphs

1. Cluster Analysis Results with Standardized Test Scores 122
Abstract

The years spent studying towards a degree represent many challenges to the learner\(^1\). These pressures increase once that learner moves into the post-graduate level of professional study. Faced with the pressure of having to perform suitably in order to remain on the programme, the learner finds himself or herself under conditions which may present as stress or illness, depending upon the availability of coping resources and strategies. This study adopted a psychofortigenic\(^2\) approach and explored and described the coping (i.e., coping resources and sense of coherence) and subjective well-being (i.e., satisfaction with life, happiness and general psychiatric health) of post-graduate learners in the following six departments of the Faculty of Health Sciences at the Nelson Mandela Metropolitan University (NMMU): Psychology; Human Movement Science and Sport Management; Environmental Health and Social Development Professions (incorporating MA Health and Welfare Management); Pharmacy; Nursing Science; Biomedical Technology and Radiography. An exploratory descriptive research design was used and the participants were selected by means of non-probability, convenience sampling. The sample consisted of 60 male and female masters and doctoral post-graduate learners in the Faculty of Health Sciences. Biographical data was gathered by means of the administration of a questionnaire. Hammer and Marting’s (1988) Coping Resources Inventory was used to measure the students’ available coping resources. Furthermore,

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\(^1\) The term learner is used synonymously with student throughout this treatise. Learner thus refers to a post-graduate student studying in the Faculty of Health Sciences at NMMU.

\(^2\) In this study Psychofortology is conceptualized as consisting of two primary components: coping and subjective well-being. Coping comprises the constructs of coping resources and sense of coherence. Subjective well-being comprises the constructs of satisfaction with life, happiness and general psychiatric health.
Antonovsky’s (1987) Orientation to Life Scale was used to measure the construct of Sense of Coherence. The Satisfaction with Life Scale by Diener, Emmons, Larson and Griffin (1985) was used to assess the respondents’ overall satisfaction with life. Kamman and Flett’s (1983) Affectometer-2 was used to measure participants’ subjective global happiness. The General Health Questionnaire of Goldberg and Williams (1988) was used to measure the psychiatric morbidity or general psychiatric health of the participants. The data was analyzed using both descriptive statistics and cluster analysis. A Hotellings $T^2$ was computed with subsequent t-tests to draw inferences about differences in the means of established groups across the five measures.

The results indicated that the participants were generally coping and experiencing subjective well-being. The results indicated two clusters to significantly differ from one another across the five measures. The first cluster could be characterized as high in psychofortology and presented with better coping and subjective well-being. The second cluster could be characterized as low in psychofortology and presented with poorer coping and subjective well-being.

_key words: positive psychology, psychofortology, coping, coping resources, orientation to life, sense of coherence, subjective well-being, satisfaction with life, happiness, general psychiatric health._
Chapter 1

Introduction and Problem Statement

1.0 Introduction

This chapter provides a general orientation to the present study. The rationale for this study is explained and the chapter is concluded with an introduction to the broad aims of the study and an overview of subsequent chapters.

1.1 General Orientation to the Study

The context of this study is higher education in South Africa. In particular, the setting is the Faculty of Health Sciences at the Nelson Mandela Metropolitan University (NMMU). In an attempt to gain insight into the way that postgraduate learners find the strength to complete their studies and to endure and overcome the pressures associated with obtaining a postgraduate degree, this research study investigated the student coping and well-being within the emerging discipline of psychofortology. This chapter introduces the concept of psychofortology as a framework for conceptualizing the coping and well-being of learners. This exploratory-descriptive study investigated the psychofortology of post-graduate learners in the Faculty of Health Sciences at the NMMU. Psychofortology was for purposes of this study subdivided into two categories: (a) coping (i.e., coping resources and sense of coherence), and (b) subjective well-being (i.e., satisfaction with life, happiness and general psychiatric health).

According to traditional models of health, if a person did not show signs of illness then the person was described as being healthy (Sarafino, 1990). However, the World

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3 A new university, formed in January 2005, as the result of a merger between the University of Port Elizabeth, the Port Elizabeth Technikon and the Port Elizabeth Vista University Campus.
Health Organization described health as complete physical, mental and social well-being, and not merely the absence of disease (Caplan, Engelhardt & McCartney, 1981). Health psychology has changed its focus over the past three decades and distanced itself from understanding health only in terms of the absence of disease (Antonovsky, 1979; Antonovsky, 1996; Compton, 2005; Seligman & Cziksentmihalyi, 2000; Seligman & Petersen, 2004; Strümpfer, 1993; Wissing & Van Eeden, 1997). This chapter introduces concepts such as the holistic development of learners and provides reasons as to why psychofortological student development is of particular importance. This chapter also places the research study in context by introducing the current state of higher education in South Africa, the merging of some of these institutions and the changing learner demographics associated with such institutions.

1.2 The Current Context of Higher Education in South Africa

1.2.1 The Merger Process

The national restructuring agenda that is currently being implemented has affected most South African higher education institutions. The merger process commenced in January 2004 when the University of Port Elizabeth (UPE) incorporated the Port Elizabeth’s Vista University, a historically Black institution. The merger process was completed in January 2005 when the Port Elizabeth Technikon was included and the new multi-campus institution was renamed Nelson Mandela Metropolitan University (NMMU). Each of these institutions had their own admission criteria and levels of institutional support for counselling and development services. The merger has created challenges and uncertainty not only for the providers of academic and non-academic services to the learners, but also to the learners themselves (Van Lingen, 2005).
1.2.2 Student Demographics

Fullard, De Jager, Fouche, Van Lingen, Potgieter and Collier (1999) indicated that higher education in South Africa has undergone profound changes during the past. These socio-political transitions resulted in many changes and challenges, with a major consequence being the widening of access to higher education. Historically White institutions had to adjust to rapidly changing demographics due to growing numbers of under prepared learners from previously disadvantaged backgrounds (Van Lingen, 2005). Many of these learners are first-generation learners and therefore at risk of failing since their lack of familiarity with the social and academic higher education environment are likely to negatively impact their academic achievement and their retention (Botha, Brand, Cilliers, Davidow, De Jager & Smith, in press).

1.2.3 Holistic Student Development

Chickering and Reisser (1993), prominent theorists in student adjustment and development, have emphasized the importance of viewing learners holistically, with a view to providing developmental opportunities based on this approach. One of the major purposes of higher education, according to Wolf-Wendel and Ruel (1999) is the development of the whole person. In South Africa, the National Plan for Higher Education requirements include (a) an increase in access and equity, (b) an improvement in the academic success and graduation rates of learners at higher education institutions, and (c) the development of a strong human resources base that can contribute to the social, economic and cultural life of our changing society (Department of Education, 2001).
The aforementioned section presented the context for this study by briefly describing the current context of higher education in South Africa with its changing learner demographics as well as the merging of institutions of higher learning. This section also introduced holistic student development as an approach which specifically paves the way for psychofortology as an approach to foster coping and subjective well-being amongst student populations. The following section introduces the relatively new science of psychofortology.

1.3 Psychofortology as a Theoretical Model for Research Purposes

The dominant approach to research in traditional psychology is one of pathogenesis (Wissing & Van Eeden, 1997). Results emerging from this perspective, although offering great insights in experience and behaviour, are limited in their scope since they focus on mental illness and vulnerabilities rather than on strengths and capabilities (Wissing & Van Eeden, 1997). A pathogenic appraisal may start a vicious cycle of stress, whereas a salutogenic appraisal can relieve negative emotions and provide opportunities for coping suitably with a situation (Smith, 2002). Strümpfer (1995) argued that there were more issues than just the factors which influenced physical health and proposed the more embracing term of fortigenesis, or origins of strength, as he was of the opinion that these resources were worthy of inclusion into the broader focus. Since there is no specific domain in psychology to allot the study of psychological strengths, the neologism “psychofortology” or science of psychological strengths, has been suggested (Wissing & Van Eeden, 1997). The value of developing a science geared towards better understanding of psychological well-being and strengths lies in the opportunities for capacity building, prevention and enhancement of quality of life (Wissing & Van Eeden,
A number of recent researchers have used fortigenic principles such as coping and subjective well-being in their research models (Cairns, 2001; Brown, 2002; Van der Walt, 2002; Vorster, 2002; Hatuell, 2004; Gal, 2004).

The aforementioned section focussed on the introduction of psychofortology and its use as a theoretical model to conceptualise and operationalise research. Since this section is merely a brief introduction, psychofortology is dealt with in more detail in Chapter 2. The next section focuses on the rationale for this study.

1.4 Rationale for this Study

Positive Psychology, which is dealt with in detail in the following chapter, and psychofortology are new directions for psychology and as such there is a need for research in this area. Positive Psychology and psychofortology are aligned in their focus on mental health rather than on mental illness. This emphasis on strengths rather than weaknesses has been the primary reason this researcher has chosen the psychofortological approach as a theoretical model with which to conceptualise and operationalise research.

The years spent studying towards a degree represent many challenges to the learner, none however come close to the pressures imposed upon the learner once that learner moves into the post-graduate level. It is for this reason that the researcher has chosen to focus on post-graduate learners. Since the researcher is himself a post-graduate learner in the Faculty of Health Sciences at the NMMU, it was decided to focus the research on this faculty at the NMMU. These learners, faced with possible burnout and the pressure of having to perform suitably in order to remain on the programme, find themselves under conditions which may present as stress or illness, depending upon the
availability of coping resources and strategies (Sender, Salamero, Valles & Valdes, 2001).

The manner in which the learner deals with these challenges may be a deciding factor as to which learners will pass successfully at the end of the programme. Many learners at this point must perform according to the standards of their chosen profession as well as continue to further emancipate themselves from parental control. This process of emotional detachment from both parents and friends through changing social roles may generate psychological distress, mainly due to the fact that both the family and academic environment are underpinned by the model of social competition that predominates in professional activity (Sender et al., 2001). As this adaptive process evolves, some learners may show signs of physical or psychological suffering. The early detection and treatment of these mental difficulties (both adaptive problems and well-defined psychiatric disorders) before these future professionals embark on their careers would be likely to help them achieve greater self-control and to be able to cope more successfully with the demands of their professions (Sender et al., 2001).

The focus of this study is an attempt to understand the psychofortigenesis (i.e., coping and subjective well-being) of NMMU learners who are studying towards a professional postgraduate degree in the Faculty of Health Sciences. Psychologists’ knowledge of subjective well-being remains elementary despite numerous research efforts (Vorster, 2002). Diener (2000) reported that a stronger foundation is needed in order to make recommendations to societies and individuals regarding ways to increase happiness. Seligman (1998) has stated that the field of Positive Psychology requires research into coping mechanisms and subjective well-being of individuals. Vorster (2002)
reported that there is a dire need for investigation into subjective well-being in the South African context. It is important that communities acknowledge the vital role subjective well-being has to play by tracking its development and providing support through education (Vorster, 2002). This study took place during a potentially stressful merger process between three previously independent educational institutions, namely the University of Port Elizabeth, Port Elizabeth Technikon and Vista University, Port Elizabeth campus.

1.5 Aims of the Study

This study aimed to explore and describe the coping resources, sense of coherence, satisfaction with life, happiness and general psychiatric health of male and female, masters and doctoral learners\(^4\), in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University. These sub-constructs were decided upon and constitute the construct of psychofortology for purposes of this study. In view of the above the broad aims of the study can therefore be described as (a) to explore and describe the coping (i.e., coping resources and sense of coherence\(^5\)) of postgraduate learners in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University, (b) to explore and describe the subjective well-being (i.e., satisfaction with life, happiness, and general psychiatric health) of postgraduate learners in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University, and (c) to explore and describe the patterns of coping resources, sense of coherence, satisfaction with life, happiness and general psychiatric health of postgraduate learners in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University.

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\(^4\) Honours and 4\(^{th}\) Year learners were excluded from the study since the researcher believed the sample would have been over-inclusive.

\(^5\) Sense of coherence is discussed in Chapter three. In general it refers to a coping orientation or an orientation to life (Antonovsky, 1987).
Mandela Metropolitan University. These three broad objectives are operationalized in terms of specific aims set out in Chapter 6, which describes the research design and methodology.

1.6 Outline of the Study

This chapter sketched the context within which the study took place, provided the rationale for it, and described the aims of the study. Chapter 2 introduces the emerging field of Positive Psychology and discusses its focus on strengths, capacities and resources, rather than the traditional approaches which focus on pathology. Chapter 3 presents and explores the concepts of stress, coping and coping resources and the latter is discussed as a means of mediating the stress response and of promoting wellness. Chapter 4 reviews the theory and research in the area of subjective well-being, with a specific focus on satisfaction with life, happiness and general psychiatric health. Chapter 5 provides an overview of student life and psychofortology and introduces pressures related to studying at a post-graduate level in the South African context. Chapter 6 describes the research approach and methods employed in this study. The results are described and discussed in Chapter 7. The study is concluded with Chapter 8, in which the implications of the findings, the limitations, value of the study, and recommendations for future research are discussed.

1.7 Conclusion

In this chapter a brief overview has been given of the current context of higher education by discussing the merger process and the changing demographics of student populations in South Africa. In this chapter the reader was introduced to the concept of holistic development of learners and the emerging science of psychofortology. The need
for stress and coping research within student populations was discussed. Specific aims were outlined for the study, which focuses on the psychofortigenic concepts of coping resources, sense of coherence, satisfaction with life, happiness, and general psychiatric health. In the following chapter the emerging trend towards a Positive Psychology is discussed.
Chapter 2

Positive Psychology

2.0 Introduction

The focus of the present study is the exploration and description of coping (including the concepts of coping resources and sense of coherence) and subjective well-being (including the concepts of satisfaction with life, happiness and general psychiatric health) of male and female masters and doctoral learners in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University (NMMU). Since it focuses on the psychological strengths, capacities and resources of the participants, the present study is fortigenic in orientation. In the present chapter a description is given of the Positive Psychology movement.

2.1 Defining Positive Psychology

At an American Psychology Association conference in 1998, Martin Seligman, the then president of the association, reminded those present that the forgotten mission of psychology was to build human strengths and to nurture genius (Compton, 2005). In order to remedy this, Seligman created a new direction and orientation for psychology which he termed Positive Psychology.

According to Seligman and Csikszentmihalyi (2000), Positive Psychology focuses on three areas of human experience that help define the scope and orientation of the Positive Psychology perspective.

1. At a subjective level it looks at positive subjective states such as happiness, joy, satisfaction with life, relaxation, love, intimacy and contentment.
2. At an individual level, it focuses on studying positive individual traits and the more
enduring behavioural patterns over time such as courage, honesty, persistence or
wisdom.

3. At a group or societal level, it focuses on the development, creation and maintenance
of positive institutions such as healthy families, healthy work environments and
positive communities.

Sheldon and King (2001) defined Positive Psychology as follows:

   It is nothing more than the scientific study of ordinary human
   strengths and virtues. Positive Psychology revisits “the average
   person” with an interest in finding out what works, what’s right,
   and what’s improving. It asks “what is the nature of the efficiently
   functioning human being, successfully applying evolved
   adaptations and learned skills?” …Positive Psychology is thus an
   attempt to urge psychologists to adopt a more open and
   appreciative perspective regarding human potentials, motives, and
   capacities. (p.216)

According to Seligman and Steen (2005), Positive Psychology is an umbrella term
for the study of positive emotions, character traits, and enabling institutions. Positive
Psychology is “the study of strength and virtue ...it is the nurturing of what is best ...it is
about work, education, insight, love, growth, and play ...it tries to adapt what is best in
the scientific method to the unique problems that human behaviour presents” (Seligman
& Csikszentmihalyi, 2000, p.7). Seligman and Csikszentmihalyi (2000) reported that
prevention researchers have discovered that there are human strengths such as courage,
future-mindedness, optimism, interpersonal skill, faith, work-ethic, hope, honesty, perseverance and the capacity for flow and insight, which act as buffers against mental illness. Accordingly, Seligman and Csikszentmihalyi suggested that a science of human strengths is needed whose mission will be to understand and learn how to foster these virtues in young people. Positive Psychology has infused an interest in the psychology of human strengths (Linley & Harrington, 2005). In fact a major development in Positive Psychology has been the development of the Character Strengths and Values (CSV), classification of strengths (Peterson & Seligman, 2004) which attempts to provide an understanding of human strengths at a meta-level of analysis (Linley & Harrington, 2005).

Linley and Harrington (2005) defined Positive Psychology as a “scientific study of optimal functioning, focusing on aspects of the human condition that lead to happiness, wisdom, creativity, and human strengths” (p.13). Positive Psychology they report is explicitly concerned with the enhancement of performance of well-being. Linley and Johnson (2004) reported that Positive Psychology strives to promote optimal functioning across the spectrum of human functioning, from disorder and distress to health and fulfilment.

### 2.2 Positive Psychology: A new paradigm

#### 2.2.1 Pathogenesis versus Salutogenesis

The dominant approach to research in traditional psychology is one of pathogenesis (Wissing & Van Eeden, 1997). Results emerging from this perspective, although offering great insights in experience and behaviour, are limited in their scope since they focus on mental illness and vulnerabilities rather than on strengths and
 capabilities (Wissing & Van Eeden, 1997). Barnard (1994) called this orientation “an obsessive proclivity for deficit detecting to the exclusion of acknowledging strengths and resource” (p.136). Barnard also pointed out that much of the focus of this pathological thinking is directed at the past. Saleebey (1997) commented that

…a swelling conglomerate of businesses and professions, institutions and agencies, from medicine to pharmaceuticals, from the insurance industry to the mass media, turn handsome profits by assuring us that we are in the clutch (or soon will be) of any number of emotional, physical or behaviour maladies. (p.4)

Larson (2000) reported that in the field of development psychology “the burgeoning field of development psychopathology, in contrast to the important sub-domain of social and emotional development where we are often more articulate about how things go wrong than how they go right” (p.170). In the field of general psychology it is assumed that a person who does not show distress after the death of a loved one is just denying or inhibiting feelings, even to the point where this may indicate severe disturbance (Strümpfer, 2002). Strümpfer reported that the alternative of resilience is almost never considered. It would appear that Western culture is “obsessed with, and fascinated by, psychopathology, victimization, abnormality, and moral and interpersonal aberrations” (Saleebey, 1997, p.4). According to Strümpfer (2002), comments declaring the deficit paradigm of the pathogenic approach need not imply that positive psychologists are callous or naïve about the distress, pain, adversity, persecution and trauma suffered by these individuals. However, what it does imply is the rejection of the ascendancy of psychopathology, of a recovery movement beyond rational intents and
boundaries, and of the social construction that those who suffer or are hurt, abused and
victimized, will inexorably become lesser, vulnerable, maladjusted human beings
(Saleebey, 1997).

In contrast to the pathological interest in “what can go wrong”, there have also been ongoing attempts to discover “what can go right” (Basic Behavioural Task Force, 1996, p. 23). The new paradigm of a Positive Psychology makes an appreciative set of assumptions and attributions about health, motivation, capacities, potential, and social functioning (Strümpfer, 2002). Seligman and Csikszentmihalyi (2000) reported that compared to a psychology as victimology, these newer approaches are turning it into a science of strengths. According to Strümpfer (2002), the fundamental idea has been around since time immemorial, but the development of the idea into theories about health and positive psychological and social functioning is a relatively new endeavour.

The emerging paradigm of Positive Psychology is based on three assumptions according to Strümpfer (2002), namely: (a) that stressors, adversity and other inordinate demands are inherent to the human condition, (b) that there are also sources of strength through which this condition can be endured and even transcended, and (c) that physical, emotional and social trials and tribulations can, for many, be propitious - stimulating continuous growth and strengthening, as products of the discovery of capacities, insights and even virtues.

A pathogenic appraisal may start a vicious cycle of stress, whereas a salutogenic appraisal can relieve negative emotions and provide opportunities for coping suitably with a situation (Smith, 2002). Antonovsky (1979) coined the construct “salutogenesis”, from the Latin “salus” or “health” which proposed the study of health rather than disease.
He developed the concept “sense of coherence” which concerned itself with the study of how people managed stress and maintained good health (Antonovsky, 1987). Strümpfer (1995) argued that there were more issues than just the factors which influenced physical health. Strümpfer proposed a more embracing term of fortigenesis, or origins of strength, as he was of the opinion that these resources were worthy of inclusion into the broader focus. Since there is no specific domain in psychology to allot the study of psychological strengths, the neologism “psychofortology” or science of psychological strengths, has been suggested (Wissing & Van Eeden, 1997). Due to this developing domain, Wissing and Van Eeden suggested the differentiation of the terms “psychological health” and “health psychology”. Psychological health refers to aspects of psychological well-being or strengths in the domain of psychofortology, while health psychology is a domain on its own, and focuses on psycho-social risk or salutogenic factors which influence physical health or illness (Wissing & Van Eeden, 1997). The value of developing a paradigm geared towards better understanding of psychological well-being and strengths lies in the opportunities for capacity building, prevention and enhancement of the quality of life (Wissing & Van Eeden, 1997).

2.2.2 Sense of Coherence

Antonovsky (1979) developed his core construct of the sense of coherence to explain how people stay well, notwithstanding their high stressor loads. This construct is a coping resource that is presumed to mitigate life stressors by affecting the quality of the individual’s cognitive and emotional appraisal of the impacting stimuli (Antonovsky, 1979). According to Antonovsky (1979), when one’s sense of coherence is strong, stimuli from the environment are perceived as: (a) as comprehensible: making cognitive sense,
(b) as being manageable: under the control of both the individual and legitimate others, and (c) as being meaningful: motivationally relevant, in the form of welcome challenges that are worth engaging with and investing oneself in. As the field of Positive Psychology had developed new fortiological constructs have been added and researched, amongst others, the following which are mentioned below.

2.2.3 Related Constructs

1. Kobasa’s (1979) construct of a “hardy personality” which refers to a cluster of traits possessed by those individuals best able to cope with stress.

2. Schematic and Carver’s (1987) “dispositional optimism” which refers to a generalized expectancy of favourable outcomes, or an inclination to believe that good rather than bad things will happen to on.


4. Epstein’s “constructive thinking” is independent of intelligence, but “associated with all major non-intellective aspects of success in living, including success at work, in love, in social relationships, and in achieving and maintaining emotional and physical well-being” (Epstein & Meier, 1989, p.334).

5. Ryan and Frederick (1997) contributed the construct of “subjective vitality” which they describe as a specific, continuous, subjective experience of possessing energy, enthusiasm and aliveness, and considered it to be a reflection of both organismic and psychological wellness.
6. Strümpfer’s (2002, p.9) concept of “resilience” as a “pattern of psychological activity which consist of a motive to be strong in the face of inordinate demands, the goal-directed behaviour of coping and rebounding (or resiling), and of accompanying emotions and cognitions”.

2.2.4 The Good Life

According to Compton (2005), the approach of traditional psychology was firstly to cure mental illness, secondly to find and nurture genius, and thirdly to make normal life more fulfilling. Compton suggested that most research was spent in finding ways to treat people in such a way that they moved from a state of negative emotionality to what might be described as a neutral position. At this time the question of how to move an individual from this neutral position to a positive place of enhanced adaptability, well-being and happiness was not central to the traditional approach of psychology at the time. Positive Psychology has developed as result of trying to remedy the relative neglect in these areas of traditional psychology (Compton, 2005). One of the major themes defining Positive Psychology is a focus on the elements and predictors of the “good life”. According to Compton (2005), the good life may be seen as a combination of three elements: (a) positive connection to others (i.e., the ability to love and to forgive, altruism, the presence of spiritual connections), (b) positive individual traits (i.e., integrity, the ability to play, the presence of virtues such as courage and humility), and (c) life regulation qualities (i.e., qualities which allow individuals to regulate their day-to-day activities such as autonomy, self-control and wisdom). According to Seligman (2005), this good life is composed of human strengths that act as buffers against mental illness and include, amongst others, positive individual traits such as courage, future-
mindedness, optimism, faith, work ethic, hope, honesty and interpersonal skills. These life regulation qualities empower the individual through increasing their coping resources thus allowing them to become hardier individuals (Kobasa, 1979). Positive Psychology therefore focuses on what constitutes the type of life for human beings that leads to the greatest sense of well-being, satisfaction or contentment, and the good life (Compton, 2005).

Seligman and Csikszentmihalyi (2000) wrote that Positive Psychology aimed to be the catalyst in bringing about change in psychology from a focus of repair to one of building positive qualities. The Positive Psychology movement, founded in part by Seligman (1998), focuses on enhancing what is good and functional in life, rather than fixing what is considered defective. Positive Psychology is about positive subjective experience (Vorster, 2002). This positive subjective experience includes: past levels of well-being and satisfaction; joy, sensual pleasures and happiness at present; and constructive cognitions about future-optimism, hope, and faith (Vorster, 2002).

Seligman and Csikszentmihalyi (2000) reported that Positive Psychology was about the following:

At the subjective level it is about valued subjective experiences: well-being, contentment, and satisfaction (in the past); hope and optimism (for the future); and flow and happiness (in the present).

At the individual level, it is about positive individual traits: the capacity for love and vocation, courage, interpersonal skill, aesthetic sensibility, perseverance, forgiveness, originality, future mindedness, spirituality, high talent and wisdom. At the group
level, it is about civic virtues and the institutions that move individuals towards better citizenship: responsibility, nurturance, altruism, civility, moderation, tolerance and work ethic. (p.5)

Seligman and Steen (2005) have suggested that the time has arrived for psychotherapy to be understood as a place where one goes to discuss one’s strengths and not one’s troubles. The time has come where psychologists must answer the question “How can we become lastingly happier?” instead of answering the question “How can we reduce the suffering?” (p.420).

2.2.5 Brain Mechanisms and Chemistry

Smith (2002) theorized that according to Darwinian principles, organisms with functional salutogenic mechanisms would be better equipped for survival. Smith suggested that these mechanisms could have provided organisms with a self-perpetuating cycle for enhancing self-confidence and well-being. Pathogenic brain mechanisms would have left their owners in dismay and disarray (Smith, 2002). Smith therefore proposed that we study functional salutogenic mechanisms of the brain more often by asking questions that focus on health and not on disease. Buss (2000) has also argued that positive emotions may be necessary for the survival of humankind. He reported that humans are social animals and need the support and protection of others to survive. Buss (2000) suggested that without the bonds of attachment, the caring and love we feel for others, communal living, the cooperative raising of children, and mutual defence, would be impossible. Fortitude and a philosophy of life geared towards strengths and their origins are needed to deal with dismal phenomena (Strümpfer, 1995). Discovering and understanding how certain individuals withstand and overcome certain pressures while
others do not, may aid in helping those who falter in the face of those same difficulties (Strümpfer, 1995).

According to Compton (2005) evidence suggests that at least some of our pleasurable responses are caused by the release of chemicals in the brain called neurotransmitters. Increased levels of the neurotransmitter dopamine have been implicated in the experience of happiness (Ashby, Isen & Turken, 1999). Endorphins and encephalins appear to increase pleasure and decrease pain and would seem to act as the body’s natural opiate (Farrel, Gustafson, Morgan, & Pert, 1987). Recent research has even suggested that the body makes its own tetrahydrocannabinol (THC), which is the active ingredient in cannabis (Fackelmann, 1993). Compton (2005) noted however that humans also require cognitive processes, such as labelling physiological responses and the interpretive meaning that we apply to stimuli, since our perceptions of the world around us tend to influence our behaviour patterns and responses to those stimuli. Therefore, if we become more aware of our thoughts, physiological responses and behaviour patterns we may react differently when faced with stressors.

In this section the researcher addressed Positive Psychology as an overall movement. In the following sections the researcher more specifically addresses the construct of Positive Psychology and takes a look at its relationship with other constructs, beginning with its relationship with both positive and negative affect. The researcher also briefly introduces the “Broad and Build” model of Frederickson (1998), and the model for “Emotional Intelligence” developed by Salovey and Meyer (1990). Frederickson’s model proposed that positive emotions broaden awareness and build upon the learning to create future coping resources. Salovey and Meyer’s model of emotional
intelligence is introduced as they have shown that individuals with a high emotional intelligence quotient are better equipped to deal with life’s stressors.

2.3 Positive Psychology and Emotionality

Regarding emotionality in Positive Psychology, Compton (2005) stated that it is important that all positive psychologists should agree that emotions such as enjoyment, anticipation, interest, happiness and joy are regarded as basic emotions along with the other 10 basic emotions. Compton also noted that the list of positive emotions is exceeded by the other basic emotions and he suggested that the list is too short to encompass all human emotion. Plutchik (1980) believed that these basic emotions combine with each other to form more subtle variations such as joy and anticipation that combine to form optimism. Plutchik further suggested that sometimes positive emotions combine with negative emotions to form a new emotion (e.g., a positive religious experience may be a combination of a positive emotion of surprise and a negative emotion of fear). Plutchik goes on to say that if our emotions do combine to form other emotions in this manner, then simply eliminating negative emotionality from our life may have the consequence of eliminating variety and subtlety from our emotional experiences.

Although there appears to be broad consensus on the basic broad dimensions of negative emotions there appears to be less agreement on what constitutes positive emotions (Compton, 2005). Watson (2002) proposed that there are three broad dimensions of positive emotion and suggested that all these states are evident when one is happily absorbed in an activity that one is enjoying and performing well. These three broad dimensions are: (a) joviality (e.g., happiness, cheerfulness and enthusiasm), (b)
assurance (e.g., confidence and daring), and (c) attentiveness (e.g., alertness, concentration and determination).

Frederickson (1998) developed a model, called the “Broad and Build” which suggested that the purpose of positive emotions was very different to the purpose of the negative emotions. Her model proposes that positive emotions broaden our awareness and then build upon the resultant learning to create future emotional and intellectual resources. Compton (2005) stated that negative emotions lead to a narrowing of options for thought and behaviour, (e.g., when under threat it is better to make a quick decision than to think and act later). Positive emotions help us to broaden our options and to maximize our future resources. According to Frederickson (1998), another advantage of positive emotion is that it may act as an antidote to the effects of negative emotion. Frederickson developed her “undoing hypothesis” which suggests that positive emotions help the body and mind regain a sense of balance, flexibility, and equilibrium after the impact of negative emotions.

Salovey and Mayer (1990) developed the original model for emotional intelligence which also forms a part of Positive Psychology spectrum. According to Salovey, Mayer and Caruso (2005), emotional intelligence is:

Ability to perceive, appraise, and express emotion accurately and adaptively; the ability to understand emotion and emotional knowledge; the ability to access and/or generate feelings when they facilitate cognitive activities and cognitive action; and the ability to regulate emotions in oneself and others. (p. 159)
Salovey and Mayer (1990) proposed five characteristics that define the idea:

1. Knowing one’s emotions or the ability to recognize an emotion as it happens.
2. Ability to handle interpersonal relationships well.
4. Ability to recognize emotions in others, or the skill at reading what others are feeling or being empathic.
5. Good ability to manage one’s emotions.

Emotional intelligence (Goleman, 1995) thus consists of self-insight into the richness of one’s emotional life, a moderate degree of self-control, empathy and good social skills (Mayer, Caruso, & Salovey, 2000). One of the largest barriers to the study of positive emotions is that they are difficult to study in the laboratory and that there are fewer positive emotions than negative emotions by a ration of 1:4 (Frederickson, 1998). A further barrier to the study of positive emotion in a laboratory setting is that unlike negative emotions that create different facial expressions, all positive emotions share the same characteristic of a basic human smile (Ekman, Friesen, & O’Sullivan, 1988). Due to these limitations in studying emotionality, the researcher has chosen to use the Affectometer-2 (AFM-2) in this study. The AFM-2 determines through recent experience the balance between positive and negative affect. This will be discussed in more detail in the methodology chapter.

In the aforementioned section the researcher introduced the relationship between Positive Psychology and emotionality. In the following section the researcher addresses the relationship between Positive Psychology and motivation. This section has been
included in this chapter as motivation is a valuable coping resource when faced with the pressures of post-graduate study.

2.4 Positive Psychology and Motivation

Until the 1950’s the major theories at the time assumed that humans were compelled to act in order to: (a) increase pleasure and decrease pain, (b) ensure innate physiological needs were met, or (c) compensate for innate drives which were potentially threatening to the social fabric (Compton, 2005). The understanding was that various needs produce drives or internal drive states that would motivate people to reduce the needs so that when satisfied will return them to a state of homeostasis. According to Compton (2005), in this state of equilibrium, no compelling need motivates behaviour because all needs are satisfied, (e.g., when a person feels hungry, they will seek out food, and when that food is found and consumed, the need is met). The question generated by the process of homeostasis asks “are all humans merely looking for a state of quiet equilibrium and mild satisfaction, or are they searching for something more meaningful?” (Compton, 2005). Compton further stated that the complexity of human beings has proven to be too great to be explained exclusively by biologically based needs, (e.g., there is no biological need to be the world’s greatest violinist).

Positive Psychology is also interested in the difference between intrinsic and extrinsic motivation. Intrinsic motivation occurs when a person engages in an activity for its own sake, regardless of any reward. Extrinsic motivation occurs when a person acts in order to obtain an external reward, be it status, praise, money, or any other incentive which comes from outside of that person (Compton, 2005). Deci and Ryan (1985) developed a self-determination theory which postulated that the basis for self-motivation
and personality integration are certain inherent tendencies towards psychological growth, along with a core group of innate emotional needs. The three basic needs according to self-determination theory (Deci & Ryan, 1985) include:

1. Competence: The need for mastery experience that allows a person to deal effectively with their environment.

2. Relatedness: The need for mutually supportive interpersonal relationships.

3. Autonomy: The need to make independent decisions about areas in life that is important to the person.

Ryan and Deci (2000) stated that intrinsically motivated people tend to show enhancements in performance, persistence, creativity, self-esteem, vitality and general well-being when compared to people who are motivated by external rewards. Studies have found that by combining high levels of autonomy and low levels of coercive control from others is associated with better ego development, higher self-esteem, higher self-actualization scores, greater consistency of self, more persistence in working towards goals, more satisfaction at work and fewer experiences of boredom (Knee & Zuckerman, 1998).

In the aforementioned section the researcher introduced the reader to the relationship between Positive Psychology and motivation. In the following section the researcher introduces the relationship between Positive Psychology and goal-setting. This section is relevant to this study in that Emmons (1992) reported that an individual’s sense of happiness and life satisfaction increases with specific goals. Highly abstract goals may even decrease well-being since their nature makes it difficult to appreciate when the goal is achieved.
2.5 Positive Psychology and Goal-setting

Emmons (1992) has suggested that it is best to find a balance between specific and abstract goals by setting concrete behavioural short-term goals that are directly linked to more abstract and meaningful long-term goals. Positive Psychology is also interested in goal setting and the achievement of goals since this leads to happiness (Compton, 2005). Compton (2005) suggested that goals may be extremely important to our positive emotional state at any point in time and to our general emotional well-being. Kasser and Ryan (1993) have found that when people pursued goals that facilitated affiliation, intimacy, self-acceptance, and community involvement, subjective well-being was enhanced.

Compton (2005) reported that well-being is enhanced by seeking goals associated with positive relationships and helping others, while self-centred goals decrease well-being. Approach-goals which motivate us towards something are more likely to be associated with subjective well-being than are avoidance-goals which seek to avoid difficulties, dangers, or fears (Compton, 2005). This phenomena is, however, also dependent on cultural orientation since studies suggest that approach goals are more central to people in individualistic cultures (Compton, 2005). It is reported that in more socially oriented cultures the tendency is towards avoiding failure since failure reflects on the family as well as the individual (Diener, Oishi, & Lucas, 2003).

The rate at which people approach their goals is also of importance, since adequate or better than adequate progress translates into higher well-being (Hsee & Abelson, 1992). Subjective well-being is also affected by the relationship amongst an individual’s goals according to Compton (2005). Greater subjective well-being is
associated with more congruence among different goals and less internal conflict between competing goals. Emmons (1986) suggested that it is possible to group a number of smaller goals around common themes and called this “personal strivings”. Emmons (1992) found that meaningful and successful personal strivings is a stronger predictor of subjective well-being than personality traits.

Compton (2005) reported that one of the most important elements in whether people are motivated to pursue their goals is the expectation of hope that they will eventually attain those goals. Hope theory states that hope is the result of two processes, namely: (a) pathways (believing that one can reach desired goals); and (b) agency (believing that one can become motivated enough to pursue those goals) (Snyder, Rand, & Sigmon, 2002).

One of the reasons that goal pursuit is associated with well-being is because it implies that people are being active participants in life (Cantor & Sanderson, 1999). Cantor and Sanderson (1999), as with other goal pursuit theories, believe that greater well-being is found through participation in activities that are intrinsically motivated, freely chosen, desired, and involve realistic, feasible goals. Newer theories of motivation in Positive Psychology view people as actively involved in “seeking out intrinsically satisfying experiences and engaged in a process of continuous development centred on needs for competence, relatedness, autonomy and hopeful expectations for the future” (Compton, 2005, p. 39).

According to Seligman and Csikszentmihalyi (2000), psychology should be able to “help document what kinds of families result in children who flourish, what work settings support the greatest satisfaction among workers, what policies result in the
strongest civic engagement, and how peoples lives can be most worth living” (p.5). Positive Psychology as a movement has developed to ensure these questions are answered, and to change the focus of psychology from a preoccupation with repairing damage to building positive qualities (Seligman & Csikszentmihalyi, 2000).

This section introduced the relationship between Positive Psychology, hope and goal-setting and the influences that these constructs have on well-being, happiness and life satisfaction. The following section introduces Positive Psychology research.

2.6 Positive Psychology Research

Since the emergence of Positive Psychology, there has been a growing body of researchers active both nationally and internationally across a broad range of topics in this field. Internationally Seligman is considered the father of Positive Psychology and together with Csikszentmihalyi (2000) they are heading up the shift away from mental illness towards mental health. Diener (2000) has focussed on subjective well-being, life satisfaction and happiness. Myers (2002) has concentrated on happiness in his research. Snyder and Lopez (2005) have compiled a comprehensive textbook on many aspects of Positive Psychology. In South Africa, Wissing and Van Eeden (1997) conducted research into psychological well being and offered a fortigenic conceptualization and empirical clarification, whilst Strümpfer (2002) has proposed the term psychofortology to refer to a science of strengths.

There have also been a number of research topics undertaken by learners at the NMMU into varying aspects of Positive Psychology. Cairns (2001) examined the coping resources and sense of coherence of cancer patients. Vorster (2002) conducted research into the subjective well-being and purpose of life of the aged. Van der Walt (2002)
examined the subjective well-being and general health of stroke survivors. Brown (2002) conducted research into the biopsychosocial coping and adjustment of medical professional women. Kirsten (2003) conducted research into the psychofortology of female nurses, and Hatuell (2004) examined the subjective well-being and coping resources of overweight adults. These researchers, amongst a host of others, are adding to the growing body of research, thus allowing Positive Psychology to fulfil its desired role which is to focus on the optimal mental health of society and not to focus only upon mental illness.

2.7 Conclusion

This chapter has discussed the growing field of Positive Psychology which focuses on individual strengths, capacities and resources in contrast to the traditional approach which is pathogenic in nature. Positive Psychology and its salutogenic approach continue to provide insights into the mechanisms available to individuals for coping with stressors.

The popularity of Positive Psychology is increasing rapidly internationally and results from research that takes a Positive Psychology approach are already influencing interventions thus gaining a permanent place for Positive Psychology in scientific psychology (Compton, 2005). Positive Psychology will most likely be a thriving area in the field for many years to come (Compton, 2005).

For the purpose of this study five constructs from the fortigenic orientation will be discussed: the coping resources concept, the sense of coherence concept, the concept of satisfaction with life, the concept of happiness and general psychiatric health. In the
following chapter, the fortigenic concepts of coping and coping resources will be looked at together with their relationship to stress.
Chapter 3

Stress, Coping and Coping Resources

3.0 Introduction

As we move into the 21st century there has been an increased interest in the effects of stress on humankind’s physiological and psychological health. Positive Psychology seeks to understand these mechanisms and the manner in which individuals cope differently when faced with the same stressors. One of the focus areas of the fortigenic approach in health psychology is stress management for wellness. According to Matheny, Aycock, Curlette, and Junker (1993), stress results from an imbalance between appraised demands and appraised resources. In this chapter, the concepts of stress, coping and coping resources are presented and explored. The role of coping resources is discussed as a means of mediating the stress response and of promoting wellness. The first section of the chapter lays a foundation for this construct by exploring the general concepts of coping and stress. The chapter further discusses Antonovsky’s (1988) construct of sense of coherence together with its role in measuring how different individuals cope with life’s stressors. Different models are presented to demonstrate the progress in the scientific understanding of these concepts. Recent research findings and developments in the field are also presented.

3.1 Stress

According to Sheridan and Radmacher (1992), there has been limited theoretical and empirical clarity as to the exact definition of the term “stress”. Due to these limitations in defining stress the researcher has found it necessary to introduce popular,
earlier approaches to stress leading up to the more widely-accepted, present-day approaches.

Selye (1976) defined stress in terms of the body’s physiological response to a demand. He claimed that regardless of whether the demand is positive or negative the body will respond to the demand. Should positive stress, or eustress, occur; there will be an increase in awareness and mental alertness, which often leads to improved cognitive and behavioural performance. Negative stress, or distress, is damaging and unpleasant. These demands placed on the individual, be they environmental or internal, can be referred to as “stressors” (Sheridan & Radmacher, 1992).

Monat and Lazarus (1977) identified three types of stress. Firstly, a systemic or physiological stress that is concerned with disturbances of physiological processes and tissue systems. Secondly, a social stress that is concerned with the disruption of a social unit or system. Lastly, a psychological stress that is concerned with cognitive factors and processes that contributes to the evaluation of an event as a threat.

Lazarus and Folkman’s stress model (1984) has become the most widely used approach. They conceptualised stress as “a particular relationship between the person and the environment, which is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being” (p.19). Stress is thus the resulting imbalance between appraised demands and appraised resources (Lazarus & Folkman, 1984). The actual internal or environmental demand placed on the individual may be referred to as a “stressor” (Sheridan & Radmacher, 1992).
Stress can be defined in three basic ways according to Coyne and Holroyd (1982): (a) the Response-based model, (b) the Stimulus-based model, and (c) the Interactional model.

These three models will now be introduced in more detail. In the following subsection the researcher introduces the Response-based model.

3.1.1 Response-based Model

This model conceptualises stress as a dependent variable. Approaches using this model tend to be concerned with the specification of the particular response or pattern of responses, which may be taken as evidence that the person is under pressure from a disturbing environment (Lazarus & Folkman, 1984).

According to Selye (1976), the response syndrome represents a universal pattern of defence reactions serving to protect the person and preserve integrity. This defence reaction progresses with continual or repeated exposure to the stressor through three stages represented by the General Adaptation Syndrome (Selye, 1976). These three stages are discussed in the following section:

1. The Alarm reaction: The body displays changes characteristic of initial exposure to the stressor during this phase. The body’s levels of resistance are reduced and death may result if the stressor is sufficiently severe.

2. The Resistance phase: This phase follows, should continued exposure to the stressor be compatible with adaptation. The alarm reaction disappears and is replaced by changes marking the person’s adaptation to the situation and their resistance rises above normal.
3. The Exhaustion phase: Following long term exposure to the stressor, exhaustion may result causing a collapse, thus should defence responses be severe and prolonged, disease may occur.

The response-based model has been criticised by Monat and Lazarus (1977), who stated that the same response pattern may arise from entirely different stimulus conditions (e.g., an increased heart rate need not represent stress, since it could be as a result of heavy exercise or extreme fright). In the following subsection the researcher introduces the Stimulus-based model.

3.1.2 Stimulus-based Model

This model is defined in terms of the disturbing environment or external stressors, which are disruptive to the person. Using this model, stress is seen as an independent variable in terms of a stimulus causing the stress. Experiences, under this model, are deemed stressful if they lead to a stressful response, such as breathlessness, heart palpitations and anxiety (Mulhall, 1996).

Stress may not be objectively defined as the level of the environmental conditions without referencing the characteristics of the person. What is stressful for one person is not necessarily stressful for the other (Lazarus & Folkman, 1984), implying a need for a relational perspective, which suggests that individuals respond differently to stressors depending upon their relationship and perspective of the stressor. The following subsection introduces the Interactional model.

3.1.3 Interactional Model

In this model, stress is defined as an imbalance between the environment and the person. Stress is a dynamic system of interaction between the individual and the
environment (Lazarus & Folkman, 1984; Mulhall, 1996). According to Weiten, Lloyd and Lashley (1991), Lazarus indicated that “stress resides neither in the situation nor in the person; it depends in the transaction between the two” (p.64). This eclectic definition draws on both the response and stimulus model definitions. Stress is therefore a subjective perceptual phenomena grounded in psychological processes. It incorporates both the objective situation and the individual’s subjective psychological and physiological responses or appraisals (Lazarus & Folkman, 1984).

This system could be referred to as cyclic rather than linear since there is a feedback component which occurs at the end as well as during the process (Lazarus & Folkman, 1984). According to this theory, the impact of the stressor is mediated by the individual’s appraisal of the stressor in terms of the risk to the person and their ability to cope with the situation (Lazarus & Folkman, 1984). This model has its critics, such as Hobfall’s (1989) conservation of resources model, although it does continue to grow and mature.

This section introduced the Interactional model. In the following section the researcher introduces the Conservation of Resources model.

3.1.4 The Conservation of Resources Model

Hobfall (1989) believed the Conservation of Resources model could be added to the above conceptualisations. Hobfall’s (1989) conservation of resource model suggests that individuals constantly strive to retain, protect and build their coping resources. Hobfall further maintained that the focus of all stress models should be directed to the resource side of the equation. Threat or stressors result from any perceived or potential loss of these resources. Hobfall (1989) claimed the interactional model of stress is
"tautological, overly complex and not given to rejection" (p.515). This criticism results from the fact that demand and coping capacity are not defined separately in the interactional model. Hobfall (1989) claimed that whether an event is demanding or not, depends on the coping capacity, and that whether the coping capacity is adequate or not, is dependant upon the demand. This model suggests people possess resources which are important to them, and that they desire to protect and conserve these resources (Hobfall, 1989). These resources include objects such as a home or a business, condition resources such as seniority, power, or marriage, personal characteristics such as self-efficacy and self esteem, and energies such as time or knowledge (Hobfall, 1989). Hobfall has thus conceptualised stress in terms of a reaction to the environment, in which there is either: (a) the actual threat of a loss of resources (e.g., possible loss of employment, illness); (b) the net loss of resources (e.g., bankruptcy, loss of home); or (c) the lack of resource gain following the investment of resources (e.g., power, possessions). In other words he conceptualised stress in terms of the potential loss of coping resources that may be experienced in a stressful situation.

The above discussion highlights the complexity in attempting to define stress. The concept of stress was presented in this chapter since it lays the groundwork to understanding the sample of postgraduate learners who took part in this study. Hobfall (1989) believed that insufficient attention has been given to the coping skills of the individual experiencing the stressor, and the variables generating the impact of such a stressor. According to Lazarus (2000), recent research of stress treatment has focused on the cognitive, behavioural and relational concepts of appraisal and coping. According to this approach, should the individual change his or her thinking patterns or appraisal of the
stressor, this would influence how the individual relates to that stressor and thus the resultant behaviour will change accordingly.

In the aforementioned section the traditional and more recent models of stress were introduced. In the following section of this chapter the concept of coping will be discussed.

3.2 Coping

Coping is arguably the most widely studied topic in all of contemporary psychology (Hobfall, Schwarzer, & Chon, 1998). Lazarus and Folkman (1989), defined coping as an individual’s “constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (p.41).

Coping refers to the cognitive and behavioural efforts required to manage specific demands that are appraised as taxing or exceeding the resources of the person (Lazarus & Folkman, 1984). Lazarus and Folkman defined coping further as being process-oriented (i.e., the active efforts to overcome, master, reduce or tolerate the negative consequences of internal or external demands).

Coping is a diverse concept, and breaking it into three broad components (i.e., physiological, learned and cognitive), will provide a better understanding of what this seemingly large area is about.

1. The physiological component. The body has its own way of coping with stress. Any threat that an individual perceives as stressful in the environment triggers a chain of neuroendocrine events (Frankenhauser, 1986).
2. The learned component. This component of coping was defined by various social learning theories, which assume that much of human motivation and behaviour is the result of what is learned through experiential reinforcement (Bandura, 1977).

3. The cognitive component. This approach emphasises the mental process of how the individual appraises the situation. The level of appraisal determines the level of stress and the unique coping strategies that the individual uses (Lazarus & Folkman, 1989).

Lazarus and Folkman (1984) identified two processes that occur when the individual experiences a stressor, namely: (a) cognitive appraisal, and (b) coping. They divided these two processes into three phases: (a) primary appraisal, (b) secondary appraisal, and (c) coping.

1. Primary appraisal is the process of perceiving a threat to oneself. In this situation an individual evaluates whether a situation may bring harm or negative consequences. Should it be decided that a stressor does not represent danger then the coping process is ended. Should danger be perceived then the individual moves to the next stage.

2. Secondary appraisal. In this phase the person evaluates whether anything can be done about the perceived stressor. If something can be done, the individual assesses what form of action to take. This stage also involves the individual’s evaluations of their coping resources and the options available for dealing with the stressor or stressors.

3. Tertiary appraisal. Coping may include actions, cognitive re-adjustment, redefining of the situation or anything else appropriate after the
individual’s primary and secondary appraisal as indicated above. (Lazarus & Folkman, 1984).

Coping with a stressor does not necessarily mean that the coping strategy employed is constructive in nature. Weiten, Lloyd and Lashley (1991), divided the coping processes into two groups, namely: (a) maladaptive or with limited values, and (b) constructive-adaptive coping processes that are limited, include giving up, striking out at others, indulging or self-blaming, and defensive coping. According to McCrae and Costa (1986) the most effective coping responses are seeking help, communication, using humour, self-confidence, a feeling of control, maintaining faith, and drawing strength from adversity.

Weiten et al. (1991) reported that the following guidelines apply to constructive coping:

1. Constructive coping confronts problems directly.

2. Constructive coping involves realistic appraisals of the stressors and coping resources.

3. Constructive coping seeks to recognise and occasionally inhibit potentially disruptive emotional reactions to stress.

4. Constructive coping seeks to exert control over potentially harmful or destructive, habitual behaviours.

The aforementioned section has discussed coping in general. The following section looks at different coping types.
3.2.1 Coping Types

The two major functions of coping are the following: (a) to manage or alter the problem that is causing distress, and (b) to regulate emotional responses to the problem. According to Lazarus and Folkman (1984) the former can be referred to as problem-focused coping and the latter can be called emotion-focused coping.

3.2.1.1 Problem-focused coping

These forms of coping are relied upon when situations are appraised as open to change. This function is aimed at resolving the problem or doing something to alter the source of the stress (Lazarus & Folkman, 1989). The individual thus makes attempts to understand the problem and to work out possible solutions (Bishop, 1994). Problem-focused forms of coping include cognitive problem-solving and decision-making. Problem-focused coping predominates when people feel that something constructive can be done and attempt to solve the problem through active engagement of the stressor (Folkman & Lazarus, 1980).

3.2.1.2 Emotion-focused coping

This form of coping includes cognitive processes directed at lessening emotional distress, and are relied upon when situations are not open to change, resulting in such cases the individual focusing on the management of emotional distress. Most of these processes may be referred to as “cognitive reappraisals” and are aimed at altering the meaning of a situation, without changing the environment (Bishop, 1994). Emotion-focused coping tends to occur when people feel that the stressor is something that must be endured (Folkman & Lazarus, 1980). Included in the behavioural aspect of emotion-
focused coping are behavioural strategies such as engaging in physical exercise, mediation and emotional support (Lazarus & Folkman, 1984).

Coping is a complex process influenced by personality, situational demands, and the social and physical characteristics of the setting (Lazarus & Folkman, 1984). Research into life stressors, coping and coping resources has occupied centre-stage in psychological investigations of human well-being (Holahan & Moos, 1990). It has been contended that measuring coping resources is more predictive of stressful reactions than measuring demands (Hobfall, 2001).

Hammer and Marting (1988) provided a tool for identifying resources that are available to individuals for managing stress, with the primary focus on identifying resources rather than deficits. Their model measured an individual’s resources across five domains: cognitive, social, emotional, spiritual/philosophical and physical. This tool is discussed in more detail in Chapter 6.

Hammer and Marting’s (1988) research defined coping resources as “those resources inherent in individuals that enable them to handle stressors more effectively, to experience fewer or less intense symptoms upon exposure to a stressor or to recover faster from exposure” (p.2). Hammer and Marting’s (1988) model of coping resources was adopted for this research, as it constitutes a biopsychosocial conceptualisation. This conceptualisation is relevant to the exploration and description of the coping resources of the masters and doctoral postgraduate learners at NMMU. The Coping Resources Inventory (CRI) provides a comprehensive structure of assessment across five domains of functioning as well as offering a detailed explanation of coping resources available to
individuals faced with stressful situations. This will be discussed in more detail in the methodology chapter.

The aforementioned section introduced types of coping and coping research. The following section introduces coping resources and highlights the importance of studying fortigenic concepts like coping resources as opposed to studying stressors or demands placed upon the individual.

3.3 Coping Resources

Coping resources play a vital role in the paradigm of Positive Psychology and wellness. According to Hobfall (2001), the role of coping resources is thus emphasized as a means of mediating the stress response and promoting wellness. Hobfall defined an event as demanding, based on whether the person’s coping ability is adequate to meet the demand.

Coping resources are the single units required for understanding stress. Hobfall (1989) defined resources as “those objects, personal characteristics, conditions, or energies that are valued by the individual or that serve as a means for attainment of these objects, personal characteristics, conditions, or energies” (p.516). Individuals with low resources have been defined as vulnerable and constitutionally fragile, while those with high resources have been characterised as resilient (Kessler & Essex, 1982).

Hammer and Marting’s (1988) Coping Resource Inventory (CRI) examines the resource end of the demand-resource imbalance (Matheny, Aycock, Curlette, & Junker, 1993). The CRI will be used as one of the measuring instruments in this study. Hammer and Marting (1988) examined coping resources in five domains namely, cognitive, social, emotional, spiritual/philosophical and physical.
1. The cognitive domain is concerned with the extent to which individuals maintain a positive sense of self-worth, a positive outlook towards others, and optimism about life in general.

2. The social domain focuses on the degree to which individuals are embedded in social networks that are available to provide support in times of stress.

3. The emotional domain questions the degree to which individuals are able to accept and express a range of affect, based on the proposition that a range of emotional responses help in relieving the long-term negative consequences of stress.

4. The spiritual/philosophical domain examines the degree to which the actions of individuals are guided by stable and consistent values from religious, familial or cultural tradition or from personal philosophy.

5. The physical domain questions the degree to which individuals enact health-promoting behaviours, which is believed to contribute to increased physical well-being.

Some types of resources are effective in helping individuals deal with stressors, while others may be important in preventing demands from becoming stressors (Matheny, Aycock, Pugh, Curlette, & Canella, 1986). They had suggested that “increasing one's (coping) resources should positively affect the equation between perceived demands and resources at the appraisal stage” (p.533).

This approach is similar to Antonovsky’s (1996) generalized resistance resources (GRRs). According to Antonovsky, individuals with a sense of coherence (SOC) will be
able to bring into play the GRRs available to deal with the stressor. The result is that they are more likely to define stimuli as non-stressors and to assume that they can adapt automatically to the demand. This strong belief in available coping resources, allows the individual to choose the appropriate strategy from the available resources at their disposal (Anson, Carmel, Levenson, Bonney & Moaz, 1993).

Research shows that persons with higher levels of preventative coping resources should be more likely to make the initial evaluation that a certain demand represents a stressor (Folkman & Lazarus, 1988; Matheny et al., 1993).

McCarthy, Lambert and Brack (1997) reviewed literature on coping resources and distinguished between preventative and combative categories of resources. Preventative coping is aimed at preventing potential stressors and at building resources for resisting them. Combative coping resources are those resources that tend to be drawn on to alter or mitigate a stressor that is already being experienced (McCarthy et al., 1997).

According to Lu and Chen (1996) three factors are present when examining coping resources and coping behaviour: (a) in certain types of coping behaviour demographic variables and personality traits play a role, (b) perceived life stress is not related to coping behaviours, and (c) greater social support is related to greater use of all kinds of coping behaviour.

In this study, Antonovsky’s (1979) sense of coherence was defined as a resistance resource, which is more valuable in coping with recent life stress. In some situations personal resources may facilitate the recruitment of collective resources. Personal and resistance resources also enable those who possess them to recruit the available collective resources in the coping process (Anson et al., 1993).
According to Anson et al. (1993), both personal and collective resources were found to have an independent salutogenic and fortigenic effect on well-being after an individual has experienced a stressful life event. Personal resources have been found to be a better resource for avoiding the effects of recent life stressors. It was also discovered that neither of the two types of resources had any additive effects on well-being, nor did they compensate for each other (Anson et al., 1993).

In the aforementioned section a broad overview of coping resources was provided. The following section introduces Antonovsky’s (1979) construct of Sense of Coherence (SOC).

3.4 Sense of Coherence (SOC)

Antonovsky (1987) described Sense of Coherence (SOC) as a personal resource which develops over a life-span and crystallizes in early adulthood. This resource he found valuable in coping with recent life stressors. Antonovsky (1987) defined SOC as a: a global orientation that expresses the extent to which one has a pervasive, enduring, though dynamic feeling of confidence that (a) the stimuli deriving from one’s internal and external environments, in the course of living, are structured, predictable and explicable, (b) the resources are available to one to meet the demands posed by these stimuli, and (c) these demands are challenges, worthy of investment and engagement. (p.19)

The SOC construct was developed by Antonovsky (1986) in an attempt to explain the manner in which individuals successfully function and cope with daily living, given the complex stressors inhibiting the progress towards a sense of health and well-being.
The SOC comprises three components; comprehensibility, manageability and meaningfulness (Antonovsky, 1987).

1. Comprehensibility concerns the degree to which an individual regards internal and external stimuli as consistent, ordered and clear (Antonovsky, 1987).

2. Manageability concerns the belief by the individual that there exist available resources to deal with these stimuli (Antonovsky, 1987).

3. Meaningfulness refers to the degree in which the individual perceives these demands as “challenges worthy of investment and engagement” (Antonovsky, 1987, p.19).

Meaningfulness represents the most important part of the SOC since without it neither comprehensibility nor manageability will last (Strang & Strang, 2001). According to Antonovsky (1987), an individual’s SOC develops throughout childhood, adolescence and early adulthood as a result of their experiences and the extent to which these are comprehensible, manageable and meaningful.

Antonovsky (1996) developed the concept of generalized resistance resources (GRRs) and this requires further explanation. GRRs are resources which facilitate effective tension management in any given situation. The term GRR refers to “a property of a person, a collective or a situation which, as evidence or logic has indicated, facilitates successful coping with the inherent stressors of human existence” (Antonovsky, 1996, p.15). Antonovsky (1979) described a range of GRRs including emotional, macrosociocultural, interpersonal-relational and cognitive GRRs. An individual’s strength of SOC is dependent upon their ability to utilize the GRRs available to them (Antonovsky, 1979). The strength of the individual’s SOC is dependent upon
their ability to utilise their available GRRs. This relationship between SOC and GRRs is dynamic and reciprocal (Antonovsky, 1987). Antonovsky (1987) termed deficits in these GRRs, generalized resistance deficits or GRDs. These deficits impact upon the GRRs and the person may cope ineffectively with life’s stressors and develop pathology (Antonovsky, 1987).

Antonovsky and Sagy (1986) reported that an individual with a low SOC would be prone to suffer from anxiety and psychological distress. Antonovsky (1993) stated that the SOC construct is universal and cuts across gender, age, social class and cultural boundaries. Antonovsky (1996) stated that it is important that an individual’s life experience leads to a strong SOC, as this would allow one to access and apply the resources appropriate to that stressor, leading to increased coping.

This section addressed the development and use of the construct “Sense of Coherence”. The following section addresses the relationship between the SOC and coping.

3.4.1 SOC and Coping

Individuals with weak SOCs perceive internal and external stimuli as unexplained disorder and chaos and as unpredictable in terms of the future and feel unfairly victimised by these events (Strümpfer, 1993). According to McSherry and Holm (1994) individuals with a low SOC are more psychologically distressed before a stressful situation and also maintain these greater levels of distress subsequent to the event. Low SOC individuals are also less likely than high SOC individuals to believe that they possessed resources to cope with stressors, whereas high SOC individuals enjoyed more positivity which aids them in dealing with life’s challenges (McSherry & Holm, 1994). The SOC significantly
affects cognitive appraisal and secondary appraisal (Lazarus & Folkman, 1984). It thus is a measure of coping orientation or orientation to life (Antonovsky, 1987).

The SOC is a dispositional orientation, not a state or trait, and “what the person with a strong SOC does is to select the particular coping strategy that seems most appropriate to deal with the stressor being confronted” (Antonovsky, 1987, p.138). In other words persons with a strong SOC are able to choose appropriate resources from their existing generalised and specific resistance resources. Antonovsky (1987) further distinguished between a resistance resource as a potential asset, and the actual mobilisation and utilisation of a resource. This mobilisation of the resource in the face of a stressor is the real strength of an individual with a high SOC (Antonovsky, 1987).

Antonovsky developed a 29-item Sense of Coherence Questionnaire (SOC-29), also called the Orientation to Life questionnaire, to measure the concept. In the present study, the SOC-29 was used as one of the six measuring instruments.

In this section the researcher dealt with the relationship between SOC and coping. The following section looks at the relationship between SOC and boundaries.

3.4.2 SOC and Boundaries

Antonovsky (1987) maintained that there are four spheres that are to be included for a person to maintain a strong SOC, namely, their own feelings, immediate interpersonal relations, the major sphere of activity (i.e., work), and the existential experiences of death, failures, shortcomings, conflict and isolation. Antonovsky (1987) reported that people set boundaries and are not troubled by what happens outside of these boundaries. Therefore, even though they may have a high SOC, individuals do not view
their entire world as meaningful, comprehensible and manageable. The following section will address the relationship between SOC and psychological well-being.

3.4.3 SOC and Psychological Well-being

Antonovsky (1987) suggested that it is reasonable to expect positive relationships between SOC and well-being on two grounds. These two grounds are: (a) that the SOC is generative of good health and health has a positive influence on global estimates of one’s well-being thus indirectly relating the two, and (b) many GRRs promoting a strong SOC are also related to well-being.

Wissing and Van Eeden (1997) conducted a South African study which supported Antonovsky’s (1993) findings of positive correlations of the SOC with indices of psychological well-being, such as internal locus of control, self esteem, hardiness, general well-being, quality of life, problem-focused coping, and stamina.

3.5 Conclusion

Chapter 3 provided a discussion of stress, coping and coping resources and various theories were presented from a psychofortology perspective. It also highlighted the growing body of theory and research in the field of coping and coping resources. The chapter further highlighted the importance of studying fortigenic concepts like coping resources as opposed to demands. Hammer and Marting’s (1988) model of coping resources was adopted, as it constitutes a biopsychosocial conceptualisation. This conceptualisation is relevant to the exploration and description of the coping resources of the masters and doctoral postgraduate learners at NMMU. Antonovsky’s (1988) Sense of Coherence Questionnaire (SOC-29) was also used to measure the concept of coping orientation or SOC.
An attempt was made in this chapter to link the concepts of stress, coping and coping resources. Together with coping resources and sense of coherence, the construct “subjective well-being” is a broad composite of fortigenesis. The following chapter is devoted to the construct of subjective well-being.
Chapter 4
Subjective Well-being

4.0 Introduction

The past 10 years has seen an increase in research into the construct of subjective well-being (Diener, 2000). Psychologists are becoming increasingly interested in the positive side of the psychological well-being spectrum. Positive psychologists have begun to examine the causes and consequences of happiness, self-esteem, optimism and other indicators of positive well-being instead of concentrating on the factors that lead to disorders (Lucas, Diener, & Suh, 1996). People are becoming increasingly concerned with happiness and fulfilment (Diener, 2000). Diener conducted an international survey of college learners and reported that they rated life satisfaction and happiness as extremely important. This chapter reviews the theory and research in the area of subjective well-being, with a specific focus on satisfaction with life, happiness and general psychiatric health.

4.1 Defining Subjective Well-being

A number of terms have been used to identify well-being, including objective and subjective well-being, life satisfaction, quality of life and happiness (Strack, Argyle, & Swarz, 1991). According to Diener (1984) there are three important areas in subjective well-being:

1. It is subjective, meaning it resides within the experience of the individual. The individual’s beliefs and emotions concerning their well-being are of paramount importance.
2. Subjective well-being focuses on positive measures as well as the absence of negative factors, such as psychiatric distress.

3. Subjective well-being measures all aspects of the person’s life, and sometimes may focus on a certain domain.

Diener (1994) reported that a person’s experience of well-being remains relatively stable in varying situations across time, and that although an individual’s emotions may fluctuate in response to these situations, they eventually adapt to these changes and return to their original level of emotion over time.

Subjective well-being is a broad category of phenomena that includes people’s emotional responses, domain satisfactions, and global judgements of satisfaction with life. Studies that seek to identify the causes, predictors, consequences of happiness and satisfaction with life are referred to as studies of subjective well-being, with satisfaction with life referring to the global judgment about the acceptability of a person’s life (Compton, 2005). Thus, subjective well-being is defined as people’s evaluations of their own lives (Diener, 2000).

Diener (1994) reported that people with low levels of subjective well-being experience their circumstances and their lives as undesirable. They thus present with unpleasant emotions such as anxiety, anger and depression. Subjective well-being can be explored and defined on an emotional and a cognitive level. On an emotional level, subjective well-being is related to the experience of pleasant emotions, and the relative absence of negative emotions, such as psychiatric depression and anxiety, while on the cognitive level, subjective well-being includes a global sense of satisfaction with life, together with more specific satisfaction with various aspects of life (Diener, 1994; Diener
Subjective well-being is thus a broad term consisting of an individual’s evaluative reactions to his or her life in terms of life satisfaction or affect (Diener & Diener, 1995).

Diener, Lucas, Smith and Suh (1999) indicated that subjective well being included four different components: (a) pleasant affect (e.g., pleasant emotions and mood), (b) the relative absence of unpleasant affect (e.g., anger, anxiety and depression), (c) life satisfaction, and (d) satisfaction with life domains (e.g., marriage, work, income, housing, leisure and health).

Diener et al. (1999) reported that since research into subjective well-being focussed on long term moods rather than momentary emotions, the research should include measures of unpleasant affect. This unpleasant affect includes emotions such as worry, anxiety and depression which cannot be diagnosed on a clinical level, but still detracts from the individual’s sense of well-being. Lewinsohn, Render and Seeley (1991) reported that low subjective well-being could be experienced on both the interpersonal and intrapersonal levels. At the interpersonal level, a greater number of stressors are experienced together with a range of negative cognitive and emotional patterns. At an intrapersonal level it is characterised by reduced participation and enjoyment in pleasant activities as well as a reduced level of motivation.

According to Compton (2005), subjective well-being consists of three components: judgment, cognitive processes and neuroticism. Using these three components as a base, Compton (2005) reported that high subjective well-being occurred when people reported feeling very happy, very satisfied with life and when experiencing...
low levels of neuroticism. Diener, (2000) found that the last decade had seen an international increase in research into the field of subjective well-being in psychology.

This section introduced and discussed subjective well-being. The following section explores the measurement of subjective well-being.

4.2 Theoretical Approaches and Predictive Variables to Subjective Well-being

According to Diener, Lucas and Oishi (2005), theories of subjective well-being can be grouped into three categories: (a) need and goal satisfaction theories, (b) process or activity theories, and (c) genetic and personality disposition theories. Need and goal theorists suggest that subjective well-being is achieved when an individual strives for or attains a goal. Process or activity theorists suggest that individuals are happy so long as they are actively engaging in a meaningful activity. According to the genetic and personality disposition theorists, subjective well-being is dependent upon our genetic heritage such that some individuals are born prone to be happy, while others are prone to be unhappy (Diener, Lucas & Oishi, 2005).

Research has shown that subjective well-being is relatively stable over time, and that while affect may vary across time, people adapt to these changes and return to their previous levels of subjective well-being (Diener & Larsen, 1984). The two personality traits most closely related to subjective well-being are extroversion and neuroticism, such that it can be said that an individual who is extroverted and has low levels of neuroticism, will have high levels of subjective well-being (Diener, Lucas & Oishi, 2005).

The theoretical approach to subjective well-being appears to be focussed on two primary levels. The first describes and compares people in various categories, especially
along demographic dimensions such as gender, age, marital status, income and education (Diener & Oishi, 2000; Diener & Suh, 1997; Diener, Lucas, Smith & Suh, 1999; Myers & Diener, 1995). The second type of theoretical approach presents models that explore subjective well-being, and emphasise variables such as goal fulfilment, adaptation and social comparison (Diener & Diener, 1995; Diener et al., 1999).

According to Diener and Suh (2000), there are profound differences across cultures regarding what makes people happy. Thus subjective well-being varies between individual and collectivistic cultures, and therefore the cultural context needs to be borne in mind when conducting research.

The seven core variables that best predict happiness and satisfaction with life in Western industrialized cultures (Argyle, 1987, Diener et al., 1999, Myers, 1992) include:

2. Sense of perceived control (internal locus of control or control by proxy).
3. Extroversion.
4. Optimism.
5. Positive social relationships.
6. Sense of meaning and purpose to life.
7. Resolution of inner conflicts or low neuroticism.

These will now be discussed in more detail.

4.2.1 Positive self-esteem

Self-esteem is the most important predictor of subjective well-being (Campbell, 1981). According to Compton (2005), positive self-esteem is associated with adaptive functioning in almost all areas of life. Positive self-esteem has been found to be
associated with less delinquency, greater anger management, greater intimacy and satisfaction in relationships, more ability to care for others, and a heightened capacity for creative and productive work (Hoyle, Kernis, Leary, & Baldwin, 1999).

High self-esteem provides people with a number of advantages, including a sense of meaning and value and is a helpful guide to negotiating interpersonal relationships and is a natural product of healthy personal growth (Ryan & Deci, 2000). Compton (2005) suggested that it is possible for individuals to have self-esteem that is too high, and that since this appraisal is composed of positive self-evaluations, these subjective evaluations could be considered fragile.

4.2.2 Sense of perceived control

The sense of having control refers to the ability of an individual to exercise some form of control over events in life that are personally important (Compton, 2005). Perceived control may be an innate need (Ryan & Deci, 2000), since without this control life becomes a “tornado” of random events, and most would find this distressing. According to Compton (2005), this does not imply that an individual needs complete control over events in life since this then becomes a desire for absolute power and is destructive to well-being.

Traditionally this predictor has been termed locus of control, where an internal locus of control is desirable and tends to attribute outcomes to self-directed efforts (Compton, 2005). An external locus of control is the belief that events in one’s life are controlled by factors outside the person’s immediate control. Control by proxy occurs when an individual is controlled in their thinking and behaviour by an outside source, and
may or may not choose to be in this situation (i.e., citizens under a dictatorship or members of a political party).

Personal control has been defined by Petersen (1999) as “the individual’s belief that he or she can behave in ways that maximize good outcomes and/or minimize bad outcomes” (p.288). A sense of personal control “encourages emotional, motivational, behavioural, and physiological vigour in the face of demands” (Petersen & Stunkard, 1989, p.290).

4.2.3 Extroversion

An extroverted person is one who is interested in things outside him-or herself, such as physical and social environments, and is oriented to the world of experiences external to self. According to Diener et al. (1999), a number of studies have found extroversion to be one of the most significant predictors of subjective well-being. Extroversion has also been shown to predict levels of happiness up to 30 years from the initial testing (Costa & McCrae, 1986).

Researchers initially thought that the sociability component of extroversion was the one most related to well-being. However, recent studies have found that extroverts did not spend more time with people than introverts, but extroverts seemed to be happier than introverts even when spending time alone (Pavot, Diener & Fujita, 1990). According to Rusting and Larsen (1998), some researchers have suggested that extroverts tend to report greater levels of happiness because they are born with a greater sensitivity to positive rewards, or have stronger reactions to pleasant events (Larsen & Ketelaar, 1991). Extroverts may also report greater well-being because they have a predisposition to experience positive emotions (Lucas, Diener, Grob, Suh, & Shao, 2000). This leads to the
event being encoded positively and then later recalled as a positive memory (Compton, 2005). Extroverts may also report higher levels of happiness because they are more likely to find social situations stimulating and comfortable (Moskowitz & Cote, 1995).

4.2.4 Optimism

Individuals who are more optimistic about the future report being happier and more satisfied with life (Diener, Lucas, Smith, & Suh, 1999). Seligman (1990) proposed the construct of learned optimism, whereby individuals could learn to be more optimistic by attending to how they explain life events to themselves. Schneider (2001) argued for the alternative to learned optimism and called her construct realistic optimism. Schneider claimed that realistic optimism relied on regular reality checks to update assessments of progress, fine tuned understanding of potential opportunities and refined causal models of situations, and re-evaluated planned next steps. This involved attention to both environmental and social feedback about whether beliefs fall outside the range of positive possibilities. Compton (2005) reported that realistic optimism is recognition that there may be opportunities for positive growth or learning even in difficult circumstances.

4.2.5 Positive social relationships

The presence of positive social relationships is another important predictor of subjective well-being (Diener et al., 1999; Myers, 2000). The perception that one is in a supportive social relationship is related to high self-esteem, successful coping, better health, and fewer psychological benefits (Compton, 2005).

According to Compton (2005), there are two related aspects to having positive social relationships, namely: (a) social support and (b) emotional intimacy. Compton reported that people most wanted to be with others when they were very happy, thus
feeling happy may increase social contact, and since social contact or support increases well-being, he suggested the relationship between positive social relationships and subjective well-being may be reciprocal.

4.2.6 Sense of meaning and purpose to life

A sense of meaning and purpose in life is an important predictor of higher subjective well-being. This variable has often been measured as religiosity in numerous subjective well-being studies (Myers, 1992, 2000). Numerous studies have found that people who report greater religious faith, greater importance of religion, and more frequent attendance at religious services report greater well-being (Compton, 2005).

4.2.7 Resolution of inner conflicts or low neuroticism

Compton (2005) reported that the third most important predictor of subjective well-being is the “inverse relationship with negative emotionality and neuroticism: the less neuroticism the higher the subjective well-being” (p.53). Donahue, Robins, Roberts and John (1993) suggested that according to research, the less fragmented the self or the greater the integration and coherence amongst aspects of the self-system, the more a person’s perceived subjective well-being would be enhanced.

Traits related to subjective well-being seem to tap into both social interactions and personal characteristics (Compton, 2005). According to Compton, individuals who have achieved an emotional balance between high self-esteem, perceived control, optimism, sense of meaning, and few inner conflicts will believe that this balance is permanent. Happier people also tend to have more social relationships and are usually more extroverted. This way of relating to the world is mutually reinforcing since the manner in which the positive individual represents him or herself to the world results in a positive
reaction from others and therefore reinforces the individual’s self-esteem. This cycle, according to Compton (2005), produced a sense that life has meaning and purpose, as it leads to a belief that life is predictable and meaningful. “We are engaged in a social world, both creators of our own social reality, and as products of the social reality we are embedded in” (Compton, 2005, p.65).

This section addressed a number of theoretical approaches and predictive variables to subjective well-being. The following section introduces the construct satisfaction with life.

4.3 Satisfaction with Life

Satisfaction with life refers to the degree to which an individual judges the overall quality of their life favourably (Veenhoven, 1991). Happiness will be discussed later in this chapter. Lucas, Diener, and Suh (1996) found that the construct of satisfaction with life can be distinguished from positive and negative affect. Campbell (1981) also distinguished between happiness and satisfaction by reporting that satisfaction does not have the same spontaneous quality as happiness.

A broad category assigned to subjective well-being is the cognitive component, or life satisfaction. However, this category has not received much attention (Diener, Emmons, Larsen & Griffin, 1985). Compton (2005) reported that satisfaction with life addresses a global judgement about the acceptability of an individual’s life. The answers to questions surrounding satisfaction with life are more cognitive in nature versus the emotional nature of questions related to the construct of happiness.

According to Diener, Emmons, Larson, and Griffin (1985) life satisfaction referred to a subjective cognitive, judgemental process. These judgements are dependent
upon a comparison of one’s circumstances with what is thought to be an appropriate standard as opposed to criteria judged important by an external source. Satisfaction is the result if the discrepancy is minor. If the discrepancy is high there is dissatisfaction with one’s life. Social comparison has been defined as “the process of thinking about information concerning one or more other people in relation to the self” (Woods, 1996, p.250). Social comparison can affect the individual’s satisfaction with life and subjective well-being (Diener & Fujita, 1997). Diener and Fujita (1995) reported that economic and social indicators are not sufficient alone to indicate the well-being of society or its individuals. However, the various domains of life are correlated on different levels with subjective well-being, but not sufficiently for subjective well-being to be positive (Diener et al., 1999).

This section introduced the construct satisfaction with life. The following section introduces the construct of happiness.

4.4 Happiness

Snyders and Lopez (2005) reported that happiness theories can be divided into three groups: (a) need and goal satisfaction theories, (b) process or activity theories, and (c) genetic and personality predisposition theories. The first grouping suggests that the reduction of tension leads to happiness and that by moving towards a goal, individuals may attain subjective well-being. Happiness therefore is a desired end state to which all activity is directed (Snyders & Lopez, 2005).

There are two general approaches when studying the topic of satisfaction with life and what is important for happiness (Compton, 2005). Diener (1984) found that happiness and satisfaction depend on the sum of small pleasures and happy moments,
which he termed his **bottom-up theory**. The other approach Diener (1984) termed his **top-down theory** which concerned a person’s manner of evaluating and interpreting experiences in a positive way. Variables associated with this approach include experiences of elation, joy, contentment, ecstasy and happiness (Diener, Lucas, Smith & Suh, 1999). Diener (2000) termed these pleasant affect and this formed part of an affective or positive component leading towards greater subjective well-being.

According to Compton (2005), when researchers ask people about their happiness, they are asking them to report on their emotional state and how they feel about their world and themselves. Diener (1984) reported that happiness has always been the focus of attention of the humanities, and the search for it has preoccupied the great philosophers. Happiness can be referred to as the positive judgment outcome when an individual weighs up his/her negative versus positive affects (Hatueell, 2004). Happy people are likely to experience more desirable events and have the propensity to interpret and recall ambiguous events as good (Hatueell, 2004).

Seligman (2002) coined the term **authentic happiness** which he described as finding one’s fundamental strengths and using them every day. These strengths would then over time become identifiable positive character traits for the individual. Compton (2005) stated that “a hedonic focus on positive emotions is combined with a eudemonic focus on virtues and personal growth in order to produce authentic happiness” (p.173). According to Seligman there are six principles of authentic happiness. These include the following:

2. Savouring success. Authentically happy people also tap into past successes to deal with problems in the present, as well as savouring successes in the present.

3. Social intelligence. Authentically happy know which strengths to use and which to avoid depending on the person or circumstance.

4. Opening doors. Authentically happy people see opportunities “open doors” when others see closed doors.

5. Strengths in couples. Authentically happy people thrive in romantic relationships and see strength in their union.

6. Finding meaning. Authentically happy people derive meaning from life and leave an imprint of their passing.

According to Compton (2005), studies have investigated whether it is the frequency or the intensity of positive feelings which produces happiness. Both intensity and frequency make independent contributions to happiness and subjective well-being (Diener, Larsen, Levine, & Emmons, 1985). They also found that the intensity of positive and negative emotionality is correlated, meaning that both positive and negative emotions are experienced with equal intensity. According to Compton (2005) this correlation is related to age and gender, insomuch as younger people and women report feeling emotions more intensely (Argyle, 1999). In a study related to the stability of happiness, Harker and Keltner (2001) reported that the amount of positive emotion expressed by women in their high school yearbook pictures—as measured by their smiles—was significantly related to their well-being thirty years later. Happy people are healthier, more successful and more socially engaged, and the causal direction is mutual. This
causality has emerged in the last few years and research has shown that happiness brings many benefits other than merely feeling good (Seligman & Steen, 2005).

It is not merely the events of an individual's life that results in happiness or unhappiness, but rather how that event is interpreted by the individual (Compton, 2005). Compton further argued that through the maintenance of consistent patterns of positive interpretation relatively stable ways of relating to the world are enhanced. These patterns would then create personality descriptions such as “cheerful” and “optimistic”.

This section introduced the reader to the construct of *happiness*. The following section introduces the construct of *general psychiatric health*.

### 4.5 General Psychiatric Health

A new division of psychology, health psychology, focuses on all the behavioural factors which may influence a person’s health (Brannon & Feist, 2000). Health psychology includes the use of psychological knowledge to prevent disease risk, to increase compliance with health directives and investigations into how the health system can work better (Brannon & Feist, 2000). Scientific studies have supported correlations between cognition, emotion, and physiological processes, thus supporting health psychology’s move towards creating wellness (Compton, 2005). A number of studies have also indicated an established relationship between subjective well-being and self-rated health, in that the absence of negative affect, such as in low levels of psychiatric distress, would indicate higher levels of subjective well-being (Diener, 1984).

In order to function optimally it is important that one’s general health remains relatively stable over time, and that normal healthy functioning is maintained in all aspects of life (Goldberg, 1978). To measure this adequately, a questionnaire which
measures alterations in normal functioning as opposed to lifelong traits or stable complaints is necessary. The General Health Questionnaire (GHQ) was developed to primarily assess the respondent’s inability to continue with normal, healthy functioning, together with the appearance or exacerbation of distressing symptoms (Goldberg & Williams, 1988). The GHQ was utilised in this study.

Each person plays an important role in shaping their personal health through their attitudes and beliefs, as well as the health behaviours that are maintained (Rice, 1998). Sarafino (1990) claimed that health and illness were traditionally viewed on a continuum, and that health remained understood only in relation to illness: a person was deemed healthy if they did not exhibit any signs of illness (i.e., they displayed the absence of negative affect). Presently health is considered more holistically, in that “high level” health requires a balance between any numbers of composite elements (Eberst, 1984). These composite elements would comprise those covered by psychofortology (i.e., coping resources, sense of coherence, satisfaction with life, happiness and general psychiatric health).

The aforementioned section introduced general psychiatric health. The following section introduces the measurement of subjective well-being.

4.6 Measuring Subjective Well-being

According to Compton (2005), one of the biggest problems holding back research into happiness was how to measure it, while the major problem with subjective well-being was who would define it. Researchers began to use the research participants themselves to define these terms. Myers and Diener (1995) reported that the only way to judge if someone was happy, would be to ask that person, as the real judge of how happy
someone was would be “whoever lives in a person’s skin”. (p.11) One of the most common methods of measuring subjective well-being is a measure called the Satisfaction with Life Scale (SWLS). The assumption behind self-reports of SWLS is that the respondent is in a privileged position to report his or her experience of well-being (Hatuell, 2004). The Satisfaction with Life Scale assesses within two minutes an individuals’ evaluative judgment of his or her global life satisfaction over a five-item scale using the person’s own unique set of judgmental criteria (Pavot & Diener, 1993). The SWLS consists of five statements which the participant may agree or disagree with, using a seven-point Likert scale, with 1 and 7 representing strongly disagree and strongly agree respectively (e.g., In most ways my life is close to my ideal, I am satisfied with my life, and etcetera). Each item is then scored from 1 through 7, implying that the scores may range from 5 (low satisfaction with life) through to 35 (high satisfaction with life).

The SWLS is an assessment tool which focuses on the positive side of the respondent’s experience rather than on negative emotion, and may be considered to be an important tool in measuring change in subjective well-being and intervention outcomes (Pavot & Diener, 1993). The SWLS has been designed to assess the cognitive, rather than the affective component of the construct and it does not claim to measure all aspects of subjective well-being (Pavot & Diener, 1993). The Satisfaction with Life Scale will be discussed in more detail in Chapter 6.

Subjective well-being is also measured by the Affectometer-2 Scale (AFM-2). The AFM-2 is a five minute brief inventory designed to measure general happiness and sense of well-being by determining, through recent experience, the balance between positive and negative feelings (Kamman & Flett, 1983). The 40-item Affectometer-2
scale assesses quality of life on an affective level, with overall well-being conceptualized as the extent to which positive feelings predominate over negative feelings (Kamman & Flett, 1983). The AFM-2 scale requires respondents to provide a graded response to 40 items, reflecting how often a feeling was present in the recent past. The responses range from “not at all” to “all the time” and are scored on a five-point Likert scale (Kamman & Flett, 1983). The AFM-2 will be discussed in more detail in Chapter 6.

Studies on subjective well-being found that people who reported to be happier and more satisfied tended to behave as though they were happier and more satisfied (Compton, 2005). Other people also perceived these people as being happier and more satisfied, and therefore, according to Compton (2005), it was acceptable to ask people about their own happiness and satisfaction with their lives and then give credence to their answers.

This section discussed and introduced measures of subjective well-being. The following section concludes this chapter.

4.7 Conclusion

This chapter has discussed subjective well-being as a broad category of phenomena, together with its related concepts and research studies. The chapter has focused on satisfaction with life as the cognitive component of subjective well-being, happiness as the emotional component, and introduced general psychiatric health.

Research findings often differ concerning the impact of predictive variables on subjective well-being as an indicator of the absence of negative affect, or the presence thereof, and that this presence of negative affect may indicate lower levels of subjective well-being.
However it is widely accepted that personality plays an important role in the determination and continuation of subjective well-being. Therefore subjective well-being should be viewed as an internal process rather than an external one (Diener, Lucas, Smith & Suh, 1999; Suh, Diener & Fujita, 1996). The following chapter provides a discussion on student life and well-being.
Chapter 5

Psychofortology and Student Life

5.0 Introduction

The years spent studying towards a degree represent many challenges to the learner, none however come close to the pressures imposed upon the learner once that learner moves into the postgraduate level. Faced with possible burnout and the pressure of having to perform suitably in order to remain on the programme, the learner finds himself or herself under conditions which may present as stress or illness, depending upon the availability of coping resources and efficient strategies (Sender, Salamero, Valles & Valdes, 2001).

The manner in which the learner deals with these conditioned challenges may be a deciding factor as to which learners will pass successfully at the end of the programme. Many learners at this point must perform according to the standards of their chosen profession as well as continue to further emancipate themselves from parental control. This process of emotional detachment from both parents and friends through changing social roles may generate psychological distress, mainly due to the fact that both the family and academic environment are underpinned by the model of social competition that predominates in professional activity (Sender et al., 2001).

As this adaptive process evolves, some learners may show signs of physical or psychological suffering. The early detection and treatment of these mental difficulties (both adaptive problems and well-defined psychiatric disorders) before these future professionals embark on their careers would be likely to help them achieve greater self-
control and to be able to cope more successfully with the demands of their professions (Sender at al., 2001).

According to Compton (2005), until recently physical health was defined by scientists and researchers as the lack of illness or disease. The World Health Organization was many years ahead of these scientists when it declared in an official statement in 1948 that “health is a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity” (p.108). Initially researchers focused on physical vitality and studied physical health as a pathway to energy and longevity (Compton, 2005). These researchers soon realized that there was more to vitality than physical well-being, and that in order to function effectively people had to be healthy in a number of areas of their lives (Compton, 2005). The term wellness began to be applied to optimal states of physical, mental and emotional health. This wellness perspective today covers the benefits of exercise, nutrition, stress management, emotional self-regulation, social support and personal growth (Edlin & Golantry, 1992; Witmer & Sweeney, 1992).

The focus of this study is an attempt to understand the psychofortigenesis (i.e., coping and subjective well-being) of NMMU learners who are studying towards a professional postgraduate degree in the Faculty of Health Sciences. Psychologists’ knowledge of subjective well-being remains elementary despite numerous research efforts (Vorster, 2002). Diener (2000) reported that a stronger foundation is needed in order to make recommendations to societies and individuals regarding ways to increase happiness. Seligman (1998) has stated that the field of Positive Psychology requires research into coping mechanisms and subjective well-being of individuals. Vorster (2002) reported that there is a dire need for investigation into subjective well-being in the South
African context. It is important that communities acknowledge the vital role subjective well-being has to play by tracking its development and providing support through education (Vorster, 2002). These studies are taking place during a potentially stressful merger process between three previously independent educational institutions, namely the University of Port Elizabeth, Port Elizabeth Technikon and Vista University, Port Elizabeth campus.

5.1 Positive Psychology in Educational Settings

Learning institutions are one of the obvious settings to implement training and education on Positive Psychology (Compton, 2005). Wehmeyer (1996) believed that learners who graduate as self-determined persons will be better equipped to adapt to a changing world in positive and healthy ways. Pajares (2001) reported that optimism and authenticity were higher in learners who were high in achievement motivation and goal orientation. Compton (2005) stated that as part of nurturing intelligence amongst learners he found it appropriate to encourage emotional intelligence as well.

Many learning institutions offer character education, moral education and life orientation programs, the aim of which is to teach positive moral values and the ability to distinguish right from wrong (Compton, 2005). A further goal of these programmes is to teach learners the ability to recognize ethical dilemmas and how to resist peers who pressure learners to violate personal values, as well as teaching them good decision-making and the promotion of citizenship (Murphy, 1998).

5.2 Student Wellness in South Africa

According to Van Lingen, (2005), views of health and wellness appear related to socio-economic and educational level. Van Lingen reported that pathogenic views of
health and wellness corresponded with lower socio-economic and education levels, while the salutogenic views corresponds with the higher socio-economic and educational levels.

According to Van Lingen (2005), in South Africa, alcohol and substance abuse are prevalent amongst student populations. Her research found that South African learners experience high levels of stress, depression and trauma, due to difficulties in adjusting to higher education, and the incidence of crime in South Africa. Van Lingen (2005) reported that spirituality was prominent in traditional belief systems amongst Black South African learners, and exposure to other cultures and values, compared to their traditional beliefs may create conflict.

Van Lingen’s research (2005) provided information which suggested that the psychofortology of South African learners differed across racial groupings and that Black learners faced more stressors than their White counterparts. Van Lingen found that South African Black learners experienced some difficulty in adjusting to previously “White” institutions, which heightened the risk of failure. Large numbers of Black learners are not prepared for University and many are first-generation learners. Many learners also have financial difficulties. Van Lingen reported that Black learners from disadvantaged school systems were found to perform more poorly than White learners. A further stressor for South African learners is the fact that the language medium of instruction does not correspond to their home language (Van Lingen, 2005).

According to Van Lingen (2005), career certainty relates positively to persistence in higher education. South African learners from disadvantaged backgrounds have been found lacking in career development. These learners do value their student role highly, and have high occupational aspirations, although the prospect of employment after
completion of studies is poor in the South African context.

Various studies undertaken at the University of Port Elizabeth in the 1990s highlighted the importance of holistic student development by confirming the need for student support in numerous areas. Koch (1994) identified the most prominent student needs to be the development of intellectual and social competence, together with the development of a sense of purpose, the development of a sense of integrity, and the management of emotions. In studies of specially admitted learners it was found that academic adjustment problems and career decision-making problems were important stressors for this group (Van Lingen, 1996; Watson, Van Lingen & De Jager, 1996). De Jager and Watson (1996) discovered a need for ongoing career-development programmes together with lifestyle planning. Fish (1996) discovered that African learners were experiencing academic difficulties together with problems of social integration. Alcohol consumption patterns amongst residence learners were reported to be an area of concern in a study conducted by Daniels (1998). In another study by Koch (1998), it was shown that learners viewed both academic and non-academic factors as having an impact on their academic performance. Fish (1996) found that the holistic development of learners had a significant impact on the student’s overall academic success, their learning experience and their completion of their studies.

5.3 Nelson Mandela Metropolitan University (NMMU)

Nelson Mandela Metropolitan University is the largest university in the Southern and Eastern Cape and has seven campuses in Nelson Mandela Bay and one in George. The university is divided into seven faculties. These faculties are: (a) Arts, (b) Business
and Economic Sciences, (c) Education, (d) Engineering, (e) Health Sciences, (f) Law, and (g) Science. The seven faculties within the NMMU offer more than 130 career fields.

5.3.1 The Faculty of Health Sciences

The Faculty of Health Sciences is one of seven faculties at the NMMU. The Faculty is situated on both the NMMU South and North Campuses and comprises six departments: Psychology, Human Movement Science and Sport Management, Environmental Health and Social Development Professions (incorporating MA Health and Welfare Management), Pharmacy, Nursing Science, and Biomedical Technology and Radiography (see Appendix A for an organogram of the Faculty of Health Sciences).

The mission statement of the Faculty reads that it wishes “to strive to provide quality professional education and training through innovative and applied research within the health and wellness environment, informed by community needs and strengthened by collaborative partnerships to promote sustainable development” (Board of Faculty, 2005).

The broad objective of the Faculty is to conduct programmes at a tertiary level in Science and the Health Sciences. There were 225 postgraduate learners registered in the Faculty of Health Sciences for the 2006 study year. These learners were divided across the six departments within the Faculty (see Appendix B). The courses of the Faculty are designed to give learners grounding in the fundamental principles of their chosen fields of study. The practical nature of these courses is reflected in the number of hours which learners spend in equipped facilities engaging in their chosen fields of study.
5.4 Coping Resources at NMMU

The Nelson Mandela Metropolitan University (NMMU) provides learners with a number of professional services to enhance their coping and subjective well-being. This is achieved through the Unit for Student Counselling, the University Psychology Clinic (UCLIN-South and Vista campus), and through the Campus Health Service. The services these units offer learners include: (a) primary health care; (b) developing academic, intellectual and socio-interpersonal competencies; (c) managing emotions; establishing and maintaining interpersonal relationships; (d) developing an identity; (e) deciding on a work role and lifestyle; (f) maintaining personal health; (g) wellness, and (h) developing an integrated philosophy of life. These units also offer a broad range of programmes to facilitate growth in the dimensions of intellectual, emotional, physical, environmental, social occupational and spiritual well-being.

The Nelson Mandela Metropolitan University provides learners with professional services to enhance their fulfillment of life through three main clusters: (a) academic, (b) student development, and (c) wellness. The Student Counselling, Career and Development Centre (SCCDC), the University Psychology Clinic (UCLIN-South and Vista campus), Financial Aid Services and the Campus Health Services are some of the services under these clusters. The services these units offer learners includes: primary health care; developing academic, intellectual and socio-interpersonal competencies; managing emotions; establishing and maintaining interpersonal relationships; developing an identity; deciding on a work role and lifestyle; maintaining personal health and wellness and developing an integrated philosophy of life. These units also offer a broad range of programmes to facilitate holistic growth in the dimensions of intellectual,
emotional, physical environmental, social occupational and spiritual well-being. There are also various student bodies, associations and societies to look after the wellness of learners across a broad range of dimensions such as emotional wellness, social wellness, spiritual wellness, physical wellness, occupational wellness, and intellectual wellness.

5.5 Student Well-being at NMMU

The International Association of Counselling Services (2000) stated that the counselling services have three important roles, namely: (a) to provide counselling and/or therapy, (b) to assist learners in identifying and learning skills to assist them in meeting their academic and life goals, and (c) to support and enhance growth of learners through outreach programs into the community.

According to Van Lingen (2005), research conducted at the University of Port Elizabeth from 1989 to 2001, based on Hettler’s six wellness dimensions (physical, emotional, spiritual, social, intellectual and career wellness) supported the following trends:

1. The emotional and spiritual domains were the stronger areas.
2. Physical wellness in terms of exercise and nutrition need improvement.
3. Alcohol abuse is prevalent amongst residence learners.
4. There are social divisions based on ethnic and cultural groupings.
5. Academic difficulties are experienced due to unpreparedness.
6. There are difficulties with career decision-making.

Each of the four main campuses: North, South, 2nd Avenue and Vista campuses have professionally-staffed centres, catering for a variety of student needs. These centres are staffed by trained health sciences professionals, including clinical, counselling and
educational psychologists, health educators, social workers and graduate intern psychologists who are training in their positions. These units offer counselling, therapy and workshops across a wide spectrum. These services are free of charge to learners and may involve individual or group counselling as well as self-help programmes. The Student Counselling and Career Development Centre (SCCDC) on each campus also has a wide range of pamphlets, videos and books available as additional coping resources. The SCCDC on each campus also train, certify and supervise voluntary learners in their peer help programme. These peer-helpers assist fellow learners when they experience problems in student life and developmental events.

The SCCDC runs many programmes throughout the year. One of the programmes which directly targets the well-being of learners is the Wellness Programme run by the SCCDC. The aim of this programme is to improve individual well-being through a continuous process of conscious self-development based on personal goals for well-being (NMMU website). The SCCDC seeks to achieve this well-being through interventions directed towards the mobilization or enhancement of salutogenic factors rather than the removal or minimization of risk factors. The unit also mans a 24-hour crisis help-line in case of emergencies. This approach is consistent with research into well-being through Positive Psychology and psychofortology (Antonovsky, 1987; Diener, 2000; Hammer & Marting, 1988; Seligman & Csikszentmihalyi, 2000; Strümpfer, 1995; Wissing & Van Eeden, 1997).

5.6 Conclusion

In this chapter an attempt was made to outline some of the challenges, stressors and conflicts facing learners in the Nelson Mandela Metropolitan University. These
challenges, stressors and conflicts take place against a backdrop of uncertainty and confusion regarding the merger of three previously independent institutions, namely the University of Port Elizabeth, the Port Elizabeth Technikon, and the Vista University, Port Elizabeth.

In Chapter 6 a detailed description of the research design and methodology that was used in the current study is given. This chapter incorporates and describes the aims of the study, the research design and measures utilised, the participants, the research procedure, and the data analysis. This provides a structure to the research process and forms a base from which the research findings can be discussed.
Chapter 6

Research Design and Methodology

6.0 Introduction

This chapter provides an overview of the research design and methodology employed in the study. In the first section of the chapter the biographical data obtained from the Biographical questionnaire is presented. This is described first to offer a comprehensive outlook of the sample. In the following section, the primary aims of the study are outlined, followed by the description of the participants and the sampling methods used. A brief explanation of the measures utilised in the research is included, in order to provide a better understanding of the data collection and methodology. The process and procedure of the research are further discussed, followed by a motivation for the methods of data analysis utilised in the research. Lastly, the ethical considerations regarding this research are reviewed.

6.1 Primary Aims of the Study

This study aimed to explore and describe the coping resources, sense of coherence, satisfaction with life, happiness and general psychiatric health of postgraduate learners in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University. These sub-constructs constitute the construct of psychofortology for purposes of this study. The primary aims of the research are:

1. To explore and describe the coping of post-graduate learners in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University. This aim specifically entails the following:

   1.1. To explore and describe the coping resources of these learners.
1.2. To explore and describe the sense of coherence of these learners.

2. To explore and describe the subjective well-being of post-graduate learners in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University. This aim specifically entails the following:

   2.1. To explore and describe the satisfaction with life of these learners.

   2.2. To explore and describe the happiness of these learners.

   2.3. To explore and describe the general psychiatric health of these learners.

3. To explore and describe the patterns of coping resources, sense of coherence, satisfaction with life, happiness and general psychiatric health of postgraduate learners in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University.

6.2 Research Design and Methodology

This study aimed to employ a quantitative, exploratory-descriptive research method in which respondents were asked to complete self-report, survey-type questionnaires. This type of design seeks to gather and analyze new data for novel information and emergent patterns (Mouton, 1996). Babbie (1992) noted that exploratory research is used when examining a new field or when the field of research has not been exhausted. Descriptive studies, on the other hand, aim to portray accurately, the characteristics of a group, situation or event (De Vos, 2000).

Data was collected using standardized paper-and-pencil measures that invited the participants to report on their thoughts, feelings and actions. These self-report measures may have led to the possibility of faking and the researcher needed to bear this in mind.
when the results were analyzed. The advantage of using self-report measures is that it provided the researcher with a measurement of the subjective states, attitudes and emotions of the participants (Taylor, Peplau & Sears, 1997).

The use of standardized measures has both advantages and disadvantages (Elkonin, Foxcroft, Roodt & Astbury, 2001). They reported that standardized measures allow for statistical analysis since they yield data, results which can be compared and allow for objective assessment.

An advantage of the above-mentioned method is the vast savings in time and expenses and the economical amount and quality of information obtained (Kerlinger, 1986). No interviewer bias is present since all respondents completed identically worded self-report measures (Bailey, 1987). A disadvantage of this method was the unpredictable dates of return and the lack of control of the testing environment. These and other disadvantages such as susceptibility to faking, lack of spontaneous responses, misunderstood items, and unanswered questions (Dane, 1990) are difficult to control and were borne in mind when analyzing the results. In this study the researcher was available to participants to answer any questions regarding misunderstood items.

The aforementioned section introduced the research design and methodology. The following section presents the participants and sampling method.

6.3 Participants and Sampling

The sample for this study consisted of male and female post-graduate masters and doctoral learners in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University (NMMU). It was required that the learners be registered for post-graduate study in any department of the Faculty of Health Sciences at NMMU. An attempt was
made to obtain an equal number of participants from each of the departments, namely; Psychology, Human Movement Science and Sport Management, Environmental Health and Social Development Professions (incorporating MA Health and Welfare Management), Pharmacy, Nursing Science, and Biomedical Technology and Radiography. The researcher was available to answer any questions that related to the questionnaires.

Sampling procedures are normally divided into two categories namely: probability and non-probability sampling (Leedy, 1989). As only the most readily available participants were included in the sample, this study made use of non-probability, convenience sampling. In this type of sampling only the most convenient and accessible participants were employed (Cozby, 1997). A limitation of this method is that participants were not randomly selected. There was also no method to guarantee that each element (e.g., males, females, race, age, department, degree) of a population was equally represented (Fink & Kosecoff, 1998) since the sample included only those participants that made themselves available for the study.

Since the researcher aimed only to explore and describe learners in the Faculty of Health Sciences, the results of the research could not be generalized to all post-graduate learners at NMMU. It should further be borne in mind that since non-probability, convenience sampling was used, the results of the study could not be representative of the entire population and therefore any generalization to the entire population would be inaccurate. The advantages however outweigh the disadvantages, as this method saves time and reduces costs (Cozby, 1997).
6.4 Biographical Data

The following section presents the biographical variables that pertain to information obtained from the biographical questionnaire which was completed by all participants. Due to the small sample size and unequal grouping, investigation of patterns between the variables and the results is not possible. The reporting of this data serves to provide a context for the findings related to the measures.

The sample of learners was selected from those registered for study at Masters or Doctoral level in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University (NMMU) for the 2006 academic year. Appendix B indicates the degrees offered and a breakdown of male and female learners in the Faculty of Health Sciences registered to study at NMMU in 2006.

6.4.1 Age

The age of the participants ranged from 22 to 53 with an average age of 29.43. The mean and standard deviation of the age variable are presented in Table 1.

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>60</td>
<td>29.43</td>
<td>22</td>
<td>53</td>
<td>7.89</td>
</tr>
</tbody>
</table>

According to Diener and Suh (1997), a relationship exists between age and the components of subjective well-being, and that while pleasant affect declined with age, negative affect remained relatively unchanged and life satisfaction showed an
increase. Since this study is not longitudinal in nature no assumptions can be made between past and present levels of psychofortology.

6.4.2 Gender

There were 60 participants in this study of which 16 (26.67%) were male and 44 (73.33%) were female. The frequency distributions of the biographical data regarding gender are presented in Table 2.

Table 2

<table>
<thead>
<tr>
<th>Category</th>
<th>n</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>16</td>
<td>26.67</td>
</tr>
<tr>
<td>Female</td>
<td>44</td>
<td>73.33</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

Wissing and Van Eeden (1997) found that males had a higher level of subjective well-being than females in the South African context. In studies conducted by Myers and Diener (1997) they discovered that women were twice as likely as men to suffer from anxiety and depression, and that their happiness depended on marital happiness whilst men’s happiness related to satisfaction at work.

6.4.3 Language

As indicated in Table 3, 50% of the participants were English-speaking followed closely by Afrikaans which was spoken by 31.67% of the participants. The high percentages of English respondents may be attributed to the fact that the surveys were all conducted in English, and therefore those whose home language was
different to English needed to be conversant in English to participate. The frequency
distributions of the biographical data for language are presented in Table 3.

Table 3

<table>
<thead>
<tr>
<th>Category</th>
<th>n</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>30</td>
<td>50</td>
</tr>
<tr>
<td>Afrikaans</td>
<td>19</td>
<td>31.67</td>
</tr>
<tr>
<td>Setswana</td>
<td>2</td>
<td>3.32</td>
</tr>
<tr>
<td>Chinese</td>
<td>1</td>
<td>1.67</td>
</tr>
<tr>
<td>Xhosa</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Ibo (Nigerian)</td>
<td>1</td>
<td>1.67</td>
</tr>
<tr>
<td>Zulu</td>
<td>1</td>
<td>1.67</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

6.4.4 Marital Status

It is clear from Table 4 that the majority of respondents were single (70%) with married participants represented by 16.67% of the sample. Studies have shown that married couples experience a greater degree of happiness than their single counterparts who had never married or were divorced (Diener, 2000).

The frequency distributions of the biographical data for marital status are presented in Table 4.
### Table 4

**Frequency Table: Marital Status**

<table>
<thead>
<tr>
<th>Category</th>
<th>n</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>42</td>
<td>70</td>
</tr>
<tr>
<td>Co-habiting</td>
<td>4</td>
<td>6.67</td>
</tr>
<tr>
<td>Married</td>
<td>10</td>
<td>16.66</td>
</tr>
<tr>
<td>Divorced</td>
<td>4</td>
<td>6.67</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

### 6.4.5 Children

As indicated in Table 5, 76.67% of the sample have no dependent children, while 23.33% of the sample had the added stressor of raising children whilst completing their studies. The frequency distributions of the biographical data for amount of dependent children is presented in Table 5.

### Table 5

**Frequency Table: Dependent Children**

<table>
<thead>
<tr>
<th>Category</th>
<th>n</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>46</td>
<td>76.67</td>
</tr>
<tr>
<td>1</td>
<td>5</td>
<td>8.33</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>
6.4.6 Degree

As indicated in Table 6, the grouping in the majority of the sample is the counselling psychology learners (28.34%), followed by the clinical psychology learners (15%). The sample is assumed to be skewed in this direction due to the fact that the largest post-graduate group in the faculty are psychology learners in Masters programmes. The third largest grouping were those studying the M Cur degree (13.34%).

The frequency distributions of the biographical data for type of degree are presented in Table 6.

Table 6

Frequency Table: Degree

<table>
<thead>
<tr>
<th>Category</th>
<th>Female</th>
<th>Male</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA. Co Psychology</td>
<td>11</td>
<td>6</td>
<td>17</td>
<td>28.34</td>
</tr>
<tr>
<td>MA. Cl Psychology</td>
<td>9</td>
<td>0</td>
<td>9</td>
<td>15</td>
</tr>
<tr>
<td>D Phil</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>3.33</td>
</tr>
<tr>
<td>MA Human Movement Science</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>3.33</td>
</tr>
<tr>
<td>MA Biomedical</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>3.33</td>
</tr>
<tr>
<td>Category</td>
<td>Female</td>
<td>Male</td>
<td>Count</td>
<td>Percentage</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>--------</td>
<td>------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>M Cur</td>
<td>8</td>
<td>0</td>
<td>8</td>
<td>13.34</td>
</tr>
<tr>
<td>MA Health and Welfare Management</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>M Pharm</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>8.33</td>
</tr>
<tr>
<td>M Sc</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>8.33</td>
</tr>
<tr>
<td>MA Social Work</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1.67</td>
</tr>
<tr>
<td>M Tech</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1.67</td>
</tr>
<tr>
<td>D Cur</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>8.33</td>
</tr>
<tr>
<td>All groups</td>
<td>44</td>
<td>16</td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

### 6.4.7 Department in Faculty

It is clear from the information presented in Table 7 that the Psychology Department had the most number of participants at 43.33%. It is assumed that the results may be skewed in this direction due to the fact that, as mentioned before, the largest post-graduate grouping in the faculty is the post-graduate psychology learners. The second department was Nursing, and this response was due to the active involvement of the Department in encouraging their learners to participate in the study. The frequency distributions of the biographical data of the departments in the faculty, under which the learners are studying, are presented in Table 7.
Table 7

Frequency Table: Department within Faculty

<table>
<thead>
<tr>
<th>Category</th>
<th>n</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychology</td>
<td>26</td>
<td>43.33</td>
</tr>
<tr>
<td>Human Movement Science</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Nursing</td>
<td>16</td>
<td>26.66</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>10</td>
<td>16.67</td>
</tr>
<tr>
<td>Social Development Professions and MA Health and Welfare</td>
<td>1</td>
<td>1.67</td>
</tr>
<tr>
<td>Environmental Health</td>
<td>1</td>
<td>1.67</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

6.4.8 Belief in God/ Superior Force

It appears from the Table 8 that only one participant in the sample did not believe in a superior force or God. The frequency distributions of the biographical data are presented in Table 8.

Table 8

Frequency Table: Belief in God/Superior Force

<table>
<thead>
<tr>
<th>Category</th>
<th>n</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>59</td>
<td>98.33</td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td>1.67</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>
Research has increasingly shown the relationship between spirituality or religiosity and a number of aspects of human functioning such as the outcomes of stressful life experiences (Pargament, 1997). The American Psychological Association has defined religiousness as a cultural diversity variable and psychologists are ethically obligated to attend to this variable in their practices (Principal D, Ethical Principles of Psychologists and Code of Conduct, APA, 1992).

The following sections (i.e., 6.4.9 and 6.4.10 were extracted from the biographical data of the Coping Resources Inventory).

**6.4.9 Subjective Rating of Health**

As indicated in Table 9 the majority of respondents (75%) subjectively rated their health as good. The frequency distributions of the biographical data, for the participant’s subjective rating of their health, is presented in Table 9.

<table>
<thead>
<tr>
<th>Category</th>
<th>n</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very good</td>
<td>11</td>
<td>18.33</td>
</tr>
<tr>
<td>Good</td>
<td>45</td>
<td>75</td>
</tr>
<tr>
<td>Poor</td>
<td>4</td>
<td>6.67</td>
</tr>
<tr>
<td>Very Poor</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>
6.4.10 Subjective Rating of Stress

Table 10 indicates that a large percentage of participants (38.33%) rated their subjective level of stress as high. This level of stress might be expected at this level of study. Of the sample, 58.33% subjectively rated their stress levels as low, with a small percentage even rating their stress levels as very low (3.33%). The frequency distributions of the biographical data for subjective levels of stress are presented in Table 10.

Table 10

<table>
<thead>
<tr>
<th>Category</th>
<th>n</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>High</td>
<td>23</td>
<td>38.33</td>
</tr>
<tr>
<td>Low</td>
<td>35</td>
<td>58.34</td>
</tr>
<tr>
<td>Very Low</td>
<td>2</td>
<td>3.33</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

6.5 Measures

Each of the measures that were used in this study are briefly discussed below.

6.5.1 The Biographical Questionnaire

As discussed in the previous section, a brief biographical questionnaire was used to obtain essential information from the participants. The questions included the
following information: age, gender, home language, marital status, number of dependants, religiosity, and the qualification the participant is studying towards.

**6.5.2 The Coping Resources Inventory (CRI)**

The CRI was developed by Hammer and Marting in 1988 to provide a tool for identifying resources that are available to individuals for managing stress. The primary focus of the inventory is thus to identify resources rather than deficits (Hammer & Marting, 1988).

The CRI consists of 60 items measuring resources in five domains: cognitive, social, emotional, spiritual/philosophical and physical. These five domains are explained in more detail as follows:

1. **The cognitive domain.** This is concerned with the extent to which individuals maintained a positive sense of self-worth, a positive outlook towards others, and optimism about life in general (e.g., I like myself, I feel as worthwhile as anyone else).

2. **The social domain.** This focuses on the degree to which individuals are embedded in social networks that are available to provide support in times of stress (e.g., I am comfortable talking to strangers, I show others when I care about them).

3. **The emotional domain.** This questions the degree to which individuals were able to accept and express a range of affect, based on the proposition that a range of emotional responses help in relieving the long-term negative consequences of stress (e.g., I can show it when I am sad, I express my feelings to close friends).

4. **The spiritual/philosophical domain.** This examines the degree to which the actions of individuals were guided by stable and consistent values from religious, familial
or cultural tradition or from personal philosophy (e.g., I accept the mysteries of life and death, I can make sense out of my world).

5. The physical domain. This questions the degree to which individuals enact health-promoting behaviours, which are believed to contribute to increased physical well-being (e.g., I have plenty of energy, I eat junk food).

Respondents are required to indicate how often they have engaged in the behaviour described by the item over the past six months by using a 4-point scale (never, sometimes, often or always). The questionnaires are then scored using a simple 4-point Likert system such that the higher the scale score, the higher the resources. (Hammer & Marting, 1988) According to Hammer and Marting, the inventory could be completed in approximately 10 minutes and is hand-scored using a template.

The validity and reliability of the CRI has been investigated on a variety of subjects. Regarding the reliability of the CRI, it is reported that: (a) the CRI achieved fair homogeneity of item content per scale, in terms of item to scale correlations, (b) using Cronbach’s alpha for internal consistency, the scales reliably tap the constructs and are homogeneous, and (c) test-retest reliability show that CRI scale scores are reasonably stable over time (Hammer & Marting, 1988).

Test-retest reliabilities over a six-week period show that the CRI scale scores are reasonably stable over this time period (Hammer & Marting, 1988). This measure was proven to have predictive, convergent, discriminant and concurrent validity (Hammer & Marting, 1988).

Since the inventory is normed on an American sample, the test is thus not necessarily applicable to a South African sample (Hatuell, 2004). However, this
inventory has been used previously in numerous studies conducted in South Africa at the former University of Port Elizabeth\textsuperscript{6} (Brown, 2002; Cairns, 2001; Hatuell, 2004; Madhoo, 1999; Otto, 2002).

6.5.3 The Orientation to Life Questionnaire/ Sense of Coherence Scale (SOC-29)

This questionnaire was developed by Antonovsky (1987) and assesses the theoretical concept of sense of coherence as a global life orientation. The Orientation to Life Questionnaire (SOC-29) scale consists of 29 five-facet items and participants are asked to choose a response from a seven-point semantic scale which has two anchoring phrases at each end of the continuum. The participants’ sense of coherence may then be assessed according to three elements namely:

1. Comprehensibility. This concerns the degree to which the individual regarded internal and external stimuli as consistent, ordered and clear (e.g., when something unpleasant happened in the past, your tendency was: 1 = “to eat yourself up about it”, or 7 = “to say it’s okay, that’s that, I have to live with it, and go on”).

2. Manageability. This concerns the belief by the individual that there existed available resources to deal with these stimuli (e.g., how often do you have feelings that you’re not sure you can keep under control? 1 = very often and 7 = very seldom/never).

3. Meaningfulness. This refers to the degree in which the individual perceived their stressors as “challenges worthy of investment and engagement” (e.g., how often do you have the feeling that there’s little meaning in the things you do in your daily life? 1 = very often, and 7 = very seldom/never).

\textsuperscript{6} The University of Port Elizabeth was renamed the Nelson Mandela Metropolitan University when it merged with the Port Elizabeth Technikon and Vista University, Port Elizabeth Campus, on the 1\textsuperscript{st} of January 2005.
The respondents rated each of the statements on a 7-point Likert scale and the resultant scores range from 29 to 203, with the scores representing a low SOC or high SOC respectively. Antonovsky (1993) claimed, however, that the SOC was constructed to measure global orientation and not necessarily these three explicit components. The global scores range from 29 to 203, with higher scores reflecting a stronger SOC and thus more successful coping ability, while lower scores would reflect the opposite (Antonovsky, 1993).

Cronbach’s alpha scores ranging from 0.83 to 0.95 have regularly been reported across a number of populations, suggesting internal consistency and reliability (Antonovsky, 1993). Antonovsky (1993) stated that the SOC construct is universal and cuts across gender, age, social class and cultural boundaries. There is substantial evidence to confirm content validity and face validity, as well as indications of good construct and criterion validity (Antonovsky, 1993).

South African studies which have used the SOC-29 include, amongst others: Madhoo (1999), Otto (2001), Cairns (2001), Katalan (2003), and Kirsten (2003). Wissing and Van Eeden (1997) investigated the validity and cross-cultural applicability of the SOC-29 for South Africa and found it to be valid.

6.5.4 The Satisfaction with Life Scale (SWLS)

The assumption behind self-reports of SWLS is that the respondent is in a privileged position to report his or her experience of well-being (Hatueell, 2004). The Satisfaction with Life Scale assesses within two minutes an individuals’ evaluative judgment of his or her global life satisfaction over a five-item scale using the person’s own unique set of judgmental criteria (Pavot & Diener, 1993). This brief format allows it
to be incorporated into a test battery with minimal cost and time expenditure (Hatueell, 2004). The SWLS consists of five statements which the participant may agree or disagree with, using a seven-point Likert scale, with 1 and 7 representing strongly disagree and strongly agree respectively (e.g., In most ways my life is close to my ideal, and I am satisfied with my life). Each item is then scored from 1 through 7, implying that the scores may range from 5 (extreme dissatisfaction with life) through to 35 (high satisfaction with life).

The SWLS has been considered a valid and reliable measure of life satisfaction (Pavot & Diener, 1993). Diener, Emmons, Larsen and Griffen (1985) reported that the SWLS showed strong internal reliability with a moderate temporal stability, with a coefficient alpha of 0.87 for the scale and a two-month test-retest stability coefficient of 0.82. Pavot and Diener (1993) supported the psychometric qualities of the scale. Vorster (2002) conducted a study at the Nelson Mandela Metropolitan University (formerly known as the University of Port Elizabeth) into the subjective well-being of the retired elderly in a Port Elizabeth residence for the aged. Her results showed a mean of 28.03 and a standard deviation of 5.07. Gal (2004) in a study at Nelson Mandela Metropolitan University into the subjective well-being and anxiety levels of full-time employed married mothers obtained a mean of 22.82 and a standard deviation of 6.25. Other studies at NMMU to have used the SWLS include, amongst others: Van der Walt (2002) and Hatueell (2004).

Construct validity for the scale is supported by positive correlations between the SWLS and extraversion, marital status, health and self esteem, as well as the negative correlation patterns between the SWLS and neuroticism (Pavot & Diener, 1993). Pavot
and Diener (1993) further reported that a number of independent sources of evidence suggest the discriminant validity of the SWLS.

The SWLS is an assessment tool which focuses on the positive side of the respondent’s experience rather than on negative emotion, and may be considered to be an important tool in measuring change in subjective well-being and intervention outcomes (Pavot & Diener, 1993). The SWLS has been designed to assess the cognitive, rather than the affective component of the construct and it does not claim to measure all aspects of subjective well-being (Pavot & Diener, 1993).

**6.5.5 The Affectometer-2 Scale (AFM-2)**

The Affectometer-2 Scale (AFM-2) is a five minute brief inventory designed to measure general happiness and sense of well-being by determining, through recent experience, the balance between positive and negative feelings (Kamman & Flett, 1983). The 40-item Affectometer-2 scale assesses quality of life on an affective level, with overall well-being conceptualized as the extent to which positive feelings predominate over negative feelings (Kamman & Flett, 1983). The AFM-2 scale requires respondents to provide a graded response to 40 items, reflecting how often a feeling was present in the recent past. The responses range from “not at all” to “all the time” and are scored on a five-point Likert scale (Kamman & Flett, 1983).

The AFM-2 consists of two subscales of 20 items, each made up of 10 positive and 10 negative items. Possible scores range from 0 to 80 with 40 representing a neutral point on the scale. Lower scores indicate negative subjective well-being while higher scores indicate the opposite (e.g., my life is on the right track, and I have lost interest in other people and don’t care about them, are questions from the first scale). The second
scale consists of words describing feelings that the respondents had to identify having experienced over the past week (e.g., satisfied, confused or optimistic). The participants responded according to a 5-point Likert scale (where 0 = never and 4 = always).

According to Wissing and Van Eeden (1997), the AFM-2 measures Positive Affect (PA), Negative Affect (NA), and the balance between the two (PA-NA). Several other South African researchers have used the scale successfully (e.g., Gal, 2004; Van Der Walt, 2002; Vorster, 2002). The AFM-2 has been used successfully internationally and Kamman and Flett (1983) reported a Cronbach Alpha coefficient of 0.95 and research has supported the validity of the scale.

6.5.6 The General Health Questionnaire (GHQ-28)

The General Health Questionnaire (GHQ) was developed during the 1960’s and 1970’s and is currently the most widely used self-completion measure of psychiatric disturbance in the United Kingdom and has numerous worldwide applications (Bowling, 1997). The GHQ is a self-administered screening test designed to identify short-term changes in mental health (e.g., depression, anxiety, social dysfunction and somatic symptoms) (Goldberg & Hillier, 1979). It is a pure state measure, and responds to how much a respondent felt that their present state over the recent past is unlike their usual state. The GHQ focused on the individual’s ability to carry out “normal” functions and the appearance of any new disturbing phenomena (Goldberg & Williams, 1988). It does not make clinical diagnoses and could not be used to measure long-standing attributes (Goldberg & Williams, 1988). It was designed for use by doctors, psychiatrists and researchers; the GHQ is ideal for use in community and non-psychiatric settings and has
four different versions (GHQ-12, GHQ-28, GHQ-30 and GHQ-60). The GHQ-28 is the most well-known and popular version of the GHQ (Goldberg & Hillier, 1979).

The GHQ-28 was selected over the other versions for two main reasons: (a) the other versions are lengthy and time consuming, and (b) secondly the GHQ-28 provided the researcher with subscale scores of the individual’s profile, thus permitted analysis within sub-categories and was therefore ideal for research purposes (Goldberg & Williams, 1988). According to Goldberg and Williams (1988), the major advantage of the GHQ is the existence of periodically updated manuals containing its method, a comprehensive review of its applications, and studies of reliability and validity.

The GHQ-28 consists of four subscales of seven questions each: somatic symptoms (e.g., Have you recently felt that you are ill?), anxiety and insomnia (e.g., Have you been getting edgy or bad-tempered?), social dysfunction (e.g., Have you been taking longer over the things you do?) and severe depression (e.g., Have you felt that life isn’t worth living?). Using the Likert scoring, the respondent was asked to rate whether he or she had been experiencing a symptom, thought or behaviour more so than usual (Goldberg & Williams, 1988). On the GHQ, unlike other measures, a low score indicates more positive affect and less negative affect. Therefore, the lower the score the higher the general psychiatric health and the absence of neuroticism.

By 1988, over 50 validity studies had been published on the GHQ (Goldberg & Williams, 1988). Goldberg and Hillier (1979) reported internal consistency coefficients of 0.69 to 0.93. The Cronbach’s alpha coefficients have ranged from 0.82 to 0.93, while the content validity and criterion validity have been established, and the median correlation of these assessments was 0.76 (Goldberg & Williams, 1988). The GHQ in its
four versions has been translated into 38 languages internationally and is used regularly worldwide across varying cultures (Goldberg & Williams, 1988). The GHQ-28 has been used successfully in South Africa in an investigation into the relationship between independence and the psychological well-being of physically disabled males (David, 2000), and in a study by Van der Walt (2002) into the general health and subjective well-being of stroke survivors.

6.6 Procedure

A meeting was held with the Dean of the Faculty of Health Sciences to discuss the proposed study and to gain some insight into any information the Faculty may wish to acquire regarding the post-graduate learners within the Faculty. It is imperative that, prior to the commencement of this research study, the necessary approval was obtained from the Department of Psychology to conduct the study. The proposal was then be forwarded to the Advanced Degrees Committee (ADC) at the Nelson Mandela Metropolitan University for their approval before the NMMU’s Ethics Committee (Human) finally gave permission for the study to proceed. The Heads of the various Departments in the Faculty of Health Sciences were then approached, informed of the nature, purpose and procedure of the study and provided their consent to conduct the study, amongst their learners, within the respective departments. Interested participants were informed of the nature, purpose and procedure of the study both telephonically and in a covering letter. They were advised of their right to anonymity and to not participate without fear of recrimination. It was important that the participants understood that the information provided would be treated with the strictest confidentiality and respect.
Each participant was provided with an envelope which contained the following: an information letter concerning the nature, purpose and procedure of the study (see Appendix C), a voluntary consent form (see Appendix D), a brief biographical questionnaire (see Appendix E), the Orientation to Life Questionnaire (SOC-29), the Coping Resources Inventory (CRI), the Satisfaction with Life Scale (SWLS), the Affectometer-2 (AFM-2) and the General Health Questionnaire (GHQ-28). A clear description of how to complete each questionnaire was provided. In consultation with interested participants, various dates and venues were arranged and the measures were administered by the researcher in 3-4 group sessions in the seminar room at the University Psychology Clinic (South Campus) in the Department of Psychology. The researcher was present so as to be of assistance to any participants who experienced difficulties during the completion of the questionnaires. The completion of these questionnaires took approximately 45 minutes, after which the respondents were asked to return the completed questionnaires in the provided envelopes. The sealed envelopes were placed in a collection box or handed to the researcher at the testing venue. This ensured the sense of privacy and confidentiality of the participant, as well as ensuring that all the questionnaires completed by a specific participant were all collated in one sealed envelope. Each participant’s envelope was allocated a number and this number was assigned to each of that participant’s questionnaires to ensure anonymity. Only the researcher had access to the list of participant’s names and allocated number.

The questionnaires were scored and re-scored by the researcher to eliminate the possibility of error. The data was analyzed with the assistance of an independent contracted research consultant who cross-checked the scoring so as to ensure more
auditability of the results. General feedback was provided on request and the strictest caution was taken to ensure each participant’s confidentiality and privacy. A summary report of the study was made available to the Dean of the Faculty and the Heads of Departments in the Faculty of Health Sciences.

6.7 Data Analysis

The data was analyzed according to the three aims of the study. The researcher employed the services of an expert research consultant to assist with the analysis of the data obtained during this study.

In terms of aim 1 (i.e., to explore and describe the coping of post-graduate learners in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University) and aim 2 (i.e., to explore and describe the subjective well-being of post-graduate learners in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University), descriptive statistics were used to investigate the mean, ranges and standard deviations of the measures. The mean is a measurement of central tendency while the standard deviation is a measure of variability that measures the average deviation of scores from the mean (Cozby, 1993; Struwig & Stead, 2001).

The third aim (i.e., to explore and describe the patterns of coping resources, sense of coherence, satisfaction with life, happiness and general psychiatric health of postgraduate learners in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University) was analyzed using an exploratory descriptive multivariate cluster analysis procedure to identify patterns of the coping resources, subjective well-being and general psychiatric health of the postgraduate learners in the Faculty of Health Sciences at NMMU. Both hierarchical cluster analysis (HCA) and \(k\)-means cluster
analysis procedures were used in this study. The HCA was conducted as a preliminary step in determining the number of clusters to fit the data in the subsequent $k$-means analysis.

Since only two clusters were identified, a hotellings $T^2$ was computed with subsequent t-tests to check for individual test differences. In this study, five measures were used, namely, the CRI, the SOC-29, the SWLS, the AFM-2, and the GHQ-28.

Further investigations were made through Chi squares to draw inferences about differences in the means of established groups or clusters across the five measures as a whole.

**6.8 Ethical Considerations**

De Vos (2000) reported that a number of unique ethical problems arise when human beings are the object of study in the social sciences. Ethical guidelines serve as standards and the basis upon which the researcher should evaluate their own conduct (Vorster, 2002). A number of guidelines were followed in order to maintain an ethical level of professionalism and accountability. This involved seeking the approval of both the ADC and the NMMU’s Ethics Committee (Human). Ethical considerations needed to be strictly adhered to when undertaking this type of research in order to protect participants (Strydom, 1998). Participants were informed of the purpose and procedure of the study. They were informed of their right, as a voluntary participant, to withdraw themselves from the study and of their right to informed consent (see appendix E). Since the researcher is himself a post-graduate psychology learner in the Psychology Department at NMMU, the participants from the Department of Psychology are known to the researcher and vice-versa. The issue of confidentiality was discussed in detail with
these participants during the informed consent process. The research participants need to be treated with courtesy, respect and dignity at all times (Huysamen, 1994). As suggested by De Vos (2000), the researcher expressed indebtedness to the research participants by maintaining good relations with them and by making the results of the study available to them in the form of general feedback to the departments. Should a situation have arisen where a participant scored very low on psychofortology, the researcher would have contacted the person and offered individual feedback, and if further counselling was needed, would have referred them to the Student Counselling, Career and Development Centre on NMMU campus.

The researcher of the present study took ethical considerations into account throughout the duration of the study. As previously mentioned, a research proposal of the present study was submitted to, and accepted, by the Faculty of Health Sciences and the Human Ethics Committee of the Nelson Mandela Metropolitan University (NMMU).

6.9 Conclusion

The research methodology and design used in the present exploratory-descriptive study was chosen on the basis of its aims and purpose. The data was gathered using a biographical questionnaire, two different measures for coping (i.e., CRI and SOC-29), and three different measures for subjective well-being (i.e., SWLS, AFM-2, and GHQ-28). A non-probability, convenient sample of masters and doctoral learners in the Faculty of Health at the NMMU was selected. The ethical guidelines outlined in an earlier discussion were taken into consideration throughout the procedure. The data was statistically analysed using descriptive statistics to describe the mean and standard deviation of the respondents’ subjective well-being and coping. A cluster analysis was
further performed to explore and describe patterns of subjective well-being and coping of the researched sample. The results obtained, are reported and discussed in the following chapter.
Chapter 7

Results and Discussion

7.0 Introduction

The results presented in this chapter aim to explore and describe the psychofortology (i.e., coping and subjective well-being) of a sample of post-graduate learners in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University. The first aim of the present study was to explore and describe the coping of post-graduate learners at NMMU. The conceptualisation of the coping construct for the purpose of the present study entailed the exploration and description of: (a) the coping resources of the learners, and (b) the sense of coherence of the learners.

The second aim was to explore and describe the subjective well-being of the learners at NMMU. The conceptualisation of the subjective well-being construct, for the purposes of this study, entailed the exploration and description of: (a) the satisfaction with life of the learners, (b) the happiness levels of the learners, and (c) the general psychiatric health of the learners.

The third aim was to investigate the possible pattern between participant’s scores on the Coping Resources Inventory (CRI), The Sense of Coherence (SOC) Scale, The Satisfaction with Life Scale (SWLS), The Affectometer-2 Scale (AFM-2) and The General Health Questionnaire (GHQ-28). The results obtained from the data analysis are presented and discussed in this chapter. This section is followed by a presentation of the results of the five measures (i.e., CRI, SOC, SWLS, AFM-2, and GHQ-28) in terms of the first and second aims. This is followed by a presentation, examination and discussion on the patterns of coping and subjective well-being, as
evidenced from the cluster analysis, in terms of the third aim.

7.1 Results of the Measures

This section addresses the first two aims of the study, which is to explore and describe the coping and subjective well-being of the sample of post-graduate learners. The results concerning the third aim are discussed in section 7.3.

7.1.1 Coping

For the purposes of this study, the construct of coping was conceptualized on two levels: (a) coping resources, and (b) sense of coherence. The participants’ coping resources were measured by the Coping Resources Inventory (CRI), and their sense of coherence was measured by using the Sense of Coherence (SOC) scale, also known as the Orientation to Life Scale. The following subsections outline the sample’s results on the different measures.

7.1.1.1 Coping Resources

The means and standard deviations obtained on the CRI for both the total scale scores and subscores are indicated in Table 11.

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>60</td>
<td>54.15</td>
<td>32</td>
<td>68</td>
<td>9.22</td>
</tr>
<tr>
<td>Std. Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td>60</td>
<td>52.38</td>
<td>34</td>
<td>71</td>
<td>8.99</td>
</tr>
<tr>
<td>Std. Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 11

Means and Standard Deviations of the Coping Resources Inventory
Before addressing the findings of the present study with regards to the Coping Resources Inventory, it is necessary to refer back to the literature concerning the construct of coping resources. As discussed in Chapter 3, Hammer and Marting’s (1988) research defined coping resources as “those resources inherent in individuals that enable them to handle stressors more effectively, to experience fewer or less intense symptoms upon exposure to a stressor or to recover faster from exposure” (p.2). Coping resources play a vital role in the paradigms of Positive Psychology and wellness. According to Hobfall (2001), the role of coping resources is thus emphasized as a means of mediating the stress response and promoting wellness. Hobfall defined an event as demanding, based on whether the person’s coping ability is adequate to meet the demand.

Coping resources are the single units required for understanding stress. Hobfall (1989) defined resources as “those objects, personal characteristics, conditions, or energies that are valued by the individual or that serve as a means for attainment of these objects, personal characteristics, conditions, or energies” (p.516). Individuals with low
resources have been defined as vulnerable and constitutionally fragile, while those with high resources have been characterised as resilient (Kessler & Essex, 1982).

Hammer and Marting’s (1988) Coping Resource Inventory (CRI) examines the resource end of the demand-resource imbalance (Matheny et al., 1993). Since the subscales have different numbers of items, direct comparisons between scales based on raw scores is not possible. Standard scores are therefore indicated in Table 11 in order to facilitate comparisons between the various subscales. The mean raw score obtained by the current sample for each of the five subscales as well as for the total Coping Resources Inventory was converted to a standard score having a mean of 50 and a standard deviation of 10 points. Table 11 also indicates the maximum and minimum standard score obtained by the sample for each subscale and for the total Coping Resource Inventory.

Approximately 95% of individuals will have standard scores which are between 30 and 70, thus scores below 30 are considered below average, while scores above 70 are considered above average (Hammer & Marting, 1988). According to Hammer and Marting (1988) a mean of 50 would be indicative of an average level of coping resources. Since the total mean of the sample in this study is 53.10 it can be concluded that the current sample perceived themselves as having average levels of coping resources.

The means of the cognitive, social, emotional and spiritual/philosophical subscales of the CRI were all clustered closely around the mean of 50, while the physical resources were slightly below the mean. Both the means of the cognitive and spiritual/philosophical subscales were above the total mean for the sample, indicating
that cognition and spirituality play a slightly above average role as coping resources for these learners.

The sample in this study scored the highest mean in the cognitive subscale (54.15), narrowly ahead of the second highest mean for the spiritual/philosophical subscale (54.12). According to Hammer and Marting (1988) the cognitive domain is concerned with the extent to which individuals maintained a positive sense of self-worth, a positive outlook towards others, and an optimism about life in general (e.g., I like myself, and I feel as worthwhile as anyone else). Since the respondents are all post-graduate learners, this domain is expected to achieve relatively high results. The spiritual/philosophical domain examined the degree to which the actions of individuals were guided by stable and consistent values from religious, familial or cultural tradition or from personal philosophy (e.g., I accept the mysteries of life and death, and I can make sense out of my world). The spiritual dimension had the lowest standard deviation (7.77) out of the five dimensions, suggesting that many more of the respondents were spiritually inclined than were cognitive, social, emotional or physical. This would account for this dimension attaining the second relatively highest position in the study. The highest score, obtained on the spiritual/philosophical subscale, is on a par with previous research done in South Africa using the CRI with different populations (Cairn, 2001; Brown, 2002; Hatuell, 2004).

The emotional resources subscale achieved the highest standard deviation from the mean (10.73). This scale measures the degree to which individuals are able to accept and express a range of affect. The ability to express a range of emotions aids in relieving the long-term consequences of stress.
The physical resources subscale achieved the lowest mean (48.87) in this study. The physical resources scale measures the degree to which individuals enact health-promoting behaviours, which are believed to contribute to increased physical well-being (e.g., I have plenty of energy, and I eat junk food). Although this subscale achieved the lowest mean the range of scores from 23-69 reinforces the probability that the physical resources are experienced positively by some participants. It might also be assumed that due to the nature and pressure of completing post-graduate studies, time is a mitigating factor regarding participation in physical activity.

7.1.1.2 Sense of Coherence

The means and standard deviations of Antonovsky’s SOC-29 Sense of Coherence Questionnaire (i.e., The Orientation to Life Questionnaire) are presented in Table 12.

Table 12

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC Total</td>
<td>60</td>
<td>145.47</td>
<td>88</td>
<td>189</td>
<td>21.82</td>
</tr>
</tbody>
</table>

Before addressing the findings of the present study with regard to the SOC-29, it is necessary to refer back to the literature concerning the SOC construct. In Chapter 3, Antonovsky’s (1979) sense of coherence was defined as a personal resource, which is more valuable in coping with recent life stress. According to Antonovsky, this orientation develops over the life-span and crystallizes in early adulthood. In some situations personal resources may facilitate the recruitment of collective resources. Personal
resources also enable those who possess them to recruit the available collective resources in the coping process (Anson et al., 1993). The Sense of Coherence Questionnaire was developed by Antonovsky (1987) and assesses the theoretical concept of sense of coherence as a global life orientation.

According to Anson et al. (1993), both personal and collective resources were found to have an independent salutogenic and fortigenic effect on well-being after an individual has experienced a stressful life event. Personal resources (SOC) have been found to be a better resource for avoiding the effects of recent life stressors. It was also discovered that neither of the two types of resources had any additive effects on well-being, nor did they compensate for each other (Anson et al., 1993). Individuals with a strong SOC will choose the most effective resources and coping strategies and will confront the stressor, whereas a person with a weak SOC will focus on the emotional response (Antonovsky, 1987).

Table 12 reflects the mean SOC for the current sample of post-graduate learners, and therefore provides information about the coping abilities of this group. Antonovsky (1987) did not provide any standard scores, means or normative samples for the SOC-29. Subsequently a number of published studies have taken place using the SOC-29 and Antonovsky (1993) has placed these in a table which may be used as normative data, believing that the means of different samples will differ depending upon the population researched. The average mean for these 21 studies is 142.49 and the standard deviation is 20.53 (Antonovsky, 1993). The SOC mean (145.47) and standard deviation (21.82) of the present study are therefore not significantly higher than the results obtained by Antonovsky in his study. Wissing and Van Eeden (1997) conducted research into the
psychological well-being of a sample of 550 multi-cultural, male and female South Africans. The average mean for this study was 136.52 and a standard deviation of 21.68. The statistics presented in this study may be compared to these norms since there are no specific norms for the SOC of South African post-graduate learners at this stage. It would therefore appear from the results presented in Table 12 that the mean obtained by the current sample (145.47) is above the South African average and that the standard deviation (21.81) is comparable to the normative data published by both Antonovsky (1993) and Wissing and Van Eeden (1997), indicating that the learners in the sample have an above average SOC.

The respondents in this study have spent a few years in higher education, and thus it might be speculated that they understand the system and have already acquired the necessary coping resources. The fact that a high percentage of the respondents were psychology learners, who were selected into their programmes after being tested for “good psychometry”, inter alia, might further have influenced the results to show an above average outcome for the study.

In conclusion of this subsection, various studies referred to in Chapter 3 have highlighted that high SOC individuals report better levels of physical and mental health, and are more effectively able to cope with life’s stressors. It would appear from the results obtained in this study that the coping resources of the sample suggests that the respondents are able to cope better than average with life’s stressors. According to Antonovsky (1987), a strong SOC is promoted by life experiences which are the result of the development of generalized resistance resources (GRRs). The following section
presents and discusses the results of the second aim of the research which concerns the subjective well-being of the postgraduate learners.

### 7.1.2 Subjective well-being

For the purposes of the present study, subjective well-being has been conceptualized on three levels, namely: (a) cognitive, i.e., a global sense of satisfaction with life, (b) positive affect, i.e., a sense of happiness, and (c) absence of negative affect, i.e., the absence of psychiatric illness. Diener (1999) has recommended that the major components of subjective well-being should be assessed separately in order to accumulate a broader picture of subjective well-being. In this study the participants’ satisfaction with life levels were measured by the Satisfaction with Life Scale (SWLS), their happiness (positive affect) was measured by the Affectometer-2 (AFM-2), and their general psychiatric health (presence and/or absence of negative affect) was measured by the General Health Questionnaire (GHQ-28). The following subsections outline the sample’s results on the different measures.

#### 7.1.2.1 Satisfaction with Life

The means and standard deviations of the Satisfaction with Life Scale are presented in Table 13.

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWLS Total</td>
<td>60</td>
<td>26.18</td>
<td>12</td>
<td>34</td>
<td>5.04</td>
</tr>
</tbody>
</table>
As discussed in Chapter 4, the construct satisfaction with life refers to the degree to which an individual judges the overall quality of their life favourably (Veenhoven, 1991). Lucas, Diener and Suh (1996) found that the construct of satisfaction with life can be distinguished from positive and negative affect. Campbell (1981) also distinguished between happiness and satisfaction by reporting that satisfaction does not have the same spontaneous quality as happiness.

Compton (2005) reported that satisfaction with life addresses a global judgement about the acceptability of an individual’s life. The answers to questions surrounding satisfaction with life are more cognitive in nature versus the emotional nature of questions related to the construct of happiness. According to Diener et al. (1985) life satisfaction referred to a subjective cognitive, judgemental process. These judgements are dependent upon a comparison of one’s circumstances with what is thought to be an appropriate standard as opposed to criteria judged important by an external source. Satisfaction is the result if the discrepancy is minor. If the discrepancy is high there is dissatisfaction with one’s life.

Research conducted in South Africa by Wissing and Van Eeden (1997) on a multi-cultural sample of males and females indicated a mean score of 23.45 and a standard deviation of 6.32. International research by Pavot and Diener (1993) found the mean score to be 23.5 with a standard deviation of 6.43. As presented in Table 13 the sample in the present study recorded a mean score slightly higher ($M = 26.18$) than the research mentioned above, and the standard deviation was slightly lower ($SD = 5.03$). These results indicate that the present sample perceived themselves as having average satisfaction with life levels. It may be speculated that since the respondents in this study
are at a post-graduate level, they already have achieved at an under-graduate level, which may have increased their self-esteem, and thus their satisfaction with life would also be improved. According to Pavot and Diener (1993), most sample groups fall in the range of 23 to 28 (i.e., the range of slightly satisfied to satisfied). These scores may range from 5 (i.e., extremely dissatisfied) to 35 (i.e., extremely satisfied). Therefore, the norms from this study reflect the widely replicated finding that non-clinical samples are above the neutral point in subjective well-being (Pavot & Diener, 1993). The following subsection will present and discuss the results of the Affectometer-2 Scale.

**7.1.2.2 Happiness**

The means and standard deviations of the Affectometer-2 Scale are presented in Table 14

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFM-2 Tot.</td>
<td>60</td>
<td>38</td>
<td>-32</td>
<td>76</td>
<td>23.38</td>
</tr>
</tbody>
</table>

Before addressing the findings of the present study with regards to the AFM-2 Scale, it is necessary to refer back to the literature concerning the construct of happiness. As discussed in Chapter 4, The Affectometer-2 Scale (AFM-2) is a five minute brief inventory designed to measure general happiness and sense of well-being by determining, through recent experience, the balance between positive and negative feelings (Kamman & Flett, 1983). The Affectometer-2 scale assesses quality of life on an affective level,
with overall well-being conceptualized as the extent to which positive feelings predominate over negative feelings (Kamman & Flett, 1983).

Happiness can be referred to as the positive judgment outcome when an individual weighs up his/her negative versus positive affects (Hatuell, 2004). Happy people are likely to experience more desirable events and have the propensity to interpret and recall ambiguous events as good (Hatuell, 2004).

Seligman (2002) coined the term **authentic happiness** which he described as finding one’s fundamental strengths and using them every day. These strengths would then over time become identifiable positive character traits for the individual. It is not merely the events of an individual’s life that results in happiness or unhappiness, but rather how that event is interpreted by the individual (Compton, 2005).

Table 14 reflects that the mean score of Positive-Negative Affect-Balance (i.e., global happiness) was 38 which is slightly below the neutral level (40) of Positive Affect. This score is obtained by subtracting the subtotal for Negative Affect (NA) from the subtotal for Positive Affect (PA) (Wissing & Van Eeden, 1997). The score of 38 indicates that the sample perceived themselves to be experiencing relatively average levels of global happiness. The lowest score indicating a level slightly lower than neutral (40) for Negative Affect was a score of minus 32, while the highest score was 76 out of a maximum score of 80 for Positive Affect, indicating a range of 108 for this study. Scores above 40 indicate positive subjective well-being (i.e., happiness), while scores lower than 40 indicate lower levels of subjective well-being (i.e., unhappiness). The current study compares favourably to the study conducted by Wissing and Van Eeden (1997) on 550 male and female South Africans from multi-cultural backgrounds. In their study, Wissing
and Van Eeden reported a total global happiness mean of 29.5 and a standard deviation of 19.68. Using their study as a norm for the present study, it appears that the learners in this study experienced greater levels of global happiness than the respondents in the study conducted by Wissing and Van Eeden. It could be speculated that given the previous above average results on the CRI, the SOC and the SWLS, it would be expected that the respondents global levels of happiness would be above average as well.

The following subsection will present and discuss findings of general psychiatric health as measured by the General Health Questionnaire.

### 7.1.2.3 General Psychiatric Health

The means and standard deviations of the General Health Questionnaire (GHQ-28) are presented in Table 15.

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Somatic Symptoms</td>
<td>60</td>
<td>1.88</td>
<td>0</td>
<td>7</td>
<td>1.93</td>
</tr>
<tr>
<td>B. Anxiety &amp; Insomnia</td>
<td>60</td>
<td>1.42</td>
<td>0</td>
<td>7</td>
<td>1.81</td>
</tr>
<tr>
<td>C. Social Dysfunction</td>
<td>60</td>
<td>0.97</td>
<td>0</td>
<td>7</td>
<td>1.53</td>
</tr>
<tr>
<td>D. Severe Depression</td>
<td>60</td>
<td>0.17</td>
<td>0</td>
<td>2</td>
<td>0.46</td>
</tr>
<tr>
<td>E. GHQ-28 Total</td>
<td>60</td>
<td>4.43</td>
<td>0</td>
<td>14</td>
<td>4.42</td>
</tr>
</tbody>
</table>

Before addressing the findings of the present study with regards to the General Health Questionnaire, it is necessary to refer back to the literature concerning the construct general psychiatric health. As discussed in Chapter 4, in order to function
optimally it is important that one’s general health remains relatively stable over time, and that normal healthy functioning is maintained in all aspects of life (Goldberg, 1978). The General Health Questionnaire was developed to measure this since the questionnaire measures alterations in normal functioning as opposed to lifelong traits or stable complaints is necessary. The GHQ is a self-administered screening test designed to identify short-term changes in mental health (e.g., depression, anxiety, social dysfunction and somatic symptoms) (Goldberg & Hillier, 1979). It thus provides an indication of the presence and/or absence of negative affect as represented in general psychiatric health. It is a pure state measure, and responds to how much a respondent felt that their present state over the recent past is unlike their usual state. The GHQ focused on the individual’s ability to carry out “normal” functions and the appearance of any new disturbing phenomena (Goldberg & Williams, 1988). It does not make clinical diagnoses and could not be used to measure long-standing attributes (Goldberg & Williams, 1988).

The General Health Questionnaire was developed to primarily assess the respondent’s inability to continue with normal, healthy functioning, together with the appearance or exacerbation of distressing symptoms (Goldberg & Williams, 1988). Each person plays an important role in shaping their personal health through their attitudes and beliefs, as well as the health behaviours that are maintained (Rice, 1998). Sarafino (1990) claimed that health and illness were traditionally viewed on a continuum, and that health remained understood only in relation to illness: a person was deemed healthy if they did not exhibit any signs of illness (i.e., they displayed the absence of negative affect). Presently health is considered more holistically, in that “high level” health requires a balance between any numbers of composite elements (Eberst, 1984).
Goldberg and Williams (1988) recommended a cut-off threshold score of 4/5 for each subscale of the GHQ-28. This allows for a slightly better overall result than the threshold score advocated by Goldberg and Hillier (1979). In the present study all scores ranging above 5 were considered indicative of raised levels of psychiatric distress (negative affect) and possible indicators of psychiatric pathology.

Table 15 presents a mean score of 4.43 for the GHQ-28 with a standard deviation of 4.42. The scores ranged from 0 to 14. The mean reflects a positive picture regarding psychiatric health since the mean is below the cut-off threshold of 5. However, when presented with the minimums (0) and maximums (14) and the range of 14, it is noted that there are individuals within the sample that are evidently experiencing marked levels of psychiatric distress (negative affect) and possible pathology.

When one compares the subscale mean scores, the participants fared best (i.e., the lowest score) on the severe depression scale with a mean score of 0.17. The participants fared worst (i.e., the highest mean) on the somatic symptoms scale with a mean score of 1.88. This result would be expected in situations where stress levels are high. Since the respondents in this study are in their post-graduate year of study, stress levels are speculated to be high, and therefore concomitant somatic symptoms should become evident. This was followed by the anxiety and insomnia subscale with a mean of 1.42, and lastly by the social dysfunction subscale with a mean of 0.97. As mentioned above, although the mean scores for all the subscales are below the cut-off threshold of 4/5, when one looks at the range of score it becomes clear that there are individuals who may be suffering from some psychiatric distress and possible pathology. The ranges of the scores were the same for the subscales of somatic symptoms, anxiety and insomnia, and
social dysfunction. The range for these three subscales was 7, with a minimum score (0) and a maximum score (7). In the discussion regarding the CRI results, it was noted that the emotional subscale had the greatest standard deviation. This appears to correspond to the large difference in the range of scores obtained on the GHQ-28.

These subscale scores could be compared to those reported by David (2000) in a South African study in physically disabled males. It was found that the subscales of this present study (with the exception of the depression subscale) were all higher (i.e., slightly more negative) than the scores reported by David. One can possibly speculate that the psychological stressors associated with studying at post-graduate level are perceived as being worse than those psychological stressors experienced by physically disabled males.

In concluding the section on subjective well-being, it would appear that the participants in the sample of this study are experiencing satisfactory subjective well-being. The sample attained an average rating of satisfaction with life and an above average rating of global happiness. Their general psychiatric health reflects a positive picture as the mean is below the cut-off threshold of 5.

7.2 Conclusion

In this section the results of the measures (i.e., CRI, SOC, SWLS, AFM-2 and GHQ-28) have been presented and discussed. The findings have been linked to theory and previous studies which have been reviewed in the previous chapters. Some of the findings in this study confirm theoretical and earlier research findings, while others appear to be unique to this particular sample. The next section discusses the cluster analysis descriptive technique that was used in order to classify the present participants in terms of their score on the different measures.
7.3 Cluster Analysis

The five measures (i.e., CRI, SOC, SWLS, AFM-2 and GHQ-28) had different scoring systems and maximum scores. Tests with a greater variance influence the cluster analysis results more than tests with smaller variances. In order to counteract this all test scores were standardised with a maximum score of 1, a mean of 0, and a minimum score of -1. The cluster analysis was conducted. Subsequent analyses were however performed for each cluster on the original test scores, in order to link it with previous results.

There was a two-cluster solution (see Graph 1). Cluster 1 consisted of 37 learners and cluster 2 consisted of 23 learners.

Graph 1

Cluster Analysis Results with Standardized Test Scores
CRI, SOC, SWLS and AFM-2, scored low on the GHQ-28 (i.e., they reported low levels of psychiatric illness/ distress). Participants who scored low on the CRI, SOC, SWLS and AFM-2 scored high on the GHQ-28 (i.e., they reported higher levels of psychiatric distress/illness).

7.3.1 Cluster One

The descriptive statistics for cluster 1 are represented in Table 16 below.

Table 16

Descriptive Statistics for Cluster 1 (37 participants)

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Variance</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total CRI</td>
<td>37</td>
<td>59.14</td>
<td>45</td>
<td>70</td>
<td>36.51</td>
<td>6.04</td>
</tr>
<tr>
<td>Total SOC</td>
<td>37</td>
<td>158.24</td>
<td>129</td>
<td>189</td>
<td>205.74</td>
<td>14.34</td>
</tr>
<tr>
<td>Total SWLS</td>
<td>37</td>
<td>29.05</td>
<td>24</td>
<td>34</td>
<td>6.16</td>
<td>2.48</td>
</tr>
<tr>
<td>Total AFM-2</td>
<td>37</td>
<td>52.73</td>
<td>28</td>
<td>76</td>
<td>136.42</td>
<td>11.68</td>
</tr>
<tr>
<td>Total GHQ-28</td>
<td>37</td>
<td>2.54</td>
<td>0</td>
<td>8</td>
<td>7.87</td>
<td>2.80</td>
</tr>
</tbody>
</table>

The results obtained in this study are similar to those produced by other studies where the interrelationship between coping and subjective well-being were investigated (Wissing & Van Eeden, 1997; Madhoo, 1999; Cairns, 2001; Kirsten, 2003; Hatuell, 2004). According to the results presented in this cluster, those individuals who scored high on coping and subjective well-being, tended to score low
on the general health questionnaire which indicates that high levels of psychofortology are related to good general psychiatric health.

### 7.3.2 Cluster Two

The descriptive statistics for cluster 2 are represented in Table 17 below.

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Variance</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total CRI</td>
<td>23</td>
<td>43.39</td>
<td>33</td>
<td>56</td>
<td>33.16</td>
<td>5.76</td>
</tr>
<tr>
<td>Total SOC</td>
<td>23</td>
<td>124.91</td>
<td>88</td>
<td>149</td>
<td>223.45</td>
<td>14.95</td>
</tr>
<tr>
<td>Total SWLS</td>
<td>23</td>
<td>21.56</td>
<td>12</td>
<td>29</td>
<td>21.80</td>
<td>4.67</td>
</tr>
<tr>
<td>Total AFM-2</td>
<td>23</td>
<td>14.30</td>
<td>-32</td>
<td>36</td>
<td>291.13</td>
<td>17.06</td>
</tr>
<tr>
<td>Total GHQ-28</td>
<td>23</td>
<td>7.48</td>
<td>0</td>
<td>14</td>
<td>23.72</td>
<td>4.87</td>
</tr>
</tbody>
</table>

The results in this cluster, as for those in cluster one represent similar findings to those studies mentioned above (i.e., Cairns, 2001; Hatuell, 2004; Kirsten, 2003; Madhoo, 1999; Wissing & Van Eeden, 1997). The results further indicate that those participants with low levels of psychofortology tended to score high on the general health questionnaire (GHQ-28) which indicates a relationship with poor general psychiatric health.
The average test scores reported for the two clusters in Tables 16 and 17 appear to reflect the differences observed in Graph 1. In order to explore the significance of these differences further analyses were performed.

### 7.3.3 T-tests Grouping: Cluster

In order to check for significant overall differences a Hotellings $T^2$ was computed with subsequent t-tests to check for individual test differences (see Table 18).

#### Table 18

**T-tests; Grouping: Cluster**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean 1</th>
<th>Mean 2</th>
<th>t-value</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total CRI</td>
<td>59.14</td>
<td>43.39</td>
<td>9.99</td>
<td>58</td>
<td>0.00</td>
</tr>
<tr>
<td>Total SOC</td>
<td>158.24</td>
<td>124.91</td>
<td>8.61</td>
<td>58</td>
<td>0.00</td>
</tr>
<tr>
<td>Total SWLS</td>
<td>29.05</td>
<td>21.57</td>
<td>8.11</td>
<td>58</td>
<td>0.00</td>
</tr>
<tr>
<td>Total AFM-2</td>
<td>52.73</td>
<td>14.30</td>
<td>10.36</td>
<td>58</td>
<td>0.00</td>
</tr>
<tr>
<td>Total GHQ-28</td>
<td>2.54</td>
<td>7.48</td>
<td>-4.99</td>
<td>58</td>
<td>0.00</td>
</tr>
</tbody>
</table>

A significant overall difference between the two clusters was found, $T^2 = 171.58$, $F (5, 54) = 31.95$, $p < .001$. 
7.3.4 Individual T-tests

The t-test results for the CRI indicated a significant difference between the two clusters, \( t(58) = 9.99, p < .001 \). The t-test results for the SOC indicated a significant difference between the two clusters, \( t(58) = 8.61, p < .001 \). The t-test results for the SWLS indicated a significant difference between the two clusters, \( t(58) = 8.11, p < .001 \). The t-test results for the AFM-2 indicated a significant difference between the two clusters, \( t(58) = 10.36, p < .001 \). The t-test results for the GHQ-28 indicated a significant difference between the two clusters, \( t(58) = -4.99, p < .001 \). The afore-mentioned results indicate that a significant overall difference was found on each of the individual tests.

It is clear from the above tests that the two clusters are significantly different. Because of the nature of the construct under investigation in this study, it has been decided that cluster one be named “High Psychofortology” and cluster two “Low Psychofortology”

7.3.5 Chi-square investigation

Further investigations were made through Chi-squares between the clusters and biographical details (i.e., self-reported stress-level, health, gender and marital status) to check for any correlation between these variables. These biographical details were selected as they had the necessary level of variability in response for statistical analysis. These will now be presented and reported on in the tables below.
Table 19
Summary Frequency Table, Clusters: Stress level (self-reported on CRI)

<table>
<thead>
<tr>
<th>Stress Level</th>
<th>Cluster 1</th>
<th>Cluster 2</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Low</td>
<td>2 (5.41%)</td>
<td>0 (0.00%)</td>
<td>2</td>
</tr>
<tr>
<td>Low</td>
<td>23 (62.16%)</td>
<td>12 (52.17%)</td>
<td>23</td>
</tr>
<tr>
<td>High</td>
<td>12 (32.43%)</td>
<td>11 (47.83%)</td>
<td>33</td>
</tr>
<tr>
<td>Very High</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>37 (100.00%)</td>
<td>23 (100.00%)</td>
<td>60</td>
</tr>
</tbody>
</table>

An inspection of Table 19 indicates a greater number of individuals for High Psychofortology (cluster 1) in the Very Low and Low Stress Level categories than Low Psychofortology (cluster 2). This apparent difference was investigated statistically using a Pearson Chi-square. No significant difference between the two clusters was found $\chi^2(2, N = 60) = 2.36, p > .05$.

Table 20
Summary Frequency Table, Clusters: Health (self-reported on CRI)

<table>
<thead>
<tr>
<th>Health</th>
<th>Cluster 1</th>
<th>Cluster 2</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very good</td>
<td>9 (24.32%)</td>
<td>2 (8.70%)</td>
<td>11</td>
</tr>
<tr>
<td>Good</td>
<td>25 (67.57%)</td>
<td>20 (86.96%)</td>
<td>45</td>
</tr>
<tr>
<td>Poor</td>
<td>3 (8.11%)</td>
<td>1 (4.35%)</td>
<td>4</td>
</tr>
<tr>
<td>Very Poor</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0</td>
</tr>
<tr>
<td>All groups</td>
<td>37</td>
<td>23</td>
<td>60</td>
</tr>
</tbody>
</table>
Although there appears to be some slight difference in the distribution of the Chi-square table between the two clusters for self-reported Health, no significant difference was found \(X^2(2, N = 60) = 2.90, p > .05\).

Table 21

Summary Frequency Table, Clusters: Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Cluster 1</th>
<th>Cluster 2</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>27 (61.36%)</td>
<td>17 (38.64%)</td>
<td>44</td>
</tr>
<tr>
<td>Male</td>
<td>10 (62.50%)</td>
<td>6 (37.50%)</td>
<td>16</td>
</tr>
<tr>
<td>All groups</td>
<td>37</td>
<td>23</td>
<td>60</td>
</tr>
</tbody>
</table>

From Table 21 there does not appear to be any difference in the distribution of gender between the clusters and this was confirmed by the Pearson Chi-square \(X^2(2, N = 60) = .0064, p > .05\).

Table 22

Summary Frequency Table, Clusters: Marital Status

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Cluster 1</th>
<th>Cluster 2</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>28 (66.67%)</td>
<td>14 (33.33%)</td>
<td>42</td>
</tr>
<tr>
<td>Co-habiting</td>
<td>3 (75.00%)</td>
<td>1 (25.00%)</td>
<td>4</td>
</tr>
<tr>
<td>Married</td>
<td>5 (50.00%)</td>
<td>5 (50.00%)</td>
<td>10</td>
</tr>
<tr>
<td>Divorced</td>
<td>1 (25.00%)</td>
<td>3 (75.00%)</td>
<td>4</td>
</tr>
<tr>
<td>All groups</td>
<td>37</td>
<td>23</td>
<td>60</td>
</tr>
</tbody>
</table>
The Pearson Chi-square found no significant difference between the two clusters for marital status levels $X^2(2, N = 60) = 3.60, p > .05$.

7.4 Conclusion

In this chapter the results of the present study in relation to the three aims of the research were presented and discussed. Additionally, a detailed description of the sample was provided. The results were linked to previous studies conducted in South Africa where possible, and the results were further linked to relevant literature in earlier chapters. The test performance by the sample in this study was similar to that of other national and international studies. The findings were usually within the expected norms for each of the tests. The cluster analysis identified two distinct groups in terms of test performance. The performance of one group indicated a high level of psychofortology (i.e., coping and subjective well-being). The test scores of the other group indicated a lower level of psychofortology. Chi-square investigations found no significant difference in these two groups on gender, marital status, reported stress levels or reported health. The following chapter focuses on the conclusions, limitations and recommendations of the study.
Chapter 8
Conclusions and Limitations

8.0 Introduction

Having presented and discussed the results of the study, it is necessary to draw certain conclusions based on these findings. This chapter provides a summary of the main findings along with a discussion of the contributions and limitations of the study. Recommendations for future research are also included in this chapter.

8.1 Objectives of the Study Revisited

In general the study aimed to explore and describe the coping resources, sense of coherence, satisfaction with life, happiness and general psychiatric health of postgraduate learners in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University. These sub-constructs constitute the construct of psychofortology. The three primary aims of the research were:

1. To explore and describe the **coping** of postgraduate learners in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University. This aim specifically entails the following:
   1.1 To explore and describe the coping resources of these learners.
   1.2 To explore and describe the sense of coherence of these learners.

2. To explore and describe the **subjective well-being** of postgraduate learners in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University. This aim specifically entails the following:
   2.1 To explore and describe the satisfaction with life of these learners.
2.2 To explore and describe the happiness of these learners.

2.3 To explore and describe the general psychiatric health of these learners.

3. To explore and describe the patterns of coping resources, sense of coherence, satisfaction with life, happiness and general psychiatric health of postgraduate learners in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University.

8.2 Conclusions Based on the Present Study

The conclusions drawn from this study are addressed in terms of the above-mentioned aims.

8.2.1 Description of the Coping of the Sample

The first aim of this research was to explore and describe the coping of the sample of post-graduate learners under investigation. Coping was further subdivided into two categories: (a) coping resources, and (b) sense of coherence. Coping resources of the learners was assessed using the Coping Resources Inventory (CRI), and the sense of coherence was assessed using the Sense of Coherence (SOC) scale. The means of the cognitive, social, emotional and spiritual/philosophical subscales of the CRI were all clustered closely around the mean of 50 (Hammer & Marting, 1988), while the physical resources were slightly below the mean. Both the means of the cognitive and spiritual/philosophical subscales were slightly above the total mean for the sample, indicating that cognition and spirituality play a slightly above average role as coping resources. This suggests that the participants perceived themselves as having an average level of coping resources. The researcher speculates that this may be due to the high percentage of psychology learners, who are trained in coping
resources, amongst the sample. The participants obtained the highest mean score on the Cognitive subscale, and obtained the lowest mean score on the Physical subscale. This information is in accordance with other South African studies of coping resources of different populations (Cairns, 2001; Brown, 2002; Kirsten, 2003; Hatuell, 2004). According to the results obtained on the SOC, the sample has an above average level of sense of coherence when compared to the South African research conducted by Wissing and Van Eeden (1997).

This subsection described the coping of the learners in the study; the following subsection describes the subjective well-being of the sample.

8.2.2 Description of the Subjective Well-being of the Sample

The second aim of this research was to explore and describe the subjective well-being of the sample of learners under investigation. Subjective well-being was further subdivided into three categories: (a) satisfaction with life, (b) happiness, and (c) general psychiatric health. Satisfaction with life was assessed using the Satisfaction with Life Scale (SWLS). Happiness was assessed using the Affectometer-2 (AFM-2). General psychiatric health was assessed using the General Health Questionnaire (GHQ-28). The results on the SWLS indicated that the present sample perceived themselves as having average satisfaction with life levels. The results on the AFM-2 indicated that the sample perceived themselves to be experiencing average levels of global happiness. The results on the GHQ-28 indicated that although the sample as a whole is generally psychiatrically healthy (absence of negative affect), there are individuals within the sample that are experiencing marked levels of psychiatric distress and possible psychopathology and
negative affect. This finding was echoed by the largest standard deviation obtained on the emotional domain when compared to the other domains on the CRI.

The results indicate an overall good level of subjective well-being. It is speculated that since these learners are all health professionals, that they are trained in managing their psychiatric health and well-being. The psychology learners are selected, amongst other criteria, upon results obtained on a number of psychometric measures, including the Minnesota Multiphasic Personality Inventory (MMPI). This test is used as a screening measure for amongst others, general psychiatric health, and therefore learners who are selected are considered to possess a number of psychological strengths.

The following subsection describes patterns of coping and subjective well-being of the sample.

8.2.3 Description of the Patterns of Coping and Subjective Well-being of the Sample

The third aim of this study was to explore and describe the patterns of coping and subjective well-being of the learners under investigation. However, it is noted that due to this studies’ exploratory-descriptive nature, no causal or explanatory links may be established. The results indicated two clusters to significantly differ from one another on all five measures. Concerning the descriptive information, it was found that the first cluster could be characterised by high psychofortology while the second cluster was low in psychofortology. The first cluster presented with high levels of coping and subjective well-being with resulting good psychiatric health (i.e., low levels of negative affect). The second cluster presented with low levels of coping and low levels of subjective well-being and poor psychiatric health. In the general feedback to the departments, participants
were reminded of the availability of the coping resources available to learners at the NMMU, such as the Student Counselling, Career and Development Centre (SCCDC). A full description of these resources is given in Chapter 5. The next section discusses the value of the research.

8.3 The Value of the Research

This study contributes to the research on the coping and subjective well-being of post-graduate learners at NMMU. It further contributes to the growing body of Positive Psychology research which emphasises mental health over mental illness. This study also contributes to the basic understanding and promotion of some of the factors that allow post-graduate learners to cope better with stressors and thus increase their subjective well-being, namely: (a) the dimensions of the CRI (i.e., cognitive, social, emotional, spiritual, and physical), and (b) the elements of the SOC (i.e., comprehensibility, manageability, and meaningfulness). By addressing the aforementioned dimensions and elements, and developing workshops around these areas based on the results of this study, the NMMU may provide post-graduate learners with recommendations of ways to increase their psychofortology (i.e., through the development of coping resources). As a result of this study, more information regarding the coping and subjective well-being of post-graduate learners in the Faculty of Health Sciences at the NMMU has been obtained.

The results of the study indicate that the learners who participated in this study are generally coping fairly well and experience a positive sense of subjective well-being. Furthermore, despite the fact that these learners are registered at a Higher Educational Institution undergoing a merger process, they were found to have the necessary coping resources and sense of subjective well-being to manage the stress brought to bear on
anyone undergoing such a process. However, it can be speculated that those respondents (27 learners) in the low psychofortology cluster, may well have had their overall stress levels increased due to the uncertainties created during a merging process, such as discussions around the location and possible relocation of departments on various NMMU campuses.

It must be noted that the participants of this study received general feedback regarding the findings of this research study. This information may empower them to identify areas in their lives that are limiting their experience of psychofortology. They were reminded of the services available at the university to assist them in this regard.

Despite the above-mentioned values of the research there are various limitations to this research that require further discussion. This is discussed in the following section.

8.4 Limitations of the Research

There are various limitations of this study which can be highlighted. Due to the convenience sampling method and the small size of the sample, the gathered data is biased and non-representative of, or generalisable to the larger post-graduate student population at NMMU. A further limitation to the study is that due to the voluntary nature of the study, only relatively less stressed individuals may have participated in the study, resulting in a skewed result.

Longitudinal studies are essential in the study of coping; affect and stress, since measuring these constructs at one point in time may not reflect the value given to each of the components (Lazarus, 2000). Since this study was not longitudinal in nature, the fluctuations experienced by the participants in their coping resources and subjective well-being, could not be measured over time.
Snyders and Lopez (2005) question whether self-report measures are valid, since respondents may report they are happy when they are not really experiencing high levels of subjective well-being. Bearing the limitations of self-reporting in mind, the researcher has chosen to use a multi-method battery of assessments to assess coping and subjective well-being.

Schwarz and Strack (1999) have shown in their research that situational variables may also exert significant impact upon life satisfaction and mood reports. They claim that respondents use currently important information to construct life satisfaction judgements. Suh, Diener, Oishi and Triandis (1998) showed that certain information is salient to some individuals while the same information is considered unimportant to others. Diener and Diener (1995) reported that people in individualistic nations base their life satisfaction judgments on the extent to which they experience high levels of self-esteem, while in collectivist cultures, life satisfaction is based on the opinions of others.

Snyders and Lopez (2005) argue that individuals also use different strategies in seeking information about their levels of life satisfaction. People also differ according to the degree to which they assess their moods and emotions (Suh & Diener, 1999). Life satisfaction therefore may vary across individuals by reflecting different information for different people, and may vary depending on what is important at that moment of reporting (Snyders & Lopez, 2005). This may have been the case for the sample in this study.

A further limitation occurs when individuals have to rate their global well-being, since to do so; they need to form judgments about their well-being. According to Snyders and Lopez (2005), these judgments may not correspond to the average mood or life
satisfaction across many different moments. They report that an individual’s estimates of happiness and reports of affect over time are likely to be influenced by the person’s current mood, their beliefs about happiness, and the ease with which they are able to retrieve positive and negative information. This may have contributed to the resulting good level of subjective well-being obtained in this study.

Cultural differences in subjective well-being have been explored in recent years and it has been discovered that there are profound differences in what makes people happy (Snyders & Lopez, 2005). Suh (1999) found that there are cultural differences in the importance of personality congruence, which reflects the extent to which a person’s behaviours are consistent across situations and with the person’s inner feelings. Suh found that collectivists are less congruent than individualists, and that congruence is less strongly related to subjective well-being among collectivists. He also found that amongst collectivist cultures, the extent to which one’s life accords with the wishes of significant others, is more important than the emotions that the person feels in predicting his or her life satisfaction. Since it is assumed that the sample in this study is representative of both collectivistic and individualistic cultures one may speculate that those participants in the sample from collectivistic cultures may have “faked good” regarding their coping and subjective well-being, as they may have believed this to be the group norm.

Demographic variables also have an impact on subjective well-being and have different consequences and varying degrees of importance in different cultures (Snyders & Lopez, 2005). Snyders and Lopez reported that cultural norms can change the correlates of subjective well-being.
The sample of this study is a selective group in the health science professions who may have a better awareness of coping and well-being. Furthermore, a large percentage of the sample are psychology Masters learners. Since the researcher is himself a psychology Masters learner, the participants are known to him and vice-versa, and therefore the possibility of these learners “faking good” should be borne in mind when analysing the data. These learners were selected into their programmes on the basis of healthy psychometry (e.g., MMPI) as well as a panel interview, and it can be speculated that they would have been screened for any psychological deficits. These factors may have contributed to a skewed result in favour of higher levels of coping and subjective well-being.

A further limitation of this study is the lack of a baseline of the coping and subjective well-being of the learners upon entering the Masters and Doctoral levels of study. Due to this limitation the researcher is unable to conclusively state that the levels of coping and subjective well-being are due to stressors in the field of study and the merging of the institutions, since the learners’ levels of coping and subjective well-being may have existed prior to entering the post-graduate level.

The results of this study may have revealed a relationship between coping resources, sense of coherence, satisfaction with life, happiness, and general psychiatric health, but the causal explanation cannot be clearly established due to the exploratory, descriptive nature of the study. A further contributing factor could be the small size and the limited nature of the sample used. Since the aims of the research were only to explore and describe the scores obtained on the different measures, namely: (a) the Coping Resource Inventory, (b) the Sense of Coherence Scale, (c) the Affectometer-2 Scale, (d)
the Satisfaction with Life Scale, and (e) the General Health Questionnaire, the above-
mentioned limitations seem justified. Recommendations for further research will be
discussed in the following section.

8.5 Recommendations

Since this study only targeted a small segment of the Faculty of Health Sciences it
is not possible to generalise the findings to the rest of the Faculty or to the rest of the
learners at NMMU. It is therefore recommended that this study be replicated amongst all
the learners and across all the faculties of NMMU. This will allow the resulting
conclusions of the study to be made generalisable to larger student populations in South
Africa. Equal groupings of variables such as age, gender and marital status in future
research is recommended as it will allow for critical exploration of the biographic
variables in terms of psychofortology.

The Faculty of Health Sciences should look at incorporating courses or workshops
which aim at increasing coping resources and well-being amongst its learners.
Psychofortology and Positive Psychology modules should form part of the curriculum of
each department of the Faculty of Health Sciences. These modules could be introduced at
different levels from under-graduate to post-graduate, to encourage the learners to begin
thinking in this direction. Life-skills should also be introduced to better equip the learner
to make a successful transition into the workplace. For example, programmes such as
“How to set up and manage a successful practice” should be incorporated into the
Masters Psychology programme in order to better equip the post-graduate learner in
setting up and managing their practices as professional psychologists. This would
encourage learners to remain in the field and not to seek work for the sake of a salary.
Personal growth programmes should also form part of each department’s curriculum, with the Faculty placing an emphasis on the support services and departments available at the NMMU.

The NMMU should actively encourage the development of personal psychofortology alongside its academic programme. The Student Counselling, Career and Development Centre (SCCDC) could be encouraged to develop these personal programmes and to offer them to the learners as part of their orientation programme to the first-year learners, as well as to have a roll-out of life-skills programmes throughout the year. The NMMU should continue to focus on endeavouring to develop their learners holistically by equipping the learners with life-skills as well as academic skills. This decreases the drop-out rate and will further contribute towards equipping the learner with the necessary skills to rejoin society after achieving their qualification.

The different measures used in this study should be translated and standardised for all the main language groupings in South Africa. A battery of cross-cultural subjective well-being measures based on biological and cognitive measures that assess the accessibility of positive events in memory is required, together with more longitudinal studies to assess the different variables over time (Lazarus, 2000; Snyders & Lopez, 2005).

In order to enrich the quantitative data, future research should incorporate more qualitative information into the data collection. This data will create a deeper understanding of the psychofortology of the learners and will prove valuable in terms of intervention strategies.
8.6 Conclusion

This study attempted to explore and describe the psychofortology of a sample of masters and doctoral learners in the Faculty of Health Sciences at NMMU. The low level of generalisability of the results is a limitation of this research. However the average mean scores on all three of the measures, as well as significant positive correlations between coping resources, sense of coherence, satisfaction with life, happiness and general health provide valuable information regarding coping and subjective well-being of the sample under investigation.

The results obtained in this study provide guidance regarding research into coping and subjective well-being. This study provides guidelines regarding the possible measures and methodology that can be used in future research studies in the area of psychofortology and Positive Psychology. Future research should utilise larger sample sizes, as well as employ longitudinal research designs and qualitative data to enrich the investigation of the psychofortology of learners. It is hoped that the present study contributes to an increased general acceptance of the strength perspective in all areas of human functioning, as studied by various disciplines and sub-disciplines of the health sciences.

Positive Psychology is in its infancy, yet appears to be generating increasing amounts of research and support. The time has arrived for a new approach to psychology. Positive Psychology provides a welcome home for emerging sciences such as psychofortology. One cannot build on weakness alone. Positive Psychology utilises all available strengths, and these strengths represent the only true opportunities for personal growth.
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Appendix A

Organogram of the Faculty of Health Sciences at NMMU
Appendix B

Distribution of Learners within the Faculty of Health Sciences
## Enrolment for 2006 in the Faculty of Health Sciences at NMMU

<table>
<thead>
<tr>
<th>QUALIFICATION</th>
<th>ENROLLED</th>
<th>MALES</th>
<th>FEMALES</th>
</tr>
</thead>
<tbody>
<tr>
<td>D CUR DOCTOR CURATIONIS</td>
<td>10</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>D PHIL HUMAN MOVEMENT SCIENCE</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>D PHIL PSYCHOLOGY</td>
<td>15</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>D PHIL SOCIAL DEVELOPMENT PROF</td>
<td>6</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>D TECH BIOMEDICAL TECHNOLOGY</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>M CUR MAGISTER CURATIONIS</td>
<td>9</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>M PHARM MAGISTER PHARMACIAE</td>
<td>4</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>M TECH BIOMEDICAL TECHNOLOGY</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>M TECH ENVIRONMENTAL HEALTH</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>M TECH RADIOGRAPHY</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>MA MAGISTER ARTIUM (SPORT SCIENCE)</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>MA MAGISTER ARTIUM BIOKINETICS</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>MA MAGISTER ARTIUM NON LABORATORY</td>
<td>12</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>MA (PS) MAGISTER ARTIUM (PSYCHOLOGY)</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>MA(CL.P) MA IN CLINICAL PSYCHOLOGY</td>
<td>15</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>MA(CO.P) MA IN COUNS PSYCHOLOGY</td>
<td>19</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>MA(HWM) MA IN HEALTH WELFARE MANAGEMENT</td>
<td>45</td>
<td>11</td>
<td>34</td>
</tr>
<tr>
<td>MA(PSY) MAGISTER ARTIUM RESEARCH (PSYCH)</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>MA(SW) MA(SW) (CLIN SW)</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>MA(SW) MA(SW)SOCIAL DEV &amp; PLAN</td>
<td>16</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>MA(SW)R1 MA (SW) RESEARCH</td>
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<td>0</td>
<td>1</td>
</tr>
<tr>
<td>QUALIFICATION</td>
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<td>MALES</td>
<td>FEMALES</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>----------</td>
<td>-------</td>
<td>---------</td>
</tr>
<tr>
<td>MED PSYC MA EDUCAT IN EDUC PSYCHOLOGY</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>MSC MAGISTER SCIENTIAE</td>
<td>10</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>PHD PHILOSOPHIAE DOCTOR</td>
<td>8</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>214</strong></td>
<td><strong>48</strong></td>
<td><strong>166</strong></td>
</tr>
</tbody>
</table>
Appendix C

Information Letter
Dear Participant

RE: PSYCHOFORTOLOGY RESEARCH

As part of my course work for the Masters Degree in Counselling Psychology I am required to complete a research treatise. The title of my treatise is: “The Psychofortology of Post-Graduate Learners in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University”. The aim of the research is to investigate your own, and others’ coping with life and general, subjective well-being. If you decide to participate in this research you will receive an envelope with a number on it. This number will appear on each questionnaire and will enable the researcher to keep track of the questionnaires to ensure that all your information remains together. In the envelope will be a consent form, biographical questionnaire, and five other questionnaires pertaining to your coping with life and general, subjective well-being. The researcher will provide instructions for completing the questionnaires.

You will be required to complete and sign a consent form. You will be required to provide your surname and initials. If you so wish, general feedback will gladly be provided by the researcher. Please indicate if you would like to receive general feedback by completing the appropriate section on the biographical questionnaire.

All responses to the questionnaire will be regarded as confidential. For this reason you are requested to answer the questions as honestly as possible.

It will take approximately 45 minutes to complete all the questionnaires. Once you have completed the biographical questionnaire, Satisfaction with Life Scale, Affectometer-2 Scale, Coping Resources Inventory, Orientation to Life Questionnaire and General Health Questionnaire, you are requested to place these questionnaires in the envelope provided and to hand it back to the researcher.
Your participation is greatly appreciated.

Kind regards

Mr. Greg Smith  Dr Paul Fouche  
(Researcher)  (Supervisor)

Prof N.T. Naidoo  Dr Louise Stroud  
(Co-Supervisor and Dean of the Faculty)  (Co-Supervisor and Director of UCLIN)

Prof M. Watson  
(HoD: Department of Psychology)
Appendix D

Consent Form
THE PSYCHOLOGY OF POST-GRADUATE LEARNERS IN THE FACULTY OF HEALTH SCIENCES AT NELSON MANDELA METROPOLITAN UNIVERSITY

Consent Form

Researcher: Greg Smith
Supervisor: Dr P. Fouche
Co-Supervisor: Prof N.T. Naidoo
Co-Supervisor: Dr L. Stroud
Tel: 041 - 5042354 / 041 - 5042330

DECLARATION BY PARTICIPANT

I, the undersigned, ______________________________________ (name)
(I.D. No: ___________________), the participant of ________________________
_______________________________________________________________
_________________________________________________________________
_________________________________________________________________
(address).

A. HEREBY CONFIRM AS FOLLOWS:

1. I was invited to participate in the above-mentioned research project which is being undertaken by Greg Smith of the Department of Psychology in the Faculty of Health Sciences at the Nelson Mandela Metropolitan University (NMMU).

2. This research project aims to explore and describe the coping orientation, well-being and resources of post-graduate learners in the Faculty of Health Sciences at NMMU. The information will be used as part of the requirements for a MA Counselling Psychology degree. The results of this study may be presented at scientific conferences or in specialist publications.
3. I understand that I will be asked to complete six questionnaires as well as a consent form. If I am unable to participate in the study, I will return all questionnaires and letters to the researcher.

4. Risks: None

5. Confidentiality: My identity will not be revealed in any discussion, description or scientific publications by the researcher.

6. My participation is voluntary. My decision whether or not to participate will in no way affect my present or future studies.

7. No pressure was exerted on me to consent to participation and I understand that I may withdraw at any stage without penalization.

8. Participation in this study will not result in any additional cost to myself.

B. I HEREBY CONSENT VOLUNTARILY TO PARTICIPATE IN THE ABOVE-MENTIONED PROJECT.

I grant this as a voluntary contribution in the interest of training and knowledge.

Signed at ______________________________ on __________________ 2005.

Signature of participant ______________________________.
Appendix E

Biographical Questionnaire
Questionnaire number: _____

Biographical Questionnaire

Please complete the following by making a (X) in the appropriate block or by filling in the blank spaces provided. You are encouraged to answer honestly as your responses will be kept confidential.

**Personal Details**

1. Age (in completed years): ____________
2. Home language:
   - English [ ] Afrikaans [ ] Xhosa [ ] Other [ ]
   If other, please specify: ____________________________
3. Present marital status (You may cross more than one block):
   - Single [ ] Co-habiting [ ] Engaged [ ] Married [ ] Divorced [ ] Widowed [ ]
4. Number of dependent children: _________________________
5. Degree presently studying towards: __________________________
6. Which department in Faculty of Health Sciences: ______________________
7. Do you believe in the existence of a God or Superior Being/Force? Yes [ ] No [ ]
8. Would you like to receive general feedback regarding the results of this study? Yes [ ] No [ ]

Thank you for completing this biographical questionnaire.