PERSONALITY TRAITS OF PATIENTS PARTICIPATING IN A GROUP PROGRAMME AT A PRIVATE PSYCHIATRIC DAY CLINIC

by

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For Iain - with love
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# Table of Contents

Acknowledgements iii  
Table of Contents v  
List of Tables xi  
List of Abbreviations xii  
Summary xiii

## Chapter 1: Introduction

1.1 Chapter Preview 1  
1.2 General Orientation to the Research Study 1  
1.3 Context of the Research 2  
\hspace{0.5cm} 1.3.1 Personality Assessment 2  
\hspace{0.5cm} 1.3.2 Psychiatric Care 3  
1.4 Purpose of the Study 4  
1.5 Primary Objectives of the Research 6  
1.6 Delineation of the Research 6  
1.7 Conclusion 7

## Chapter 2: Personality Assessment and the Development of the NEO PI-R

2.1 Chapter Preview 8  
2.2 Introduction 8  
2.3 Personality Psychology and Theories of Personality 9  
\hspace{0.5cm} 2.3.1 Psychoanalytic Theory 11  
\hspace{0.5cm} 2.3.2 Phenomenological Theory 14  
\hspace{0.5cm} 2.3.3 Behavioural Theory 14  
\hspace{0.5cm} 2.3.4 Trait Theory 15  
\hspace{1cm} 2.3.4.1 The Lexical Tradition 16
2.3.4.2 The Personality Questionnaire Tradition 18
2.4 Personality Assessment 19
  2.4.1 Categories of Personality Assessment 20
    2.4.1.1 Formal Assessment Procedures 20
    2.4.1.2 Informal Assessment Procedures 21
  2.4.2 Self-Report Inventories: Disadvantages and Advantages 22
2.5 The Revised NEO Personality Inventory (NEO PI-R) 24
2.6 Applications of the NEO PI-R 27
2.7 Conclusion 30

Chapter 3: Psychiatric Care

3.1 Chapter Preview 31
3.2 The Burden of Psychiatric Illness 31
3.3 Psychiatric Care: A Historical Perspective 33
  3.3.1 The South African Situation 35
3.4 The Restructuring of Health Services in South Africa 35
  3.4.1 The National Level 36
  3.4.2 The Provincial Level 37
  3.4.3 The District Level 37
  3.4.4 The Community Level 38
3.5 Psychiatric Care Options 38
3.6 Psychiatric Assessment 40
  3.6.1 The Psychiatric Interview 40
    3.6.1.1 History Taking 41
    3.6.1.2 The Mental Status Examination 41
  3.6.2 Forming Diagnoses 42
3.7 Psychiatric Treatment 43
  3.7.1 Individual Psychotherapy 43
  3.7.2 Group Psychotherapy 45
  3.7.3 Psycho-education 46
Chapter 4: Research Design and Methodology

4.1 Chapter Preview
4.2 Primary Objectives of the Research
4.3 Research Design
4.4 Participants and Sampling
4.5 Measures
   4.5.1 The Biographical Questionnaire
   4.5.2 The Revised NEO Personality Inventory (NEO PI-R)
      4.5.2.1 The Reliability of the Measure
      4.5.2.2 The Validity of the Measure
         4.5.2.2.1 Validity of the Domain Scales
         4.5.2.2.2 Validity of the Facet Scales
4.6 Procedure
4.7 Data Analysis
   4.7.1 Descriptive Statistics
   4.7.2 Pearson Product-Moment Correlation
   4.7.3 Cluster Analysis
   4.7.4. Multivariate Analysis of Variance
   4.7.5 Chi-square Tests of Independence
4.8 Ethical Considerations
   4.8.1 Informed Consent
   4.8.2 Privacy and Confidentiality
4.9 Conclusion
Chapter 5: Results

5.1. Chapter Preview 69
5.2 Biographical Description of the Sample 69
  5.2.1 Gender 69
  5.2.2 Age 70
  5.2.3 Marital Status 71
5.3 Results of the Revised NEO Personality Inventory 71
  5.3.1 Internal Consistency of the NEO PI-R 71
  5.3.2 Description of the Sample According to the Domains
      of the NEO PI-R 73
  5.3.3 Correlation Between the Domains of the NEO PI-R 74
5.3.4 Cluster Analysis 75
  5.3.4.1 Cluster 1: The Highly Conscientious Cluster 77
  5.3.4.2 Cluster 2: The Extraverted, Open, Disagreeable Cluster 78
  5.3.4.3 Cluster 3: The Neurotic Low Scoring Cluster 78
  5.3.4.4 Cluster 4: The Altruistic Cluster 78
  5.3.4.5 Cluster 5: The Psychiatric Profile Cluster 79
5.3.5 Personality Differences Among Clusters 79
5.4 The Relationship between Personality and Biographical Variables 82
  5.4.1 The NEO PI-R Personality Domains Described in relation to
      Gender 82
  5.4.2 The NEO PI-R Personality Domains Described in relation to Age 83
  5.4.3 The NEO PI-R Personality Domains Described in relation to
      Marital Status 84
  5.4.4 Results of the Multivariate Analysis of Variance 85
  5.4.5 Chi-square Tests 88
    5.4.5.1 Chi-square Test Results for Gender 88
    5.4.5.2 Chi-square Test Results for Age 89
    5.4.5.3 Chi-square Test Results for Marital Status 91
5.5 Conclusion 93
Chapter 6: Discussion

6.1. Chapter Preview 94
6.2 Biographical Description of the Sample 94
   6.2.1 Gender 94
   6.2.2 Age 95
   6.2.3 Marital Status 97
6.3 Discussion of the Results of the NEO PI-R 98
   6.3.1 Internal Consistency of the NEO PI-R 98
   6.3.2 Correlation Between the Domains of the NEO PI-R 98
   6.3.3 Description of the Sample According to the Domains of the NEO PI-R 100
      6.3.3.1 Neuroticism (N) 101
      6.3.3.2 Extraversion (E) 102
      6.3.3.3 Openness (O) 104
      6.3.3.4 Agreeableness (A) 105
      6.3.3.5 Conscientiousness (C) 106
   6.3.4 Cluster Analysis 107
      6.3.4.1 The Highly Conscientious Cluster 108
      6.3.4.2 The Extraverted, Open, Disagreeable Cluster 108
      6.3.4.3 The Neurotic Low Scoring Cluster 110
      6.3.4.4 The Altruistic Cluster 111
      6.3.4.5 The Psychiatric Profile Cluster 112
   6.3.5 Implications for Psychotherapy 113
6.4 The Relationship between Personality and Biographical Variables 115
   6.4.1 The NEO PI-R Personality Domains Described in relation to Gender 116
   6.4.2 The NEO PI-R Personality Domains Described in relation to Age 117
   6.4.3 The NEO PI-R Personality Domains Described in relation to Marital Status 119
6.5 Conclusion 121
Chapter 7: Conclusions Limitations and Recommendations

7.1 Chapter Preview 122
7.2 Objectives of the Study Revisited 122
7.3 Results of the NEO PI-R 122
   7.3.1 Internal Consistency 122
   7.3.2 Correlation Between the Domains of the NEO PI-R 123
   7.3.3 The Personality Profile of the Sample 123
   7.3.4 Cluster Analysis 123
7.4 The Relationship between Personality and Biographical Variables 124
   7.4.1 Gender 124
   7.4.2 Age 124
   7.4.3 Marital Status 124
7.5 The Value of the Research 125
7.6 Limitations of the Study 126
   7.6.1 Limitations of the Design 126
   7.6.2 Limitations of the Sampling Method 127
   7.6.3 Limitation of Lack of Literature and Previous Research 127
7.7 Recommendations for Future Research 127
7.8 Conclusion 128
   7.8.1 Concluding Remark 130

References 131
Appendix A 143
Appendix B 147
List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1</td>
<td>Gender Distribution of the Sample (n = 196)</td>
<td>70</td>
</tr>
<tr>
<td>Table 2</td>
<td>Age Distribution of the Sample (n = 196)</td>
<td>70</td>
</tr>
<tr>
<td>Table 3</td>
<td>Distribution of the Sample According to Marital Status (n = 196)</td>
<td>71</td>
</tr>
<tr>
<td>Table 4</td>
<td>Internal Consistency of the NEO PI-R Domains</td>
<td>72</td>
</tr>
<tr>
<td>Table 5</td>
<td>Means and Standard Deviations of the NEO PI-R Domain T-scores (n = 196)</td>
<td>73</td>
</tr>
<tr>
<td>Table 6</td>
<td>Correlation Matrix of the NEO PI-R Domains (n = 196)</td>
<td>74</td>
</tr>
<tr>
<td>Table 7</td>
<td>Distribution of the Sample According to the Domain Scales of the NEO PI-R</td>
<td>75</td>
</tr>
<tr>
<td>Table 8</td>
<td>Description of the Cluster Groups by Domain Mean T-scores</td>
<td>77</td>
</tr>
<tr>
<td>Table 9</td>
<td>Results of a MANOVA to Determine Differences Among Clusters</td>
<td>79</td>
</tr>
<tr>
<td>Table 10</td>
<td>Post Hoc Scheffé Test Results to Determine Significance of Factor Cluster Differences</td>
<td>80</td>
</tr>
<tr>
<td>Table 11</td>
<td>The NEO PI-R Domain Scores According to Gender</td>
<td>83</td>
</tr>
<tr>
<td>Table 12</td>
<td>The NEO PI-R Domain Scores According to Age</td>
<td>84</td>
</tr>
<tr>
<td>Table 13</td>
<td>The NEO PI-R Domain Scores According to Marital Status</td>
<td>85</td>
</tr>
<tr>
<td>Table 14</td>
<td>Results of a MANOVA to Determine the Relationships Between Biographical Variables and the Personality Profile</td>
<td>87</td>
</tr>
<tr>
<td>Table 15</td>
<td>Post Hoc Scheffé Test Results for Marital Status, Openness and Conscientiousness</td>
<td>87</td>
</tr>
<tr>
<td>Table 16</td>
<td>Gender and Neuroticism</td>
<td>88</td>
</tr>
<tr>
<td>Table 17</td>
<td>Age and Agreeableness</td>
<td>89</td>
</tr>
<tr>
<td>Table 18</td>
<td>Age and Openness</td>
<td>90</td>
</tr>
<tr>
<td>Table 19</td>
<td>Age and Conscientiousness</td>
<td>91</td>
</tr>
<tr>
<td>Table 20</td>
<td>Openness and Marital Status</td>
<td>92</td>
</tr>
<tr>
<td>Table 21</td>
<td>Conscientiousness and Marital Status</td>
<td>92</td>
</tr>
</tbody>
</table>
List of Abbreviations

16PF       Sixteen Personality Factor Inventory
A          Agreeableness
ACL        Adjective Check List
C          Conscientiousness
DALY       Daily Adjusted Life Years
DHS        District Health System
DSM-III     Diagnostic and Statistical Manual of Mental Disorders, III
DSM-IV TR  Diagnostic and Statistical Manual of Mental Disorders, Text Revised
E          Extraversion
FFM        Five-Factor Model
GAD        Generalised Anxiety Disorder
GBD        Global Burden of Disease
MANOVA     Multivariate Analysis of Variance
MBTI       Myers Briggs Type Indicator
MMPI       Minnesota Multiphasic Personality Inventory
N          Neuroticism
NEO PI-R    Revised NEO Personality Inventory
NGO        Non-Governmental Organisation
NHS        National Health System
NIMH       National Institute for Mental Health
O          Openness
OCD        Obsessive Compulsive Disorder
PRF        Personality Research Form
PTSD       Post Traumatic Stress Disorder
SAD        Seasonal Affective Depression
WHO        World Health Organisation
Summary

The current trend in psychiatric health care is towards comprehensive primary healthcare for all South Africans. This has been achieved by the restructuring of the National Health System (NHS) into national, provincial, district, and community levels, which provide outpatient and inpatient care at primary, secondary, and tertiary care levels. Assessment and treatment in the form of physical and psychosocial interventions form an integral part of psychiatric care. The value of personality assessment and, in particular, the potential for matching patient personality types with effective treatment options, may play a role in facilitating effective health care in the future. An overview of the literature indicates that little research has been done regarding the area of personality traits of psychiatric patients in South Africa.

This study aims to explore and describe the personality traits or profile of individuals attending a private psychiatric day care facility in The Nelson Mandela Metropole (i.e., Parkwood Day Clinic). The sample consisted of 196 participants (104 male and 92 female) who attended a group programme from April 2000 to April 2001. As part of the programme, patients were required to complete a series of pencil-and-paper measures. The questionnaires selected for this study included a biographical questionnaire, which was used to describe the biographical variables of the sample with regard to gender, age and marital status, and The Revised NEO Personality Inventory (NEO PI-R) (Costa & McCrae, 1992a), which was used as a measure of personality. The NEO PI-R is considered a concise measure of the five major domains of personality and some of the more important traits that define each domain. Together, the five domains Neuroticism ($N$), Extraversion ($E$), Openness ($O$), Agreeableness ($A$) and Conscientiousness ($C$), and the six facets within each domain, allow for a comprehensive assessment of adult personality.
An exploratory, descriptive method was used in the study, and the data was analysed using descriptive and inferential statistics, including correlations, cluster analysis, and multivariate analysis of variance.

Key findings include the following: Results from the NEO PI-R domains showed a personality profile of very high scores for N, and average scores for E, O, A, and C. Within the sample, cluster analysis revealed five distinct personality profile clusters. For the biographical variable gender, significant differences were found between males and females on N, with the majority of males scoring in the category of Very High and High, and the majority of females scoring in the Average category. For the variable age, the results indicated significant differences on A, with participants in the young adulthood group scoring significantly lower on A than participants in the middle adulthood group. For marital status, on the domain of O, significant differences were found between the divorced or widowed and the married, with the married scoring in the Low category and the divorced or widowed in the Average category. On the domain of C, significant differences were noted between the singles group and the currently or previously married groups, with the single group tending to score lower on C than both other groups.

These findings reveal a need for further research into personality traits and psychiatric samples, as consideration of personality traits based on the profile established, may be useful in matching patients’ characteristics with optimal treatment options.

Key words: personality assessment, personality traits, biographical variables, psychiatric day clinic, psychiatric care, NEO PI-R.
Chapter 1

Introduction

1.1 Chapter Preview

This chapter will focus on the general orientation to the study. The purpose of the present study, and its proposed aims and objectives will be described. Finally, a delineation is presented of the chapters that follow.

1.2 General Orientation to the Research Study

Psychiatric disorders worldwide represent a major burden of care and an important cause of disability in all societies. Mental health problems in the early 1990s were estimated to account for 8.1% of the Global Burden of Disease (GBD), and of the ten leading causes of disability, five were psychiatric conditions. Particular psychiatric disorders, especially mood and anxiety disorders, appear to be the most prevalent disorders in developed and developing countries, and account for 90% of all psychiatric diagnoses in the general population (Kaliski, 2001). This burden of psychiatric illness highlights the need for continued assessment and treatment in the form of psychiatric care.

In South Africa, mental illness is a major cause of morbidity, and is commonly manifested in interpersonal violence, trauma, neurosis of living under continual stress, and post-traumatic stress reactions and disorders, as well as adjustment-related reactions, substance abuse, and suicide (Department of Health, 1997). The provision of curative and rehabilitative health care to the general population involves services (in the public and private sector) at primary, secondary and tertiary treatment levels. Integral to these services is psychiatric assessment (including personality assessment), which is crucial in the identification of
psychiatric disorders and the formulation of treatment interventions used in the management of psychiatric disorders.

1.3 Context of the Research

Understanding the personality of an individual has important implications in the development of interventions and treatment plans used in the management of psychiatric disorders. Therefore, personality assessment and psychiatric care options have been chosen as the research context for this study.

1.3.1 Personality Assessment

Personality psychology has been described as the most ambitious and encompassing subfield of psychology. It seeks to describe and explain individual differences, and to synthesise the many processes that influence an individual’s interaction with the environment into an integrated account of the total person (Phares & Trull, 1997).

Within personality psychology, personality theories provide systems for describing, explaining and comparing people and their behaviours. Theories also serve as guides to the measurement and understanding of personality, as well as providing a frame of reference for the interpretation of assessment findings. Liebert and Spiegler (1998) divide personality theory into four broad categories, namely psychoanalytic, phenomenological, behavioural, and trait theory. Each of these theoretical approaches has a preferred method of personality assessment. Trait theorists describe personality by exploring, describing and classifying people according to the traits which they possess. A major contribution to the field of personality by the trait theorists has been the development of, and research into, the five-factor model (FFM) of personality. This model is considered as an adequate representation of the basic dimensions of personality, and according to McCrae and Costa (1997), most psychologists are now convinced that personality traits can be described in terms of these five basic
dimensions called: (a) Neuroticism versus Emotional Stability (N); (b) Extraversion or Surgency (E); (c) Openness to Experience or Intellect, Imagination or Culture (O); (d) Agreeableness versus Antagonism (A), and (e) Conscientiousness or the Will to Achieve (C). According to McAdams (1994), the acceptance of the FFM of personality traits in trait psychology has never been stronger than it is today. Personality assessment measures are commonly divided into formal assessment procedures such as psychological tests and informal assessment procedures such as behavioural observations and interviews (Butcher & Rouse, 1996). Standardised personality inventories are the assessment method of choice for trait theorists. One of these assessment inventories is the Revised NEO Personality Inventory (NEO PI-R). The NEO PI-R is a 240-item questionnaire that is a measure of normal personality, and is considered a concise measure of the five domains of personality and some of the more important traits or facets that define each domain. The NEO PI-R has been extensively researched, and its utility has been demonstrated in both clinical and research settings. It has been chosen as one of the measures for this study, for the following reasons. Firstly, the NEO PI-R is a trait measure, and is the only commercially available measure designed to capture the five domains of personality that make up the FFM. Secondly, the NEO PI-R’s psychometric properties, ease of administration, scoring, interpretation, and proven validity and reliability in a number of samples, make this measure applicable to the South African context. Lastly, the NEO PI-R, although a measure of “normal” personality traits, has been used successfully for applications such as clinical psychology, counselling psychology and vocational counselling, and in research contexts (Costa & McCrae, 1992a).

1.3.2 Psychiatric Care

The current systems of psychiatric care need to be viewed against the background of worldwide developments in psychiatry and mental health. Key concurrent developments during the last century include the development of the community mental health movement (prevention and promotion),
deinstitutionalisation, and adoption of the concept and philosophy of primary health care.

The development of health care in South Africa, although haphazard and fragmented, has paralleled these major worldwide developments, and the focus in health care at present is on facilitation of the philosophy of Primary Health Care, which aims to achieve universally available health care to all by the year 2000 (Dennill, 1995, Robertson, 2001). Since 1994, the health care services have been restructured to achieve this aim. These developments include the unification of fragmented health services into a comprehensive and integrated four-tiered National Health System (NHS) comprising national, provincial, district and community levels, and the reorganisation of the health care services including the implementation of effective referral systems at all treatment or care levels (primary, secondary and tertiary).

Psychiatric assessment is vital at the primary, secondary and tertiary care levels, and has the aim of obtaining of an in-depth “picture” of an individual’s cognitive, emotional, behavioural and personality functioning (Elkonin, Foxcroft, Roodt & Astbury, 2001; Lange & Julien, 1998). Assessment includes psychiatric interviewing as well as diagnosis formulation, and is fundamental in the development of individualised ongoing treatment and rehabilitation programmes. At all care levels, psychiatric treatment includes psychosocial interventions, such as individual and group psychotherapy, and physical treatments, such as psychopharmatherapy (Malcolm & Berard, 2001). Psychiatric care, including assessment and treatment interventions provided at a secondary level private psychiatric day clinic, provide the social context for this study.

1.4 Purpose of the study

Costa and McCrae (1992a), in providing direction for possible future research using the NEO PI-R, suggest two ways in which it could be used to facilitate the
identification, diagnosis, and selection of appropriate therapeutic interventions for patients with psychiatric disorders. Firstly, further research would be useful in characterising individuals with different diagnoses in terms of their distinctive personality. Secondly, it would assist in the study of the association of personality traits with symptoms and problems in living. There is a paucity of research into the NEO PI-R in relation to firstly, the diagnostic criteria of conditions such as depression and schizophrenia (Bagby et al., 1999), alcoholism, suicidal ideation, Post Traumatic Stress Disorder (PTSD), Alzheimer’s disease (Butcher & Rouse, 1996) and sexual dysfunction (Costa, 1991), and secondly, the association of personality traits with symptoms and problems in living, which include aspects such as social and emotional adjustment, stress, coping and well-being (Costa & McCrae 1992a). Furthermore, little research has been done in the area of personality traits and non-diagnosis specific psychiatric patients. While research using the NEO PI-R has been conducted in South Africa in the area of translation (Brunner-Struik, 2001; Horn, 2000; Van Zijl, 2001), and its cross-cultural applicability (Heuchert, Parker, Stumpf, & Myburgh, 2000), no research studies have been conducted on non-diagnosis specific clinical samples to date.

The purpose of this study is to provide a description of the personality traits of a non-diagnosis specific clinical sample attending a group programme at a psychiatric day clinic, using the NEO PI-R. The group programme offered at this psychiatric day clinic forms part of the psychiatric assessment and treatment provided at the secondary level of care within the newly restructured National Health System (NHS). It is hoped that, through this study, a contribution will be made to the body of research in the area of the association of personality traits with symptoms and problems in living of individuals in South Africa. Furthermore, by collecting descriptive data regarding the people attending a group programme at a psychiatric day clinic such as Parkwood Day Clinic (the day clinic utilised in this study), useful information will be provided for further research and for the development of future assessment and treatment plans provided at the secondary level of psychiatric treatment.
1.5 Primary Objectives of the Research

The study has two main aims:
1. The first aim is to explore and describe the personality traits of patients participating in a group programme at a private psychiatric day clinic.

2. The second aim is to explore and describe the relationship between patient personality traits and biographical variables of gender, age and marital status.

1.6 Delineation of the Research

This manuscript is organised into seven chapters. An overview of the chapters follows. Chapter 1 introduces the study and provides an overview of the contextual background of the research. Chapter 2 is a literature review on personality assessment, with a detailed description of the NEO-PI-R including its development and applications. Chapter 3 provides a discussion of psychiatric care in the South African context. The restructuring of the National Health Service (NHS) is explored, as well as assessment and treatment at primary, secondary and tertiary care levels. Chapter 4 outlines the methodology and research design used in this study. The research design, sampling procedures, measures, data analysis, and ethical considerations are explored. Chapter 5 presents the results of the study explored according to the two aims of the study, while Chapter 6 provides a discussion of the results of the study. Lastly, Chapter 7 provides conclusions based on the results of the research. The value and limitations of the study, as well as recommendations for future research in this area, are presented.
1.7 Conclusion

This burden of psychiatric care worldwide emphasises the need for continued psychiatric care. Psychiatric assessment (including personality assessment) and treatment interventions form vital components in the management of psychiatric disorders. This study aims to explore personality profiles and biographical variables of patients attending the group programme at a private psychiatric day clinic. This will add to research in the area of the association of personality traits with symptoms and problems in living of individuals in South Africa, and will facilitate future research into the matching of individual personality profiles with effective treatment interventions.
Chapter 2

Personality Assessment and the Development of the NEO PI-R

2.1 Chapter Preview

This chapter addresses the field of personality psychology and in particular, outlines the assessment of personality and the trait theory approach to personality assessment. The five-factor model (FFM) and its development will be discussed, followed by a detailed description of the NEO PI-R, its development, psychometric properties, and applications.

2.2 Introduction

Psychology can be defined as the scientific study of behaviour and mental processes (Phares & Trull, 1997). A large variety of topics are covered by this definition. Modern psychology is a diverse field, comprising a large number of specialised areas. Areas of specialisation include: (a) developmental psychology, (b) social psychology, (c) neuropsychology, (d) industrial and organisational psychology, (e) educational psychology, and (f) personality psychology. Personality psychology seeks to describe and explain individual differences, and to synthesise the many processes that influence an individual’s interaction with the environment into an integrated account of the total person (Phares & Trull, 1997). Personality psychology tends to encompass and influence most of the other areas of psychology, and may be described as the formal scientific counterpart of our informal knowledge of human nature. It has further been described as the most ambitious subfield of psychology (Meyer, 1997).

Understanding the notion of personality offers some order and congruence to all the different kinds of behaviour in which the individual engages. Perhaps for
this reason, the construct of personality has been formulated and reformulated and endlessly debated for centuries (Millon & Everly, 1985). At present, psychologists do not agree on a common definition of human personality. It is a complex construct, and has been described as a combination of all the physical, psychological and spiritual characteristics, which include cognitive ability, interests, attitudes and temperament, and other differences in thought, feelings and action, which determine an individual's behaviour. Aiken (1997) defines human personality as the sum total of all the qualities, traits and behaviours that characterise a person, and by which, together with his or her physical attributes, the person is perceived as an individual. Meyer, (1997) adds a situational component, and defines personality as the changing, but nevertheless relatively stable, organisation of all the physical, psychological and spiritual characteristics of the individual which determine his or her behaviour and interaction with the context in which the individual finds him or herself. Therefore, personality may be considered as a unique mixture of various characteristics, which may be described in terms of a distinctive reasonably consistent pattern of individual behaviour (Aiken, 1997). The imperfect and debated definitions of personality help the field of personology come closer to the fundamental questions of why people behave the way that they do.

2.3 Personality Psychology and Theories of Personality

A theory is a set of interrelated statements proposed to explain certain observations of reality (McAdams, 1994). All theories are tentative and somewhat speculative abstractions, only accepted if they are consistent with observations of the phenomena the theory purports to explain, and subject to change if new and inconsistent observation arises. Theories provide tools that can be used to increase understanding, as they provide (a) a particular picture of reality, (b) well-defined terms that name the major components of that picture, (c) specified relationships among the components, and (d) specific predictions about how these relationships can be tested in empirical research (McAdams, 1994).
Personality theory endeavours to explain individual differences according to a model of human functioning. Each personality theory is an attempt to develop a system for describing, explaining, and comparing people and their behaviour. Meyer (1997) defines personality theory as the result of a purposeful and sustained effort to develop a logically consistent conceptual system for the description, explanation, comparison and/or prediction of human behaviour.

Despite the lack of consensus regarding personality theories, they are valuable in that they provide a number of common denominators from which to view human nature. These theories generally provide an underlying view of humankind, with certain assumptions about the nature and the existence of people. These ideas about the core functioning of human beings provide understanding of what is common to all people, and a basis for exploring specific aspects of human functioning, including individual differences in people. Furthermore, personality theories also elaborate on the structural concepts or the “working parts” which make up the personality, and explain how a person functions as a whole. The dynamics of personality are also explained, for instance, what enables the person to function, or what motivates behaviour. These theories also elaborate on the development of the personality (i.e., how the structural and dynamic aspects of personality change from infancy) and provide views on psychopathology. Although personality theories tend to differ with regard to the diagnosis, study and measurement of psychopathology, particular emphasis is placed on adjustment and deviance, aspects which are considered in the selection of treatment options (Phares, 1992). Furthermore, in some cases, these theories provide a description of the ideal personality or optimal development. It is important to note that both personality theories and research findings pertaining to the origins, structure and dynamics of personality are continually developing and changing (Aiken, 1997). In summary, then, personality theories, although diverse, present an integrated view of personality, research procedures, personality change, and assessment.
Personality theories can be summarised into four broad categories, namely (a) psychoanalytic, (b) phenomenological, (c) behavioural, (d) and trait theory. A brief overview of these four categories of personality theories follows. However, it must be noted that, particular attention will be focused on the psychoanalytic and trait theories and the development of the FFM. These theories are particularly relevant to this study and best suit an enhanced understanding of the personality measure used namely, the NEO PI-R.

2.3.1 Psychoanalytic Theory

Psychoanalytic theories emphasise the unconscious and the importance of past experience in accounting for current behaviour. Psychoanalytic theory claims that human personality is basically determined by psychic energy and early experiences (Spicer, 2002). The work and writing of Sigmund Freud, who has been described as the first modern personality psychologist (Liebert & Spiegler, 1998), form the basis for psychoanalytic theory. According to Freud, behaviour is determined by irrational forces, unconscious motivations, and biological and instinctual drives, which evolve through key psychosexual stages in the first six years of life (Corey, 1996). According to this theory normal personality development is based on the successful resolution and integration of the psychosexual stages of development, while maladjusted personality is regarded as the result of the inadequate resolution of one of the psychosexual stages.

In recent years, there have been significant developments in psychoanalytic theory, with other theorists adding important concepts that have expanded the meaning and the application of psychoanalytic theory (Phares, 1992). Liebert and Spiegler (1998) have classified these theorists into three broad camps; (a) Freudians, who closely subscribe to the work of Freud, (b) ego psychologists, who focus more on adaptation and the potential for personality development beyond childhood, and (c) the object-relation theorists, who emphasise interpersonal behaviour and relationships.
Of particular importance for the purposes of this study is the version of psychoanalytic theory developed by Erik Erikson, which emphasises the role of the ego, and development throughout the lifespan. According to Erikson, personality development is the result of two simultaneous and complex influences, namely genetic and social factors (Schultz, 1990). The genetic influence is explained by the epigenetic principle, which asserts that an individual's characteristics emerge at certain ages and in a particular genetically determined sequence, but in such a way that the person constantly develops as a whole (Meyer, 1997). This means that each personality characteristic is continually developing, even though this development may not be evident at a specific age. Social factors are present, as society makes certain demands on the individual, and at the same time offers growth opportunities. Erikson maintains that these demands and opportunities are in accordance with, and are complementary to, the development potential and needs of the individual at each stage of development (Meyer, 1997).

Erikson delineates eight psychosocial developmental stages throughout the lifespan, which are characterised by developmental transitions or crises arising from the interaction between genetic development and social influences. Thus at each stage, there is a struggle between two opposing tendencies, which demands a choice between the two opposing developmental possibilities. Successful resolution of each stage comes from a balance created by the synthesis of each of the opposing possibilities. It is maintained that successful resolution establishes the basic areas of psychosocial strength, while unsuccessful resolutions impair ego development in a particular area, and hinder the resolution of future struggles (Cavanaugh & Blanchard-Fields, 2002). Psychosocial strengths gained from the resolution of each phase form a sense of hope, will-power, purpose, competence, fidelity, love, care, and wisdom. Continued and successful resolution of each developmental stage leads ultimately to optimal personality development. Erikson's eight psychosocial stages are tabulated below.
<table>
<thead>
<tr>
<th>Stage of Life Cycle</th>
<th>Psychosocial Crisis</th>
<th>Approximate Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Infancy</td>
<td>Basic trust versus basic mistrust</td>
<td>Birth to about 1 year</td>
</tr>
<tr>
<td>2. Early Childhood</td>
<td>Autonomy versus shame and doubt</td>
<td>About 1 to 3 years</td>
</tr>
<tr>
<td>3. Pre-School age</td>
<td>Initiative versus guilt</td>
<td>3 to 5 years</td>
</tr>
<tr>
<td>4. School age</td>
<td>Industry versus inferiority</td>
<td>6 to 11 years</td>
</tr>
<tr>
<td>5. Adolescence</td>
<td>Identity versus role confusion</td>
<td>12 to end of adolescence</td>
</tr>
<tr>
<td>6. Young adulthood</td>
<td>Intimacy versus isolation</td>
<td>21 to 40 years</td>
</tr>
<tr>
<td>7. Middle adulthood</td>
<td>Generativity versus stagnation</td>
<td>40 to 65 years</td>
</tr>
<tr>
<td>8. Late adulthood</td>
<td>Integrity versus despair</td>
<td>65 years and above</td>
</tr>
</tbody>
</table>

(Adapted from: Cavanaugh & Blanchard-Fields, 2002; Spicer, 2002)

As the ages of the participants in the sample used in this study range from young to middle adulthood, the psychosocial stages relating to these specific stages of development will be elaborated on. In Erikson's 6th stage of the life cycle (i.e., Young Adulthood), the psychosocial crisis of intimacy versus isolation must be confronted. The developmental task to be achieved during this stage is the formation of intimate relationships. Erikson argues that intimacy means sharing all aspects of oneself without fearing the loss of identity. An inability to form warm friendships and associations with others, and particularly, mutual sexual relationships, leads to the development of self-absorption, alienation, or isolation (Cavanaugh & Blanchard-Fields, 2002; Meyer, 1997; Morris & Maisto, 2002). The psychosocial strength that emerges from this crisis is the development of love. In the 7th stage of the life cycle (i.e., Middle Adulthood) the psychosocial crisis of generativity versus stagnation must be confronted. This involves a struggle between the feeling that people must maintain and perpetuate society (generativity) and feelings of self-absorption (stagnation) (Cavanaugh & Blanchard-Fields, 2002). Successful resolution of this task results in a need to move beyond the self and family, and to guide the upcoming generation or
improve society. Failure to achieve a sense of productivity can lead to psychological stagnation, which includes a sense of boredom and loss of meaning in life. Resolution of this crisis facilitates the psychosocial strength of care (Meyer, 1997; Morris & Maisto, 2002).

2.3.2 Phenomenological Theory

Phenomenological theories emphasise the present inner world of the individual, which includes experience and perception. In this theory the object of study is the world of the person (as perceived and experienced by the individual), and what is real to an individual is in that person's internal frame of reference or subjective world. Thus according to this theory subjective reality takes precedence over objective reality, and it is the subjective reality that influences behaviour. The emphasis in phenomenological theory is on conscious experiences, with the focus being on the “here and now”. Although the past is considered to influence behaviour, it only becomes important in terms of “here and now” perceptions. Little emphasis is placed on childhood experiences, the search for instinctual unconscious processes, and the importance of reinforcement (Phares, 1992). As a group, phenomenological theories are considered to be holistic, as they view behaviour in terms of an individual's entire personality. Proponents of phenomenological personality theory include Self theory by Rogers, and Personal Construct theory by Kelly (Phares, 1992).

2.3.3 Behavioural Theory

Behavioural theory maintains that behaviour is the product of learning. Personality is viewed as the sum total of an individual's set of learnt behaviours. Thus the focus for personality study becomes the individual's present learnt behaviour and responses in various classes of situations.

According to Liebert and Spiegler (1998), behavioural theory grew out of behaviourism, a psychological approach adopted by John Watson (1878-1958), who believed that psychology should be a natural science similar to biology and
physics (Spicer, 2002). The main focus for the behavioural approach is the emphasis on learning and experience, and the situational specificity of the behaviour. Liebert and Spiegler have divided behaviourism into three major approaches to personality: (a) the radical behavioural approach, which studies only overt behaviour and external stimulus, and emphasises operant and classical conditioning; (b) the social learning approaches, which share the premise that learning has taken place in a social context, and accounts for all human behaviour, which acknowledge the importance of overt and covert behaviour, and utilise operant, classical and observational learning; and (c) cognitive-behavioural approaches with the primary focus being on thought or cognitive processes and covert events.

Behavioural theory is marked by a diversity of views, and includes a broad band of techniques and commitments to theory. However, the uniting central characteristics of the theory include an orientation towards treatment, a focus on behaviour, and an emphasis on learning, and rigorous assessment and evaluation (Corey, 1996).

2.3.4 Trait Theory

Trait theorists describe personality by exploring, describing and classifying people according to the traits which they possess. In describing and studying personality, trait theorists support the premise that all human language contains terms that characterise personality traits, which are relatively enduring styles of thinking, feeling and acting. Trait theorists of personality assume that persons vary on a number of personality dimensions or scales and seek to: (a) arrive at a manageable small set of trait descriptors that can encompass the diversity of human personality; (b) craft ways of measuring personality traits reliably and validly; and (c) discover relationships among traits and between traits and specific behaviours (Brunner-Struik, 2001).
A significant contribution to personality theory by the trait theorists is the development of the five-factor model (FFM). A discussion on the developments in trait theory, with particular focus on the development of the FFM through the lexical and personality questionnaire traditions will follow.

2.3.4.1. The Lexical Tradition

The FFM originated in the studies of natural language trait terms (McCrae & John, 1992). Personality and its assessment are intimately bound up with natural language, as all languages include words for describing individual differences in personality. Personality traits are abstractions that cannot be directly measured, but are inferred from complex patterns of overt and covert behaviour (McCrae & Costa, 1997). Individuals are the judges of these inferences, and in psychology, diagnosis, and other expert judgements, rely on natural language to describe personality. In psychological studies this is done through checklists or questionnaires that use natural language. The lexical approach to personality study asserts that the individual differences that are most salient and socially relevant in people’s lives will eventually become encoded into their language, and the more important these differences, the more likely they are to be expressed as a single word. The analysis of personality vocabulary represented in natural language should yield a finite set of personality terms, and by decoding these terms, the basic dimensions of personality can be discovered (McCrae & John, 1992; Piedmont, 1998).

The FFM was originally identified in the analysis that began with lists of trait terms derived from the English language. Goldberg (1993) proposes that Sir Francis Galton (1884) may have been among the first scientists to recognise explicitly this fundamental hypothesis, and the first to consult a dictionary as a means of estimating the number of personality-descriptive terms, and to appreciate the extent to which trait terms share aspects of their meanings.
Galton’s pioneering estimates of personality-descriptive terms were reduced empirically by Allport and Odbert in 1936. They extracted from the dictionary all terms that were able to “distinguish the behaviour of one human being from another”, and the resultant list included 17,953 trait-like terms (Piedmont, 1998, p. 23). This list was further revised to approximately 4,500 trait adjectives by eliminating obscure words and close synonyms. Allport and Odbert then divided these terms into four categories to facilitate classification. The list proposed by Allport and Odbert was further revised in 1967 by Norman, who supplemented the list with terms from a later edition of the dictionary (Piedmont, 1998).

Other researchers began with the Allport-Odbert list and carried the work further, using the factor-analytic method. Factor analysis is a statistical method of finding the minimum number of dimensions (characteristics, attributes) called factors, to account for a large number of variables (Kaplan & Saccuzzo, 2001). Used as a data reduction tool, it examines the patterns of correlations among items, to determine whether there are “clumps” of variables that seem to correlate more highly with each other than other variables. These “clumps” are then identified as factors (Piedmont, 1998).

Raymond Cattell (1946) has probably conducted the most extensive factor-analytic studies of personality to date. Cattell began with analysing the Allport-Odbert list as a starting point to systematically identifying salient personality descriptions. Cattell revised the list to 200 terms by eliminating synonyms and rare words, and then developed a set of 35 highly complex bipolar clusters of related terms. Factor analysis of these variables repeatedly revealed 12 personality factors. Cattell’s work was later analysed by others, and only five of the 12 factors proved to be replicable (Goldberg, 1993).

Researchers through the 1940s – 1960s consistently found five replicable factors using factor analysis. For example, Donald Fiske (1949) who built on the work of Cattell, analysed a set of 22 variables developed by Cattell and found
five factors that could be replicated across self-ratings, observer ratings and peer ratings (Goldberg, 1993). Tupes and Christal (1961) used sets of variables developed by Cattell and Fiske, and found five replicable factors. Norman (1963) concluded from his empirical analysis and review of literature, that these five factors seemed to constitute an “adequate taxonomy of personality” (Piedmont, 1998, p. 26).

Similar five-factor structures based on other sets of variables have been reported by other researchers through the 1960s to the 1990s. These have included Borgatta (1964), Smith (1969), Goldberg (1981), Digman (1990) and McCrae and John (1992) (Goldberg, 1993). By the 1990s it was clear that underlying the adjectives identified originally by Allport and Odbert really were five large factors. The consistency with which these five factors or dimensions of personality have been recovered led many researchers to conclude that the five-factor model is an adequate representation of the basic dimensions of personality. According to McCrae and Costa (1997), most psychologists are now convinced that personality traits can be described in terms of these five basic dimensions called: (a) Neuroticism versus Emotional Stability (N); (b) Extraversion or Surgency (E); (c) Openness to Experience or Intellect, Imagination or Culture (O); (d) Agreeableness versus Antagonism (A); and (e) Conscientiousness or the Will to Achieve (C). These dimensions can be found in trait adjectives as well as in questionnaires created to operationalise a variety of personality theories.

2.3.4.2 The Personality Questionnaire Tradition

Most personality assessment has been based on questionnaires with scales designed for specific practical applications, or to measure constructs derived from personality theory (McCrae & John, 1992). With the diversity of personality theories, it would have been anticipated that the questionnaire scales designed to operationalise them would be dissimilar. In fact, there is much similarity, in particular between the many scales measuring chronic negative emotion and
interpersonal activity. Eysenck (1975) labelled these $N$ and $E$ and provided useful measures of them. Years of research concluded that these were indeed two integral dimensions of personality, but did not exhaust the full range of personality dimensions. A third separate dimension of personality was added, called Openness to Absorbing and Self-Altering Experiences (Tellegen & Atkinson, 1974) or Openness to Experience (Costa & McCrae, 1976). By explaining as much as possible in terms of established factors and then looking for commonalities in what remained unexplained, researchers proceeded to a systematic mapping of personality traits.

The most important contribution by the questionnaire tradition to the development of the FFM was theoretical. The lexical approach is limited to the analysis of personality traits represented in ordinary language, and may have overlooked characteristics of theoretical interest to personality psychologists. By comparing instruments specifically designed to measure the psychological constructs, with measures of the five lexical factors, the two traditions merged to form the FFM (McCrae & John, 1992).

### 2.4 Personality Assessment

Despite their shortcomings, theories can serve as guides to the measurement and understanding of personality (Aiken, 1997). They provide a frame of reference for the understanding of the development and dynamics of personality and behaviour, and particularly for interpreting assessment findings. Methods of assessing personality are essential to the study of personality itself, regardless of the theoretical approach preferred, as all areas of psychology depend on knowledge gained in research studies that rely on measurement (Brunner-Struik, 2001). During the 1980s and 1990s, the status of psychological testing grew, because of the increased usage of testing in several major branches of applied psychology, and psychological assessment continues to be a high-profile activity for practising clinicians.
2.4.1 Categories of Personality Assessment

Common methods of personality assessment include observations, interviews, behavioural assessment, rating scales and checklists, objective tests, projective techniques, and personality inventories. These methods of assessment can be divided into formal assessment procedures such as psychological tests, and informal assessment procedures such as behavioural observations and interviews. (Butcher & Rouse, 1996).

2.4.1.1 Formal Assessment Procedures

Formal assessment procedures can be divided into the following broad categories of assessment.

Projective Measures

Projective measures are unstructured, ambiguous stimuli, which subjects are required to describe, such as incomplete sentences, inkblots or abstract pictures. Because the stimulus tasks are relatively unstructured in content and open-ended in terms of the responses elicited, it is assumed that the structure imposed by the respondent is a reflection or projection of their inner world. Upon presentation of the stimuli, individuals project their covert needs, desires and attitudes into the task, revealing important facets of their personality (Aiken, 1997; Kline, 1993).

Rating Scales and Checklists

Rating scales are useful devices for summarising observations and interview responses. Rating scales are generally considered to be less precise than personality inventories, and more superficial than projective techniques. They are measures where an observer (third party) rates the extent to which an individual displays a certain attribute or behaviour. Rating scales require the respondent to make an evaluative judgement on an ordered series of categories. Researchers often use rating scales in an attempt to obtain a more accurate account of an
individual’s behaviour (Aiken, 1997). Checklists are relatively simple, cost-effective and fairly reliable methods of describing or evaluating individuals. They can be administered as self-report or observer report instruments, and require a “yes-no” response to words or phrases that appear in a list form, and apply to the individual being tested.

Personality Inventories

Personality inventories are standardised, objective measures that contain items relating to thoughts, feelings, behaviour and personal characteristics. Personality inventories usually yield scores on several variables designed to measure human characteristics or dispositions. Using a fixed set of options, respondents mark those items that they judge to be descriptive of themselves (Aiken, 1997).

2.4.1.2 Informal Assessment Procedures

Informal assessment procedures include the following.

Behavioural Observation

Behavioural observation is the most widely employed, most generally understood and acceptable method of personality assessment. During observation, the observer simply takes note of behaviour and how people typically respond in a particular context, and makes a record of what is observed. Aiken (1997) notes that non-verbal behaviours, when interpreted correctly, provide better insight into personality than records of verbal information.

Interviews

Interviews are the oldest and most widely used method of informal personality assessment, and can be defined as a face-to-face verbal exchange in which one person (the interviewer) attempts to elicit information from another person (the interviewee) (Aiken, 1997). The interview yields similar non-verbal or behavioural
information to that of observation, but the major emphasis is on the content of the verbal statements made by the interviewee. The type of information elicited can include details of an interviewee’s life history, and data concerning opinions, attitudes, beliefs, feelings, perceptions, and expectations. The psychiatric interview as a method of assessment will be discussed further in Chapter 3.

2.4.2. Self-Report Inventories: Disadvantages and Advantages

Standardised personality inventories tend to be used in most clinical and research applications. Often these personality tests are self-report inventories, requiring respondents to report or describe feelings, beliefs, opinions, or mental states (McIntire & Miller, 2000). A number of obstacles have been associated with self-report inventories which include response sets and response styles. A response set involves a respondent deliberately attempting to answer items in such a way that the individual’s actual position on the attribute being measured is not reflected (Brunner-Struik, 2001). Common response sets are social desirability and dissimulation. Social desirability is the tendency to endorse items depending upon how socially desirable it is to do so, and dissimulation refers to completing an inventory in such a manner as to appear overly healthy (faking good) or overly disturbed (faking bad) (Murphy & Davidshofer, 1991). Response sets occur when an individual arbitrarily answers an item without attending to item content. The tendency to generally agree with an item regardless of the content has been termed acquiescence, while the tendency to disagree often is referred to as criticalness (Kline, 1993).

Concerns about response sets and styles have created in the minds of many clinicians a profound mistrust of patient self-reports. In reaction, researchers have spent time and effort seeking ways to avoid, detect, or correct for these sources of invalidity (Costa & McCrae, 1992a). Furthermore, concern has been raised about the validity of psychiatric patient self-reports, as patients with emotional and interpersonal problems are believed to lack insight into their own personalities (Adler, Bungay, Cynn & Kosinski, 2000). Despite this mistrust and
suspicion of self-reports, Costa and McCrae (1992a) report recent research carried out, comparing the results obtained on self-rating and spouse rating and self-rating and professional ratings of psychiatric patients, which indicates that self-reports from patients are, in general, trustworthy.

Another disadvantage of self-report inventories is the readability of the inventory. Self-report inventories can be rendered invalid and useless if respondents cannot read, cannot comprehend, and misunderstand or misinterpret items. In addition to this, some of the items in self-report inventories tend to depend heavily on the self-knowledge of patients (Schinka & Borum, 1994), and the forced-choice approach (where respondents answer according to a fixed format) often prevents respondents from qualifying or elaborating on responses, resulting in additional information not being collected, or becoming distorted. Furthermore, the items often contain questions or statements concerning behaviour that may or may not characterise or apply to the respondent. Lastly, the data obtained from self-report inventories is likely to be more complex because respondents answer questions about themselves and do not merely evaluate themselves in a simplistic way (Noller, Law & Comrey, 1987).

Despite the disadvantages of many self-report inventories, the obvious advantages of these inventories contribute to their prominent use in personality psychology. Firstly, the respondent has the most extensive opportunity to observe his or her own behaviour, and is privy to thoughts, feelings and desires that are not publicly expressed (Costa & McCrae, 1992a). Secondly, self-report inventories are economical, as they allow for individual and group administrations because of their paper-and-pencil or computer format. Thirdly, administration and scoring are standardised, and relatively simple and objective. The objectivity of these tests makes interpretation easier, placing less interpretative demands on the clinician administering the measure. Computer scoring and interpretation is often possible (Kline, 1993). A fourth advantage is their reliability and objectivity,
by virtue of methods of test construction and norming. Researchers are constantly seeking ways to avoid, detect, or correct invalid responses in certain circumstances, and these techniques are highly effective (Aiken, 1997). The self-report inventory used in the study namely, the NEO PI-R is discussed in the next section.

2.5 The Revised NEO Personality Inventory (NEO PI-R)

There are a variety of instruments that can be scored using the FFM. These include the Myers Briggs Type Indicator (MBTI), the Sixteen Personality Factor Inventory (16PF), and to some extent the Minnesota Multiphasic Personality Inventory (MMPI) (Brunner-Struik, 2001). The only commercially available measures designed specifically to capture these five factors are the NEO Personality Inventory (NEO PI) and the Revised NEO Personality Inventory (NEO PI-R) (Costa & McCrae, 1992a).

Costa and McCrae (1992a) used a mixture of the lexical and personality questionnaire traditions in the development of the NEO PI-R. Qualities of interest were defined theoretically, and operationalised through multiple sentences that provided a clear picture of the personality dimension. Rather than relying on adjectives to describe the five factors, they constructed sentences that captured the subtleties of each domain. These constructs were sharply defined and nuanced using phrasing and sentences, so that individual responses to dispositional statements could be unambiguously interpreted. This allowed for the construction of six facet scales for each domain, which are the more precise articulations of the qualities subsumed by the five broad domains, and which capture the psychological quality that has been shown to be of theoretical significance in the field. In order to understand the research done on the NEO PI-R, it is necessary to describe the inventory in more detail.
The NEO PI-R is the revised version of the NEO PI, which was first published by Costa and McCrae in 1985 (Costa & McCrae, 1992a). The NEO PI-R is a measure of normal personality traits, which has demonstrated its utility in both clinical and research settings. It is a 240-item questionnaire, and is considered a concise measure of the five dimensions or domains of personality, and some of the more important traits or facets that define each domain.

Items are answered on a 5-point likert-type scale ranging from strongly agree (1) to strongly disagree (5). Although, there is no time limit for completing the questionnaire, the average length of time needed for completion is 30 to 40 minutes.

There are two versions of the NEO PI-R – Form S for self-reports and Form R for observer ratings. Form S was used for the purposes of this study. It is self-administered and is appropriate for individuals (both male and female) who are 17 years or older. Form R is a companion instrument with 240 parallel items written in the third person for spouse, peer, or expert ratings. Form R can be used to obtain independent estimates of personality on the five domains. It is useful and of value when it is desirable to validate or supplement self-reports (Costa & McCrae, 1992a).

The NEO PI-R may be administered individually or in groups, and may be scored manually or on a computer. The scoring procedure involves raw scores that are converted to T-scores on a profile form, with the five domain scale scores and the 30 facet scales plotted to give an overview of the respondent’s personality. A graph of the profile may be drawn to visually portray the respondent’s scores. The personality profile of T-scores of the NEO PI-R can be examined in a number of ways to facilitate understanding of the client. However, Costa and McCrae (1992a) note that profile interpretations must always be considered tentative, as ratings (self or observer) are not infallible. The most common method for profiling is first to examine the domains, focusing on the
most distinctive and salient domains for each profile. This will provide a glimpse of the overall dynamics that characterise personality. Secondly, facets for each domain will be examined, to provide more detail and an intimate understanding of each individual. Lastly, pairs of domains organised into a number of two-dimensional planes can be examined (Piedmont, 1998).

Together, the five domain scales and the six facets that are measured for each domain allow for a comprehensive assessment of adult personality (Costa & McCrae, 1992a). A description of the five domains, namely Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A) and Conscientiousness (C) follows (Aiken, 1997; Costa & McCrae 1992a; Piedmont, 1998).

1. Neuroticism (N)

Neuroticism assesses adjustment versus emotional instability. This domain considers the general tendency to experience negative affect such as fear, sadness, embarrassment, guilt and disgust. N measures more than just the susceptibility to psychological distress. Individuals who score high on N are prone to experience unrealistic ideas, excessive cravings or urges, and maladaptive coping responses. The facet scales of this domain are anxiety, hostility, depression, self-consciousness, impulsiveness and vulnerability.

2. Extraversion (E)

Two qualities are assessed on this domain, firstly, interpersonal involvement, which evaluates the degree to which an individual enjoys the company of others, and secondly, energy, which reflects an individual’s personal tempo and activity level. This domain can be further defined as representing the quantity and intensity of personal interaction, the need for stimulation, and the capacity for joy. This domain captures levels of positive affect, and contrasts sociable, active, person-orientated individuals with those who are reserved, sober, retiring and quiet. The facet scales of this domain are warmth, gregariousness, assertiveness, activity, excitement seeking, and positive emotions.
3. Openness (O)

This domain is the least developed and the most controversial. Openness to experience can be defined as proactive seeking and appreciation for its own sake, and as toleration for, and exploration of, the unfamiliar. It describes the breadth, depth and complexity of an individual's experiential life. This domain contrasts curious, original, untraditional and creative individuals with those who are conventional, inartistic and analytical. Facets of this domain include fantasy, aesthetics, feelings, actions, ideas, and values.

4. Agreeableness (A)

This domain is predominantly a dimension of interpersonal tendencies, and contrasts prosocial orientation with antagonism. This domain contrasts people who tend to be compassionate, trusting, forgiving and soft-hearted with those who are cynical, manipulative and ruthless. Facets of this domain are truth, modesty, compliance, altruism, straightforwardness and tendermindedness.

5. Conscientiousness (C)

This domain assesses an individual's degree of organisation, persistence and motivation in goal-directed behaviour, and describes the socially prescribed impulse control that facilitates task-goal-directed behaviour. This domain contrasts dependable, fastidious people with those who are lackadaisical and sloppy. Facets of this scale are competence, self-discipline, achievement, striving, dutifulness, order and deliberation.

2.6 Applications of the NEO PI-R

Although the NEO PI-R was developed from a model of “normal” personality, investigators have begun to assess its usefulness in clinical samples. In clinical psychology and psychiatry, the focus of psychological assessment is on the identification of psychological symptoms and the formulation of a diagnosis. Although not designed to yield diagnoses, the NEO PI-R can be useful in
suggesting or ruling out diagnoses. It can also alert clinicians to possible disorders that should be considered more closely. Empirical studies contrasting individuals with known diagnoses on each of the factors can be used to develop cut-off points that suggest the presence of the disorder (Costa, 1991). Costa and McCrae (1992a) make the point that many Axis I disorders (i.e., clinical disorders) reflected in the Diagnostic and Statistical Manual of Mental Disorders are, in fact, trait dispositions, and have linked N to a number of Axis I disorders. Furthermore, the NEO PI-R may be especially relevant in the area of Axis II (i.e., personality disorders and mental retardation) diagnosis, and, as objective measures of personality traits, are relevant to the diagnosis of personality disorders.

Several researchers have explored the NEO PI-R in relation to clinical diagnostic criteria. These include studies on depression including bipolar disorder, unipolar depression (Bagby et al., 1999), and seasonal affective depression (Bagby, Schuller, Levitt, Joffe, & Harkness, 1996a). Other research studies on psychiatric disorders include research on alcoholism, suicidal ideation, PTSD, Alzheimer’s disease (Butcher & Rouse, 1996), schizophrenia (Bagby et al., 1999), and sexual dysfunction (Costa, 1991). In addition, the NEO PI-R may be integrated into the practice of psychotherapy by providing an understanding of the client and allowing insight into the many features of personality, thus allowing for the rapid development of empathy and rapport. The NEO PI-R has also been useful in providing the clinician with valuable information regarding the patient’s prognosis and his/her probable response to therapy, thereby assisting the clinician in the selection of an optimal treatment approach (Costa & McCrae 1992a; Miller, 1991).

Costa and McCrae (1992a) assert that, in counselling settings, the NEO PI-R is more appropriate than other measures of psychopathology, as most patients in counselling are psychiatrically normal individuals who are in need of guidance, information, or an opportunity for personal growth. In this regard, the results of
the NEO PI-R provide an understanding of the patient's enduring dispositions which can be incorporated into, and facilitate, the counselling process.

The NEO PI-R can also be used in the field of behavioural medicine and health psychology. Using the NEO PI-R in conjunction with specific scales used to measure health constructs, the NEO PI-R can be useful in understanding the overlapping constructs in health psychology, and can also assist in exploring perceived health or somatic complaints (Costa & McCrae, 1992a).

The NEO PI-R can also be applied in a vocational counselling setting. Vocational interests are strongly related to personality traits, particularly to Extraversion and Openness (Costa, McCrae & Holland, 1984). NEO PI-R scales can form a useful complement to well validated vocational interests. For example, by understanding a client's Openness, insight can be given regarding several aspects of their occupational direction. Aspects of personality not specifically related to interests, but relevant to occupation performance and adjustment, can be measured by the NEO PI-R, and it has been demonstrated that personality characteristics are important predictors of career performance (Costa & McCrae, 1992a). The fact that the NEO PI-R measures the full range of personality traits makes it well suited for such applications.

The NEO PI-R has proved its value as a useful tool in almost any research done on personality, because it provides a comprehensive assessment of the major dimensions of personality. Costa and McCrae (1992a) indicate that it would be possible to make specific hypotheses between NEO PI-R scales and other variables, including creativity (McCrae 1987), moral development (Lonky, Klaus, & Roodin, 1984), and response to psychotherapy (Miller, 1991).
2.7 Conclusion

The FFM is a comprehensive model of the major domains of personality. The NEO PI-R is a measure of normal personality traits, and has been designed to operationalise and measure this FFM model. Its utility in research and practical applications has been demonstrated. Some of these applications are in the field of clinical psychology, where the NEO PI-R has been proved to be useful in assisting in the study of the association of personality traits with symptoms and problems in living. It has also been effective in characterising individuals with different diagnoses in terms of their distinct personality, and has also been used to facilitate the identification, diagnosis and selection of appropriate therapeutic intervention strategies for patients with psychiatric disorders. For this reason, the NEO PI-R has been chosen as a measure in a secondary-care-level group psychiatric programme to be described in detail in the following chapter. Psychiatric care, assessment and treatment will form the foundation and focus of Chapter 3.
Chapter 3

Psychiatric Care

3.1 Chapter Preview

In this chapter an overview of the development of psychiatric care in South Africa is presented, including an outline of the changes to the National Health System (NHS). This chapter focuses on the restructuring being done according to the principles of primary health care, and discusses health care options available to patients. This includes primary, secondary and tertiary levels of treatment. Furthermore, assessment methods (including personality assessment), and the treatment of psychiatric disorders will be highlighted. Lastly an overview of the services provided at Parkwood Day Clinic, the private psychiatric day clinic utilised in the study, will be outlined.

3.2 The Burden of Psychiatric Illness

Psychiatric disorders, both in the developing and developed countries, represent a major burden of care and an important cause of disability in all societies. A 1993 world development report estimates that world-wide mental health problems account for 8.1% of the Global Burden of Disease (GBD). This percentage is measured in disability-adjusted life years (DALYs). Of the disorders considered, depressive disorders cause the largest burden with 17.3 DALYs having been lost, followed by self-inflicted injuries, Alzheimer’s disease and other dementias and alcohol-related disorders. According to a 1996 World Health Organisation (WHO) report, of the ten leading causes of disability worldwide in 1990, five were psychiatric conditions: (a) unipolar depression, (b) alcohol abuse, (c) bipolar affective disorder, (d) schizophrenia, and (e) obsessive compulsive disorder (Daubenton, 1998). An extensive study of the prevalence of
psychiatric disorders conducted by the National Institute for Mental Health (NIMH) in the early 1980s in the United States of America, revealed that, according to a one-month-point prevalence rate estimate, 15.4% of 18,571 adults were found to experience a Diagnostic and Statistical Manual of Mental Disorders (DSM III) diagnosable disorder. Anxiety disorders, mood disorders and substance abuse disorders were the most prevalent disorders, with rates of 7.3, 5.1 and 3.8 per hundred of the population respectively. The same study revealed lifetime rates of psychiatric disorders of 32.2% (Kaliski, 2001). Although no studies focusing on an equivalent range of psychiatric disorders have been conducted in Africa, epidemiological studies suggest that, while there are local variations in the nature and prevalence of psychiatric disorders, the burden of mental health problems is similar to, or greater than, that in the reported study (Kaliski, 2001).

A recent study examining the attenders at primary health care facilities in 11 countries found an overall prevalence rate of psychiatric disorders of 24%. Most patients had anxiety or depressive disorders (approximately 10% each, with half being mixed), 6% had alcohol-related disorders, and 31% had two or more psychiatric symptoms (Kaliski, 2001). When patients or individuals in clinical settings are compared to the general population, differing distributions of psychiatric disorders tend to become apparent. In clinical settings, schizophrenia, bipolar disorder, cognitive disorders, personality disorders, and substance-related disorders account for 75% of all diagnoses, while in the general population, anxiety states and mood disorders comprise 90% of psychiatric illnesses (Kaliski, 2001). The above confirms the recurring prevalence of certain psychiatric disorders in the world’s mental health populations, and highlights the need for continued psychiatric care in developed and developing countries.
3.3 Psychiatric Care: A Historical Perspective

The current systems of psychiatric care need to be viewed against the background of world-wide developments in psychiatry and mental health. During the early part of the 1900s, a rise in the number of chronic psychiatric patients presenting for treatment at psychiatric hospitals in Europe and North America made the provision of humane care increasingly difficult, and a change in the type of care that patients were receiving was clearly needed. During World War II, patients were treated as outpatients in the community, with some success, and this started what has become known as the community mental health movement today (Robertson, 2001). The introduction of modern antipsychotic agents during the 1950s continued the emphasis on community interventions, and the increasing criticism of institutional care added to the escalating process of deinstitutionalisation (Robertson, 2001; Stein, Allwood & Emsley, 1999). Simultaneously, attempts were made to phase out custodial approaches to care in mental hospitals, through the introduction of multiprofessional teams and psychotherapeutic principles of treatment, which included the creation of therapeutic interpersonal environments or therapeutic milieus. A therapeutic milieu can be described as a calm, homely atmosphere, which is conducive to psychological healing. It is created by interpersonal communication, the specific use of an attractive environment and facilities, and the participation of patients in an overall and generalised daily programme. This process of deinstitutionalisation and the growing emphasis on community care positively influenced the type of service and care being provided by community mental health centres, psychiatric day hospitals, and psychiatric units in general hospitals (Dlamini, 1992).

The increasing awareness of the need of patients in the community led to the provision of various types of support and care by Non-Governmental Organisations (NGOs) and governments, such as the development of community programmes and the availability of disability grants for the mentally ill. Emphasis
in the community mental health movement continued shifting from the treatment of mental illness to the prevention of mental illness (or the promotion of mental health) as the primary focus for community services (Robertson, 2001). Yet, despite the success of the community mental health movement, a number of problems arose. These included (a) the lack of provision of adequate medical and psychiatric care to communities, (b) the lack of effective treatment for chronic patients (particularly those who had never been institutionalised), and (c) the social and economic burden increasing as a result of social problems such as substance abuse, suicide, violence, unplanned pregnancies, and unfit parenting. This apparent division between psychiatry and community mental health has perpetuated a split between healthcare and welfare systems, which still exists today (Robertson, 2001).

A further change and development in the 1940s and 1950s was the concept and philosophy of primary health care, which was developed when world governments were urged to rationalise their highly technical approach to health care, with its emphasis on expensive treatment for a few, and broaden their coverage to provide basic better services to many. This philosophy aimed to achieve universally available health care to all, by the year 2000 (Dennill, 1995, Robertson, 2001).

To this end, primary health care was then defined as, “essential, universally acceptable, affordable health care provided at the first level of contact, and which should ideally provide promotive, preventative, curative and rehabilitative services, including public health measures and essential drugs” (Robertson, 2001, p. 418). More specifically, the development of health care services in South Africa, and the efforts towards delivery of primary health care, need to be considered, and are elaborated upon in the next section.
3.3.1 The South African Situation

The evolution of the national health system in South Africa has been unplanned and haphazard. After the unification of South Africa in 1910, services were fragmented, with four provinces governing and controlling their own health matters. Calls for unification were first made in 1944 by the recommendation of a single national health department, which would serve “all sections of the population according to their need, and without regard to race, colour, means or station in life.” (Dennill, 1995, p. 30) These changes were never brought about. During the Apartheid era from 1948, enforced segregation of health services and a separate development policy led to the expensive and ineffective situation of 14 health departments. In the 1970s, health reform started to ease the economic burden of the state, and there was a swing towards self-reliance and privatisation, as the private sector was encouraged to supply healthcare. The practice of psychiatry was discontinued at a primary level, and a parallel psychiatric service was established. This separation of psychiatry from general medicine resulted in psychiatry becoming marginalised, and psychological aspects of care in general medicine being neglected (Daubenton, 1998).

During the 1980s and early 1990s a National Health Plan (1986) and National Health Service Delivery Plan (1991) were implemented, with the objective of meeting all the needs of the people of South Africa through the provision of affordable comprehensive health care, which followed the stipulated principles of primary health care. This restructuring of health care services in order to provide primary healthcare to all South Africans post-1994, is outlined below.

3.4 The Restructuring of Health Services in South Africa

Since 1994, plans for the restructuring of health care services in South Africa have been implemented to form a comprehensive health care service, which is based on the principle of primary health care (Dennill, 1995). These plans include firstly, the unification of fragmented health services at all levels, into a
comprehensive and integrated NHS, and secondly, the reorganisation of the health care services, including the implementation of effective referral systems at all treatment levels - primary, secondary and tertiary care or treatment levels. These changes aimed to promote health for all South Africans, and specifically at the mental health level, aimed to improve the psychological well-being of people and communities (Department of Health, 1997).

The planned structure of the NHS consists of a continuum of health care, which includes a referral system that allows for easy, logical movement between primary, secondary and tertiary treatment levels within one co-ordinated system. According to Dennill (1995), and the Department of Health (1997), the NHS will be divided into four levels, namely national, provincial, district, and community levels. The organogram below provides a pictorial presentation of each level, and each of these levels will be elaborated upon in the following sections.

3.4.1 The National Level

The national level comprises a single national department of health led by the Minister of Health, who is advised by the Intersectoral National Development Committee, which consists of all ministers of government who have an impact on
health, such as housing, water, and health. The National Health Authority, under the direction of the Minister of Health, is responsible for the provision, development, and co-ordination of health care in South Africa. The department of health is divided into branches or units, each with several directorates, responsible for implementing specific tasks. The Mental Health and Substance Abuse Directorate will be responsible for planning and mental health services, which will ensure effective co-ordination, integration, monitoring and evaluation of services. The directorate will also facilitate the development of functions at various levels of care, using a multiprofessional approach with the emphasis on preventative and promotive services.

3.4.2 The Provincial Level

The provincial level comprises the nine provinces with their own provincial legislature. The department will be run by the Provincial Director of Health Services, who, together with the management committee comprising the provincial heads of department, will be responsible for the day-to-day running of services. The function of the provincial health departments is to promote and monitor all aspects of health care required by the people of that province. This will be achieved through the development and support of an effective and caring provincial health system, and the establishment of a province-wide District Health System (DHS).

3.4.3 The District Level

At the district level, the country's provinces will be divided into geographically coherent functional health districts. The district health authorities will be responsible for the planning and management of all local health services for their district, including the comprehensive delivery of primary health care at district hospitals and community health centres. According to the Department of Health (1997), the establishment of the DHS is the core of the entire health strategy. With regard to mental health, the following activities will be undertaken at a district level. First is the provision of mental health prevention, promotion and
rehabilitative services, with the emphasis on the planning, implementation and co-ordination of community-based rehabilitation. Second is the planning and implementation of inpatient and day-patient care for the mentally ill. Third is the provision of mental health education programmes in communities. Fourth is the establishing and maintaining of mental health committees, and collaboration with the private sector, traditional healers, and NGOs. Last is the provision of emergency and crisis intervention and counselling.

3.4.4 The Community Level

At the community level, the Community Health Committee will be assisted by community members in the development and running of the Community Health Care Centre of each district. This Community Health Care Centre will form the heart of the district health services, and will provide preventative, promotive, curative and rehabilitative care to the community.

3.5 Psychiatric Care Options

Curative and rehabilitative health care provided by psychiatry has traditionally been divided into primary, secondary and tertiary levels of treatment. The organogram below provides a pictorial presentation of each level of treatment, and each of these levels will be elaborated upon in the following sections.
According to the new restructured NHS, a patient’s first access to primary health care at the primary treatment level will be a Community Health Care Centre. These centres may be private or public, and will be staffed by multiprofessional teams comprising nurses, doctors, social workers, occupational therapists, counsellors and community workers. Services at the primary treatment level have as their goal the identification and treatment of the majority of persons with psychiatric problems (Robertson, 2001). This includes:
1. early case detection through basic screening;
2. identification, counselling and treatment of patients with psychiatric disorders that are unlikely to be resolved without help;
3. referral of the minority of patients who require specialised psychiatric services; and
4. the provision of maintenance, relapse prevention, and rehabilitation for patients with chronic psychiatric conditions.

Patients requiring further psychiatric assistance will be referred to the secondary treatment level, or will receive general specialised care. This care may be in the public or private sectors, and may serve outpatients or inpatients. Secondary care in the public sector is usually situated in district general hospitals or psychiatric hospitals. Private sector services consist of private psychiatric inpatient clinics, day hospitals, day-care psychiatric facilities, private psychologists, psychiatrists and other mental health practitioners (Department of Health, 1997, Robertson, 2001).

Patients who require further treatment are referred to the tertiary treatment level. This is the highest level of referral, and becomes necessary when the patient requires highly specialised diagnostic and therapeutic techniques. This type of tertiary care can be provided by the public or private sector, to both inpatients and outpatients. Psychiatric disorders requiring referral to the highest form of care are likely to be: (a) any treatment-resistant disorder, (b) complex disorders that pose diagnostic problems, and (c) disorders falling into specialised
fields of psychiatry, such as child and adolescent psychiatry, geriatric psychiatry, psycholegal issues, and neuropsychology, as well as eating and substance-related disorders. After completion of treatment at the tertiary treatment level, patients are referred to the primary treatment level for follow-up care (Robertson, 2001). Psychiatric assessment and treatment methods provided at these three levels of care are discussed in the following section.

3.6 Psychiatric Assessment

The purpose of assessment is to obtain a clear, objective report of the patient's signs and symptoms, or an in-depth “picture” of an individual's cognitive, emotional, behavioural and personality functioning (Elkonin et al., 2001; Lange & Julien, 1998). Assessment is a dynamic and flexible process, and is guided by the nature of the referral question. In general terms, assessment at the primary care level includes the knowledge and skills necessary for eliciting and detecting mental health problems, and the ability to make a multiaxial diagnosis. This multiaxial diagnostic system will be elaborated upon later in this chapter. At a secondary care level, assessment involves regular medical and psychiatric assessment, which includes monitoring and reducing stress, identifying early signs of deterioration, and the application of crisis management. Case managers and the multiprofessional team, using information gained from the assessment, develop appropriate individualised plans for the ongoing treatment and rehabilitation of the patients involved. The assessment process includes the psychiatric interview (involving the taking of a history and the mental status examination), as well as the formation of diagnoses. These are elaborated upon below.

3.6.1 The Psychiatric Interview

According to Mezzich and Shea (1990), the psychiatric interview is the foundation from which all of the patient’s psychiatric care proceeds. It demands
psychopathological knowledge, intuitive abilities and interpersonal skills, and techniques that allow the patient to describe significant signs and symptoms that, gathered together, constitute the various syndromes that are potentially definable and treatable (Kaplan, Sadock & Grebb, 1994). The aim of the psychiatric interview is to establish rapport, undertake a diagnostic assessment process, and develop a management plan (Kibel, 1998). Typically, the psychiatric interview is divided into history-taking and the assessment of a patient's mental status.

3.6.1.1 History Taking

History taking can elicit a reasonably comprehensive picture of the patient's development from his/her early formative years to the present. It is a record of the patient's life, which allows the clinician to understand who the patient is, where he/she has come from, and where he/she is likely to go in the future (Kaplan et al., 1994).

Baumann (2001), Kaplan et al., (1994) and Kibel (1998) outline a scheme for psychiatric history taking which can be followed in order to provide a comprehensive picture of the patient. This includes: (a) orientation and establishing rapport, (b) eliciting identifying data, (c) exploration of the presenting complaint including the history of the complaint, (d) exploration of family history, and (e) exploration of personal history including early development, psychosexual and marital history, occupational history, habits, sporting and leisure activities. Present social circumstances should also be explored, as well as premorbid personality.

3.6.1.2 The Mental Status Examination

The mental status examination is part of the assessment that describes or constructs a picture of the sum total of the examiner's observations and impressions of the patient. Whereas a patient's history remains stable, mental status can fluctuate from day to day or even hour to hour. Thus, the mental status examination represents a cross section of symptoms and behaviours at
the time of interview (Kaplan et al., 1994). When conducting a mental status examination, the information should be gathered systematically and in a comprehensive manner, as the assessment is used to form a composite picture from which a diagnosis is drawn. An outline of mental status should include an assessment of the following: (a) a general description (appearance, behaviour and psychomotor activity), (b) an assessment of affect, mood, speech, perceptual disturbances and thought (form and content), and (c) an evaluation of cognitive functions (orientation, memory, attention and concentration), abstract thinking, intelligence, judgement, and insight (Baumann, 2001; Kaplan et al., 1994; Kibel, 1998).

### 3.6.2 Forming Diagnoses

Diagnosing is the practice of distinguishing one disease from another (Lange & Julien, 1998). Diagnoses serve a variety of important purposes in psychiatry: firstly, to simplify thinking and reduce the complexity of clinical phenomena; secondly, to facilitate communication between clinicians at various referral levels; thirdly, to help the clinician to predict the outcome of disorders, and lastly, to serve as the basis for a negotiated, appropriate, treatment plan (Pretorius, 2001).

The diagnosis should be expressed in a particular nomenclature, and according to a recognised classification system. In South Africa the most commonly used system is the Diagnostic and Statistical Manual of Mental Disorders, Text Revised (DSM-IV TR). This is a multiaxial diagnostic system that involves an assessment on five axes. Axis I records clinical disorders, Axis II focuses on personality disorders and mental retardation, Axis III summarises any general medical condition that may be present, Axis IV records any influencing psychosocial and environmental problems, and Axis V provides a global assessment of functioning.

For an accurate diagnosis to be made on all five axes, all available information obtained from history taking or the interview, the mental status
examination, and clinical observation, as well as information provided by collateral sources, should be assessed and evaluated by the clinician. Compliance with the specific diagnostic criteria outlined in the DSM-IV TR must be present for a diagnosis to be made (Mezzich & Shea, 1990, Pretorius, 2001). These criteria reflect a consensus of current formulations of evolving knowledge in the psychiatric field, and proper use of these criteria requires specialised training in psychopathology and clinical skills (APA, 2000).

3.7 Psychiatric Treatment

Treatment for psychiatric disorders is generally divided into psychosocial interventions, which include individual and group psychotherapy and counselling models, and physical treatments, such as psychopharmatherapy, electroconvulsive therapy, and psychosurgery (Malcolm & Berard, 2001). Some of these psychosocial and physical interventions will be elaborated on below.

3.7.1 Individual Psychotherapy

It is estimated that there are over 400 psychotherapies (Bloch, 1982). Each system of psychotherapy starts from the fundamental assumption that human behaviour can be changed. Each system has its own theoretical model of normal and abnormal behaviour and particular set of practical methods, and each system claims to be differentially effective and uniquely applicable (Bloch, 1982; Korchin, 1976). Some of the more widely used systems of psychotherapy include: (a) Psychoanalytic therapy, (b) Adlerian therapy, (c) Existential therapy, (d) Person-Centred therapy, (e) Gestalt therapy, (f) Transactional Analysis, (g) Cognitive Behavioural therapy, (h) Narrative therapy, and (i) Multimodal therapy (Korchin, 1976; Phares, 1992; Prochaska & Norcross, 1999).

Defining psychotherapy is problematic, as differing fields using psychotherapy (psychiatry and psychology) ascribe their own meaning, while theories and
systems of practice provide differing emphases. Prochaska and Norcross (1999, p.3) attempt to provide an integrative working definition of psychotherapy.

Psychotherapy is the informed and intentional application of clinical methods and interpersonal stances derived from established psychological principles for the purpose of assisting people to modify their behaviours, cognitions, emotions and/or other personal characteristics in directions that the participants deem desirable.

For the purposes of this study, Wolberg (1977, p.3) provides a succinct definition of psychotherapy which elaborates on both the aims and value of psychotherapy as a treatment form in a primary health care context.

Psychotherapy is the treatment, by psychological means, of problems of an emotional nature in which the trained person deliberately establishes a professional relationship with the patient with the object of (1) removing, modifying or retarding existing symptoms, (2) mediating disturbed patterns of behaviour, and (3) promoting positive personality growth and development.

Despite theoretical differences, there is a central recognisable core of psychotherapy which is composed of common factors. The most consensual of these factors which produce change are positive expectations of the patient, including motivation and faith, and the facilitative therapeutic relationship. Other commonalities include: (a) an emotionally charged confiding relationship, (b) a healing setting in which there is a conceptual scheme and a therapeutic ritual, (c) opportunity for catharsis, (d) acquisition and practise of new behaviours, (e) exploration of the “inner world” of the patients, (f) suggestion, and (g) interpersonal learning (Bloch, 1982; Prochaska & Norcross, 1999).

The one-to-one relationship of individual psychotherapy is the oldest and most basic form of psychotherapy. However, other forms of psychotherapy include couple, family, and group psychotherapy. The process, length of sessions,
frequency of sessions and duration of psychotherapy vary according to the therapist, resources available, and the patient's needs (Phares, 1992).

3.7.2 Group Psychotherapy

Group psychotherapy involves a number of patients brought together with one or more therapists for the purposes of mutual support, exploration and learning through social interaction (Malcolm & Berard, 2001). Group psychotherapy has been developed to improve the psychological functioning and adjustment of patients. It can take the form of supportive therapy, which is used in the management of chronically vulnerable patients, restorative therapy, which aims to restore interpersonal functioning, and reconstructive therapy, which is remedial in nature and aimed at outpatients and inpatients with emotional problems and personality disorders (Forsyth, 1999; Malcolm & Berard, 2001).

The rationale and advantages of group psychotherapy, as opposed to individual psychotherapy, include firstly, efficiency, as group psychotherapy is cost- and time-efficient. Secondly, it provides an experience of commonality and a sense of belonging which allows patients to discover that they have similar thoughts, feelings, problems and concerns. Thirdly, it provides a greater variety of resources, as viewpoints are expressed and discussed. Groups approximate life situations better than one-to-one counselling, and fourthly, provide a supportive environment to practise a range of new behaviours and interpersonal skills. During group psychotherapy patients have the opportunity to receive feedback, as it is a multidimensional process that consists of group members responding to the verbal messages and nonverbal behaviours of one another. Lastly, groups also allow for vicarious learning, as the relationships between members of the group have as much therapeutic value as the relationships between patients and therapists (Jacobs, Masson, & Harvill, 1998; Malcolm & Berard, 2001).
3.7.3 Psycho-education

Psycho-education is described as a methodology of psychological training which is concerned with the prevention of mental health problems, and focuses on the development of human potential. At the rehabilitative and curative level of treating psychiatric patients, psycho-education involves helping both the person and their family to understand the nature of the disorder, the role of etiological factors and treatment options, and the effects, course and prognosis of the disorder (Robertson, 2001). Other psycho-education treatment programmes that have been found to be effective for psychiatric populations include problem-solving skills, coping-skills training, effective-living training, and medication management (Miller, Shurling, Carter, Johnson & Eggerth, 1994). Psycho-education attempts, through the early identification and treatment of the disorder, to reduce the length and severity of the disorder (Cleaver, 1992). It ultimately empowers patients, to involve them in the prevention and treatment of their disorders by encouraging them to take responsibility for their own health. Psycho-education is usually short-term and may be conducted in groups. Research indicates that psycho-education increases both the compliance with, and effectiveness of, treatment in psychiatric patients (Cleaver, 1992).

3.7.4 Psychopharmacotherapy

Psychopharmacotherapy or drug therapy is the use of psychoactive drugs in treating psychiatric illness. Kaplan et al., (1994) define drug therapy as attempts to modify or correct pathological behaviours, thoughts or moods, by chemical means. Psychopharmacotherapy is one of the most rapidly evolving areas of clinical medicine, and advances in the development of medicines over the last 40 years have been effective in the treatment of psychiatric disorders such as anxiety, depression, mania, psychosis, epilepsy, parkinsonism and pain (Lange & Julien, 1998). However, there is no pharmacological cure for the great majority of psychiatric disorders (Meys, 1998).
The aims of drug therapy are to reduce stress and improve level of functioning, and to prevent relapses (Meys, 1998). Psychoactive medication assists in the amelioration of symptomatology and suffering, as well as serving a prophylactic function, which is to alter the chemistry of the brain in order to prevent the onset of a symptom complex, thus preventing the development of additional symptoms (Lange & Julien, 1998). It should be noted that psychoactive medication is rarely prescribed as the sole treatment, but often forms part of the overall treatment plan. Research indicates that combinations of drug therapy and psychotherapy provide more effective treatment than the use of either alone (Lange & Julien, 1998). The prescription of drugs must be made by a qualified practitioner, and requires continuous clinical observation, which includes psycho-education to nursing staff, patients, and care-givers on the expected benefits, duration of course, potential side-effects, and risks, of drug therapy (Kaplan et al., 1994; Meys, 1998).

3.8 Parkwood Day Clinic

Parkwood Day Clinic is a private psychiatric day clinic in the Nelson Mandela Metropole. It provides secondary health care to a diverse group of both outpatients and inpatients from the western regions of the Eastern Cape. A multiprofessional team consisting of clinical psychologists, a professional nurse, an occupational therapist, intern social workers and intern psychologists, offers cost-effective services in the form of assessment, individual psychotherapy, a group programme and trauma debriefing and follow up.

The psychological assessment services provided at Parkwood Day Clinic include developmental, cognitive, emotional and personality assessments, as well as psychological assessments forming part of medical boarding procedures. The NEO PI-R is one of the measures of personality assessment used at Parkwood Day Clinic. The group programme offered includes treatment in the form of structured group psychotherapy and life-skills training. Topics covered in
the life-skills training include anger and conflict management, assertiveness training, stress and time management, decision-making, problem-solving skills and coping skills, as well as emotional regulation, identity development, and relaxation training. The group programme is non-diagnosis-specific, and offers treatment for patients presenting with psychiatric disorders as well as those who experience symptoms and problems in living. Individual psychotherapy is available to all patients upon request. Some of the disorders and problems in living treated at Parkwood Day Clinic include: (a) mood disorders, (b) anxiety disorders (including PTSD), (c) substance abuse and dependence, and (d) adjustment disorders. A brief discussion of the most prevalent disorders treated, namely the mood and anxiety disorders, is necessary in order to better understand the majority of patients participating in the group programme at Parkwood Day Clinic and follows in the next section.

3.8.1 Mood Disorders: Assessment and Treatment

Mood may be normal, elevated or depressed. Normal persons experience a wide range of moods, and have an equally large repertoire of affective expressions, usually feeling more or less in control, of their mood and affect. But for some individuals mood becomes problematic, and can become a serious liability to healthy emotional functioning (McKay, 1997). Those who experience symptoms of problematic moods which cause clinically significant distress or impairment in social, occupational, relational and other important areas of functioning, are said to have mood disorders (APA, 2000; Kaplan et al., 1994; McKay, 1997). Mood disorders are characterised primarily by a loss of a sense of control over emotions or feelings, and a subjective experience of great distress (Kaplan et al., 1994). This disturbance may manifest itself either as elation (mania) or unhappiness (depression). Depression and mania are often seen as opposite ends of an affective or mood spectrum. Classically they are “poles” apart, thus generating the terms unipolar depression, in which patients just experience the down or depressed pole, and bipolar disorder, in which patients at different times experience either the up (manic) pole or the down (depressed)
pole. In practice, depression and mania may occur simultaneously, which is referred to as a mixed mood state (Stahl, 2000).

According to Kaplan et al., (1994) patients with elevated mood (mania) show expansiveness, flight of ideas, decreased sleep, heightened self-esteem, and grandiose ideas. Patients with depressed mood experience a loss of energy and interest, feelings of guilt, difficulty in concentrating, loss of appetite, and thoughts of death or suicide.

Controversy exists over the best way to classify and define the mood disorders. For clarity and for the purposes of diagnosis, the DSM IV-TR (APA, 2000) divides mood disorders into three categories.
1. Depressive disorders include major depressive disorder, dysthymic disorder, and depressive disorder not otherwise specified. The distinctive feature of the depressive disorders is the absence of any form of mania.
2. Bipolar disorders include bipolar I disorder, bipolar II disorder, cyclothymic disorder, and bipolar disorder not otherwise specified. Bipolar disorders involve the presence (or history) of mania or mixed episodes, usually accompanied by the presence of major depressive episodes.
3. Other mood disorders include mood disorder due to a general medical condition, substance-induced mood disorder, and mood disorder not otherwise specified.

Stahl (2000) points out that, although mood disorders have the disturbance of mood as the predominant feature, these disorders are actually syndromes or clusters of symptoms. In addition to assessing the quality and degree of mood change, and the duration of abnormal mood, clinicians must also assess (a) vegetative features such as sleep, appetite, weight and sex drive, (b) cognitive features such as attention span, frustration tolerance, memory, and negative distortions, (c) impulse control such as suicide and homicide, (d) behavioural
features such as motivation, pleasure, interest fatigability, and (e) physical features such as headaches, stomach aches, and muscle tension.

According to Kaplan et al., (1994) the management and treatment for mood disorders have several goals: (a) the patient's safety must be guaranteed; (b) a complete diagnostic evaluation must be carried out; (c) a treatment plan that addresses both the patient's immediate symptoms and future well-being must be developed; and (d) treatment must reduce the severity of stressors in the patient's life. Treatment regimens should focus on the entire syndrome, including the physical, psychological and social symptoms. Kaplan et al., (1994) indicate that combination treatments are required to treat all facets of the disorder. These include psycho-education, psychopharmacology and psychotherapy, used together as an integrated approach to treatment. Gagiano (2001) maintains that about 80% of newly identified mood disorders are uncomplicated, and can be treated at the primary care level using an integrated approach to treatment as indicated above. Complicated or severe mood disorders should be referred to the secondary care level. Care at this level may include inpatient treatment in a psychiatric hospital, or outpatient treatment in programmes provided by psychiatric clinics, such as the programme offered at Parkwood Day Clinic. Stahl (2000) indicates that mood disorders are common debilitating, life-threatening illnesses, which usually respond well to treatment, and can be treated successfully.

3.8.2 Anxiety Disorders: Assessment and Treatment

The sensation of anxiety is commonly experienced by virtually all humans. It is a feeling that is characterised by a diffuse, unpleasant, vague sense of apprehension, often accompanied by autonomic symptoms such as headache, perspiration, palpitations, tightness in the chest, and mild stomach discomfort (Kaplan et al., 1994).
Barlow and Durand (2002) define anxiety as a mood state characterised by marked negative affect and somatic symptoms of tension, in which a person apprehensively anticipates future danger or misfortune. It essentially serves as an alerting signal, as it warns of impending danger and enables the person to take measures to deal with the threat. Anxiety is an adaptive phenomenon, and although unpleasant, in normal situations actually enhances our physical and intellectual performance. When assessing for the presence of anxiety, a distinction should be made between normal anxiety levels and abnormal experiencing of anxiety symptoms. Stein and Calitz (2001) suggest that, when the psychiatric history reveals a history of marked clinical distress, or significant impact on social or occupational functioning, the diagnosis of an anxiety disorder should be considered.

The anxiety disorders have been divided into several discrete conditions, each of which has specific diagnostic criteria. Although a comprehensive discussion of each discrete condition is beyond the scope of this study, each disorder as classified by the DSM IV-TR (APA, 2000) will be described briefly in the section below.

1. Panic disorder is characterised by recurrent unexpected panic attacks about which there is a persistent concern.
2. Obsessive compulsive disorder (OCD) is characterised by obsessions (which cause marked anxiety or distress) and/or compulsions (which serve to neutralise anxiety).
3. Social phobia is characterised by clinically significant anxiety provoked by exposure to certain types of social or performance situations, often leading to avoidance behaviour.
4. Specific phobia is characterised by clinically significant anxiety provoked by exposure to a specific feared object or situation. Phobias may also lead to avoidance behaviour.
5. Post-traumatic stress disorder (PTSD) is characterised by the re-experiencing of an extremely traumatic event, accompanied by symptoms of increased arousal and by avoidance of stimuli associated with the trauma.

6. Generalised anxiety disorder (GAD) is characterised by at least six months of persistent and excessive worry and anxiety.

Careful assessment should accompany the diagnosis of any anxiety disorder. Stein and Calitz (2001) stress that, when assessing for any anxiety disorder, it is important to rule out the presence of co-morbid psychiatric disorders, any medical conditions, or substance use that can mimic anxiety symptoms.

With regard to the management and treatment of anxiety disorders, studies have shown that a combination of psycho-education, psychopharmacology and psychotherapy is highly effective in the treatment of the anxiety disorders (Kaplan et al., 1994; Stein & Calitz, 2001). Recent research indicates that, while a combination of psychotherapeutic approaches may be effective, some anxiety disorders respond better to particular psychotherapeutic interventions. Cognitive behavioural therapies are considered the most effective form of therapy for the treatment of panic disorders and GAD. Insight-orientated therapy is indicated as most useful for the treatment of special and social phobias, while behavioural therapy is considered useful in the treatment of PTSD and OCD (Barlow & Durand, 2002; Stein & Calitz, 2001). Kaplan et al., (1994) add that, for the management and treatment of PTSD, a model of crisis intervention with support, education and the development of coping mechanisms, is useful. In addition, group therapy with other patients who have survived similar traumas may also be effective in the management and treatment of this disorder.

3.9 Conclusion

In this chapter it was mentioned that the burden of psychiatric disorder in the developing and developed world has emphasised the need for continued
development of psychiatric care. A history of psychiatric care, from the 1900s through to the 1990s world-wide, as well as in the South African situation, was presented. The present changes in psychiatric care in South Africa, including the restructuring of the NHS to ensure access to primary health care for all South Africans, was highlighted. The new structure of the NHS, which includes the national, provincial, district and community levels, was presented in order to provide a framework for a discussion of the assessment and treatment of patients with psychiatric disorders, who receive curative and rehabilitative care at primary, secondary and tertiary treatment levels. Procedures for psychiatric assessment and treatment were also discussed, with particular emphasis on the group programme offered and the disorders treated at Parkwood Day Clinic. In the following chapter, the research methodology and procedures of the study are explained.
Chapter 4

Research Design and Methodology

4.1 Chapter Preview

This chapter provides an overview of the research design and the methodology employed in this study. The primary aims of the study are outlined, followed by a description of the research design and the sampling procedure used. The psychometric properties of the measure will be discussed. Finally, the process of the research will be elaborated upon, and methods of data analysis will be explained.

4.2 Primary Objectives of the Research

The primary objective of this study was to provide a description of the personality profile of patients attending Parkwood Day Clinic. To facilitate this, the main aims of the research were identified as:
1. To explore and describe the personality traits of patients participating in a group programme at a private psychiatric day clinic.
2. To explore and describe the relationship between patient personality traits and the biographical variables of gender, age and marital status.

4.3 Research Design

A quantitative, exploratory, descriptive research approach was used in this study. Quantitative research involves studies in which research findings are presented in terms of statistical summaries and analysis. This type of research answers questions about the relationship among measured variables, with the purpose of explaining, predicting and controlling phenomena (Cozby, 1993). In this study, the results of the personality profile and the relationship between
personality and biographical variables will be presented in the form of statistical tables and discussion.

Exploratory methods of research design are used where little is known about the population or field of study. The purpose is therefore to explore and gather data, in order to build a foundation of ideas that can be used for further research (Grinell & Williams, 1990). Descriptive research is considered the necessary first step in research, as it provides the groundwork for future research. Descriptive quantitative research examines a situation “as it is” and tells us “how things are”. Christensen (1994) defines descriptive research as an attempt to provide an accurate description or a picture of a particular situation or phenomenon. It attempts to identify variables that exist in a given situation, and at times, to describe the relationship between these variables. This study will gather data on, and explore the personality traits of, a sample of psychiatric patients, thereby providing the groundwork for further South African studies on this topic.

The type of research method used for this study is the ex post facto research method. This research method falls under field studies, which are a group of descriptive research techniques for unobtrusively collecting data regarding specific behaviours (Christensen, 1994). Field studies can be differentiated from other descriptive methods by the fact that the researcher only intervenes at the data collection stage. Ex post facto studies are those in which the variable of interest to the researcher is not subject to direct manipulation, and must be chosen after the fact (Christensen, 1994). The researcher begins with two or more groups of subjects that differ according to one variable, and then records their behaviour to determine whether they respond differently in a common situation. In this study, males and females differing on the variables of age and marital status, were studied to examine differing personality traits. The study makes use of existing information available at Parkwood Day Clinic, extracted from an existing biographical questionnaire and a standardised paper-and-pencil measure, namely the NEO PI-R.
The advantage of the *ex post facto* research method is that previously compiled information is used to answer the research question. Therefore, existing data is sorted and analysed avoiding the necessity of collecting original data (Cozby, 1993). This provides an advantage in the ease of data collection, which is cost- and time- effective.

Disadvantages of this method are the process of self-selection or self-assignment. This is the division of participants into two groups through prior differential experience, which is beyond the researcher’s control. The subjects who make up the different groups because of some self-selected characteristic or experience, may also possess other characteristics or experiences extraneous to the research problem. Christensen (1994) reasons that it may be one of these characteristics that produces the observed difference, and not the variable being measured. This disadvantage will not impact negatively on this study, as respondents will not have the opportunity for self-selection, as non-probability convenience sampling will be used by the researcher to obtain the sample. Another disadvantage of the *ex post facto* method is that, at times, it is more difficult to determine the accuracy, reliability and validity of information that has already been collected (Cozby, 1993). The scoring procedures for the NEO PI-R can be easily checked for error, and the biographical information obtained can be cross-referenced with details on patients’ files to ensure the accuracy of data coded for analysis. While the reliability of self-report questionnaires remains debatable, the reliability and validity of the NEO PI-R has been proven. Clear instructions, the ease of use for scoring and coding, and the fact that all respondents are provided with the same options, increase the reliability and validity of the data to be coded (Rosnow & Rosenthal, 1996).

4.4 Participants and Sampling

A sample can be described as the part of the population that is studied so that the researcher can make generalisations about the whole of the original
The two basic approaches to sampling are non-probability and probability sampling. In non-probability sampling there is no guarantee that each member of the population has a chance of being included, and no way to estimate the probability of each member’s possible inclusion in the sample (Zechmeister, Zechmeister & Shaughnessy, 2001), while in probability sampling, all members of the population have an equal chance of being selected for the sample. The most common form of non-probability sampling is convenience sampling, which involves selecting respondents who are available and willing. According to Leary (1991), this is the crudest form of sampling because anyone who is convenient becomes part of the sample. A non-probability, convenience sampling procedure was employed in this study, as all the available clinical records from the population of patients who had attended Parkwood Day Clinic were obtained to form the sample. This type of sampling is both cost- and time-effective, as large numbers of respondents can be obtained relatively quickly and easily, and a fair amount of data can be gathered. However, the sample will only be reasonably representative of the population of interest, and may not be sufficiently varied to allow for generalisation (Harris, 1998; Russell & Roberts, 2001).

Respondents that formed part of the sample were those who had attended Parkwood Day Clinic during the period from April 2000 to April 2001, and for whom all the necessary information was available. A sample size of 196 was obtained. In terms of sample size, 30 subjects are considered a minimum for an exploratory descriptive study. Christensen (1994) recommends 35 subjects for most preliminary studies. However, few guidelines exist for how large a sample must be. The general principle is that the larger the sample size the greater the likelihood of obtaining a significant result, and the larger the sample, the better (Cozby, 1993). However, it is impractical and unnecessary to use too many subjects. Leedy and Ormrod (2001) suggest that, if the population size is around 500, then 50% of the population should be sampled. Taking into account the
population size and practicalities of the research design, a sample size of 196 was judged to be an appropriate sample size for this study.

4.5 Measures

Two measures were used to gather the data for this study, namely a biographical questionnaire and the Revised NEO Personality Inventory (NEO PI-R). Both are self-report measures or questionnaires, and require respondents to report or describe their characteristics, feelings, beliefs, opinions or mental states (McIntire & Miller, 2000). Some advantages to using questionnaires as described by Leary (1991) are that, in comparison to interviews, they are less expensive and less time-consuming. They are also easy to administer and score, and anonymity can be maintained. To ensure the accurate completion of the biographical questionnaires, the patients were assisted in the completion of the questionnaire on admission. The administration of the NEO PI-R to the patients attending the group programme at Parkwood Day Clinic was undertaken by the resident intern psychologists, who were trained in the skill of general psychometric testing and the specific administration of the NEO PI-R as a measure. The intern psychologists ensured that they explained instructions, administered the test, and were available to answer any questions the patients may have had during the testing process. They were also responsible for the scoring and delivery of feedback regarding the outcome of the testing process to the patients. The biographical questionnaire and the NEO PI-R will be discussed more specifically in the section below.

4.5.1 The Biographical Questionnaire

The brief biographical questionnaire was designed by the managing clinical psychologist at Parkwood Day Clinic for the purpose of recording pertinent client demographic and background information. The information relevant to this study was extracted, and the questionnaire was used to describe the sample. The information regarding each participant used specifically for description in this
4.5.2 The Revised NEO Personality Inventory (NEO PI-R)

The NEO PI-R is the revised version of the NEO PI, which was first published by Costa and McCrae in 1985 (Costa & McCrae, 1992a). The NEO PI-R is a measure of normal personality traits, that has demonstrated its utility in both clinical and research settings. The NEO PI-R is considered a concise measure of the five major dimensions or domains of personality and some of the more important traits or facets that define each domain. Together, the five domains Neuroticism ($N$), Extraversion ($E$), Openness ($O$), Agreeableness ($A$), and Conscientiousness ($C$), and the six facets within each domain, allow for a comprehensive assessment of adult personality.

4.5.2.1. The Reliability of the Measure

The reliability of a test refers to how consistently it measures whatever it is supposed to measure (Huysamen, 1983). Internal consistency and test-retest reliability are the most commonly used indices of the reliability of tests and measures. The NEO PI-R scores show excellent levels of internal consistency in self-reports and observer ratings. The internal consistency coefficients of the domain scales of the NEO PI-R range from .86 to .95 (Aiken, 1997; Costa & McCrae, 1992a), while the internal consistency coefficients of the facet scales are lower, at .56 to .95 (Aiken, 1997).

Test-retest reliability refers to the extent to which individuals approximate the same scores on two different occasions. Good test-retest reliability is essential to personality measures, as they are expected to show little change over short intervals of time. The test-retest reliability for the NEO PI, the forerunner to the NEO PI-R, has been shown to be high over periods as long as six years. Studies of specifically the $N$, $E$ and $O$ scales have shown stability coefficients ranging from .68 to .83. (Costa & McCrae, 1992a). Kaplan and Saccuzzo (2001) indicate
that test-retest reliability scores for these domains on the NEO PI-R are in the high .80s to the low .90s. Although short-term test-retest reliability has not been extensively researched in the NEO PI-R using American samples, recent research on the short-term test-retest reliability of the NEO PI-R, using a sample of 65 students in the South African context, demonstrated good short-term test-retest reliability, with correlation coefficients ranging from .86 to .93 (Brunner-Struijk, 2001). Test-retest reliability is a prerequisite for stability in a trait measure, and most measures show adequate test-retest reliability. It has been demonstrated that the NEO PI-R measures enduring dispositions, whether assessed by self-reports or by the ratings of spouses or peers (Costa & McCrae, 1992a).

4.5.2.2 The Validity of the Measure

Validity of test scores refers to the extent to which they satisfy their intended purpose (Huysamen, 1983). Costa and McCrae (1992a) offer considerable evidence which demonstrates that the NEO PI-R has validity in many ways and in many samples. The NEO PI-R manual presents a substantial amount of validity research that has been conducted using the NEO PI-R.

Content validity is addressed in the NEO PI-R by identifying six distinct facets to sample each domain, and by selecting non-redundant items to measure each facet. Concurrent validity is reported with (a) the Eysenck Personality Inventory, (b) the Guilford-Zimmerman Temperament Survey, (c) and the Self-Directed Search (Dolliver, 1987). Kaplan and Saccuzzo (2001) indicate further that concurrent and predictive validity studies are encouraging, with coefficients ranging into the .80s. Data on construct validity has shown that the NEO PI-R scales are generally successful in measuring the intended constructs. Piedmont and Weinstein’s (1993) research performed on the NEO PI-R, using a sample of working adults and relying on self-report and observer ratings, provides strong support for the construct validity of the scales.
4.5.2.2.1 Validity of the domain scales

Factor analysis reproduces the intended structure of the NEO PI-R facets, but it has to be proven that the factors actually measure the intended constructs. A large number of studies have been conducted to determine the external validity of the five domains using the NEO PI. To prove this validity, research studies using a number of adjective-based measures of the five factors and other operationalisations of the FFM have been proposed. Items from the Adjective Check List (ACL) (Gough & Heilbrun, 1983) were selected that would represent the five factors as they are represented in the personality literature. These were summarised into five scales. Results showed convergent and discriminant validity for both Form S and Form R NEO PI factors (Costa & McCrae, 1992a). Goldberg (1993) created several alternative sets of adjective definers of the five scales. These, too, were substantially correlated with the corresponding NEO PI domains and factors. Further evidence of the correlation of NEO PI domain scales and other measures using adjective scales have been conducted by Trapnell and Wiggin (1990) and Ostendorf (1990), who administered adjective scales to a large German sample and recovered the same five factors (Costa & McCrae, 1992a). The Hogan Personality Inventory (Hogan, 1986) and Items in the California Q-Set (Block, 1961) have been proposed as other operationalisations of the FFM. Correlations between the NEO PI and both these instruments support the construct validity of the NEO PI domains and factors.

4.5.2.2.2 Validity of the facet scales

Recent studies have systematically examined the convergent and discriminant validity of all 30 of the NEO PI-R facet scales. In the first study, in which longitudinal data was used, each facet of the NEO PI-R was correlated with 116 scales from 12 different inventories. Convergent validity is seen in the fact that the NEO PI-R facet scales are correlated with alternative measures of the same constructs. For example, N1 (anxiety) correlates with Anxiety and Tension as measured by the State-trait Personality Inventory and the Profile of Mood States respectively. All 30 scales showed substantial correlations with
appropriate criteria. Discriminant validity is seen by contrasting the correlates of
different facets within the same domain. Consider the Personality Research Form
(PRF) (Jackson, 1984) correlates of the E facet scales. E1 (Warmth) and E2
(Gregariousness) are related to PRF Affiliation, E3 (Assertiveness) is related to
PRF dominance and E5 (Excitement-seeking) is negatively related to PRF
Harmavoidance. Results provide strong evidence for the convergent and
discriminant validity of the facets (Costa & McCrae, 1992a).

Although the validity of the NEO PI-R has not been empirically established for
use with South African populations, it has been used in a number of recent
research studies conducted in South Africa. These include the translation of the
NEO PI-R into Xhosa (Horn, 2000), Afrikaans (Brunner-Struik, 2001), and
Southern Sotho (Van Zijl, 2001), as well as the assessment of the cross-cultural
applicability of the five-factor model for the South African Population (Heuchert et
al., 2000).

4.6 Procedure

Permission to conduct the research, using a sample from Parkwood Day
Clinic, was obtained from the managing clinical psychologist. In particular,
access to the clinical records at Parkwood Day Clinic was granted. Patients
attending Parkwood Day Clinic are required to sign a consent form prior to
admission to the group programme. This is in the form of a contract, which forms
part of the routine administration procedure at Parkwood Day Clinic and contains
a clause that gives consent for “clinical records to be utilised for training and
research purposes”. A copy of the consent form can be found in Appendix B.

As part of the group programme, patients complete paper-and-pencil tests
which include the NEO PI-R. Information from these questionnaires is relayed
back to patients in the form of feedback sessions during their treatment
programmes. The NEO PI-R questionnaire results are added to patients’ clinical records for future use.

Data gathering for this study involved examination of patient clinical records. These were scrutinised for consent from the patients, and checked to ensure accurate completion of the biographical questionnaire and the NEO PI-R. Clinical records that were incomplete were removed from the sample. Clinical records were then numbered, and the necessary data coded, captured and analysed.

Although the initial phase of the study did not allow for anonymity of the participants, as the researcher was required to capture data in a meaningful way, at the data analysis stage, complete confidentiality of participants has been maintained.

4.7 Data Analysis

The data was analysed in terms of the aims of the research. The data analysis consisted of exploratory, descriptive and inferential analyses.

4.7.1 Descriptive Statistics

In order to analyse the exploration and description of personality traits, as proposed in aims one and two, descriptive statistical measures were used. These included measures of central tendency. A measure of central tendency is a single score value which is taken to represent the values of all the scores in a distribution (Huysamen, 1998). The goal of central tendency is to find the single score that is most typical or representative of the entire group (Gravetter & Wallnau, 1995). The mean (commonly known as the arithmetic average), the median (which is the score that divides the distribution in half) and the mode (which is the score or category that has the greatest frequency) were examined.
Measures of variability refer to the extent to which scores in a distribution differ from one another (Huysamen, 1998). The standard deviation, which is the average deviations of scores from the mean (Harris, 1998), as well as the range, were examined. Lastly, tabulated frequency distributions showed the manner in which the scores on a variable were distributed.

4.7.2 Pearson Product-Moment Correlation

The first aim was also investigated through the use of Pearson product-moment correlations. This type of correlation is a measure of the degree of linear relationship between two interval- or ratio-level variables (Harris, 1998). The aim of the correlation is to examine the relationship between two or more variables to see whether they correlate or co-vary with each other. The Pearson $r$ provides information about both the strength and the direction of the relationship (Harris, 1998). Correlation coefficient scores range from .00 - 1.00. An established set of guidelines for interpreting significant correlations and the magnitude of relationships has been developed by Guilford, (1946) according to the following system:

- Less than .20 slight; almost negligible relationship
- .20 - .40 low correlation; definite, but small relationship
- .40 - .70 moderate correlation; substantial relationship
- .70 - .90 high correlation; marked relationship
- .90 - 1.00 very high correlation; very dependable relationship

The association among variables was quantified using this measure.

4.7.3 Cluster Analysis

Cluster analysis was used for aim one, which is to explore and describe the personality traits of patients participating in a group programme at a private psychiatric day clinic. Cluster analysis is a classification technique used for forming homogeneous groups within complex data sets (Borgen & Barnett, 1987). The method organises data into meaningful structures, reducing a set of complex data to its central features. According to Borgen and Barnett, cluster
analysis is most often used as an exploratory technique to identify and structure subgroups that are of potential value in understanding the research problem. Patients were categorised into homogeneous groups based on their personality profiles.

4.7.4 Multivariate Analysis of Variance

Multivariate Analysis of Variance (MANOVA) is a statistical technique that is used to simultaneously explore the relationship between several categorical independent variables and two or more metric variables (Hair, Anderson, Tatham & Black, 1998). In this study, MANOVAs were used in exploring the personality profile of the sample to determine the significance of differences among the clusters across the personality domains. Post hoc tests were further conducted to identify any differences between individual clusters. MANOVAs were also used in the second aim, which focused on the relationship between personality and biographical variables, to determine whether the biographical variables of gender, age and marital status were significantly related to the various personality dimensions.

4.7.5 Chi-square Tests of Independence

Chi-square tests of independence are used to determine whether or not two variables measured on a nominal scale, or on a continuous scale and categorised into homogeneous groups, are related (Harris, 1998). The second aim, which is to explore and describe the relationship between patient personality traits and the biographical variables of gender, age and marital status, was analysed by means of Chi-square tests of independence. Population frequencies were compared, by computing the domain scores of, $N$, $E$, $O$, $A$, $C$ classified as low, average and high, according to the applicable norm tables in the NEO PI-R user manual.
4.8 Ethical Considerations

Research in the social sciences involves the use of human beings serving as participants. This limits free rein in choice of research procedures as respondents, should at all times be entitled to be treated with dignity, respect and courtesy. To ensure ethical practice with regard to research within the social sciences, stringent ethical guidelines govern psychological research. For this reason, the ethical considerations relevant to this study will be explored. These will include informed consent, privacy, and confidentiality.

4.8.1 Informed Consent

Informed consent is an agreement made by an agency or professional with a particular person to permit the administration of a psychological assessment measure, and/or to obtain other information for evaluative psychodiagnostic purposes (Griessel, 2001). Informed consent means that individuals are entitled to full explanations at an understandable level of language, about why they are being tested, how the test data will be used, what the test results mean, and some information about the instrument itself (Allan, 1997; McIntire & Miller, 2000). This process of gaining informed consent forms part of the routine administration at Parkwood Day Clinic, where patients are informed of the testing in advance, so that they can prepare intellectually, emotionally and physically for the assessment. The purpose of testing is explained, the tests are administered and supervised, and oral feedback is provided to each patient. Prior to participation in the group programme at Parkwood Day Clinic, patients sign a consent form indicating that any information obtained from them during their participation in the group programme may be used for research purposes.

4.8.2 Privacy and Confidentiality
According to Allan (1997), the right to privacy is a fundamental right which has two components. The first is the right against intrusion, which is the right people have to keep certain information about themselves absent from the minds of others, which includes having secrets, and preventing others from prying into their affairs. The second is the right to confidentiality, which means that individuals should be assured that all personal information they disclose will be kept private, and not be disclosed without their explicit permission (McIntire & Miller, 2000). Thus individuals have the right to maintain control over information that is chosen to be shared with others. In the research context, invasion of privacy includes questions about intimate or personal matters, which may cause feelings of anxiety, guilt or shame (Otto, 2002). According to Cozby (1993), the privacy of questionnaire responses is rarely an issue in psychological research. In this particular study, questionnaires that were used did not include questions demanding intimate personal details, rather questions were designed to collect demographic and biographical information only.

Confidentiality in this context refers to the handling of information in a confidential manner. This refers to the researcher's obligation to withhold information from third parties, and to protect the participants' identities at all costs (Cozby, 1993). It is important that questionnaire responses are anonymous and confidential. Being anonymous in a research context means that there is no way that anyone except the principal investigator can match the results of research with the individual associated with these results (Christensen, 1994). Anonymity and confidentiality can be maintained through carefully planned methods of coding that make the identification of information impossible. Although the current study guaranteed the confidentiality of participants, anonymity could not be guaranteed in the initial stages of study, as the researcher had to access patient files in order to capture data. However, procedures used from the data coding stage through to the end of the process, allowed for complete anonymity and confidentiality.
4.9 Conclusion

This chapter addressed the research methodology employed in the study. The study was a quantitative, exploratory, descriptive study, using an *ex post facto* approach and non-probability convenience sampling. Participants included in the sample were those individuals who had attended the group programme at Parkwood Day Clinic from April 2000 to April 2001. The NEO PI-R and a biographical questionnaire provided the data, which was analysed according to the aims of the study, using exploratory, descriptive and inferential statistics. The results from this data analysis will be outlined and discussed in the following chapter.
Chapter 5

Results

5.1 Chapter Preview

The results obtained from the data analysis are presented in this chapter. Biographical details extracted from the biographical questionnaire will be described first, to provide an overview of the sample. Thereafter, results of the NEO PI-R, used as a measure in this study, as well as the relationship between personality traits and biographical variables, will be discussed.

Prior to discussing the results of this study, it is important to revisit the aims, which were outlined in Chapter 4. The first aim was to explore and describe the personality traits of patients participating in a group programme at a private psychiatric day clinic. The second aim was to explore and describe the relationship between patient personality traits and the biographical variables of gender, age, and marital status.

5.2 Biographical Description of the Sample

The variables discussed in this section concern information obtained from responses of the participants to the biographical questionnaire. These variables are, gender, age and marital status.

5.2.1 Gender

The distribution of the sample according to gender is indicated in Table 1.
Table 1
Gender Distribution of the Sample (n = 196)

<table>
<thead>
<tr>
<th>Gender</th>
<th>n</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>104</td>
<td>53.1</td>
</tr>
<tr>
<td>Female</td>
<td>92</td>
<td>46.9</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100</td>
</tr>
</tbody>
</table>

A total of 196 participants were included in this study. Of these, 104 (53.1%) were male and 92 (46.9%) were female. These results indicate a fairly equal gender distribution. A discussion of gender differences follows in Chapter 6.

5.2.2 Age

The age distribution of the sample is presented in Table 2.

Table 2
Age Distribution of the Sample (n = 196)

<table>
<thead>
<tr>
<th>Age in years</th>
<th>n</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;30</td>
<td>26</td>
<td>13.3</td>
</tr>
<tr>
<td>30-39</td>
<td>84</td>
<td>42.9</td>
</tr>
<tr>
<td>40-49</td>
<td>67</td>
<td>34.2</td>
</tr>
<tr>
<td>50-59</td>
<td>15</td>
<td>7.7</td>
</tr>
<tr>
<td>60+</td>
<td>4</td>
<td>2.0</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100</td>
</tr>
</tbody>
</table>

The ages of the participants ranged from 19 to 68, with a mean age of 38.19 (SD = 8.67) years. Most of the sample fell between the ages of 30 and 49, with the majority of the sample being between 30 and 39 years of age. According to Kaplan et al., (1994) mental health problems increase with age, with young persons being more predisposed to acute illness. Further discussion of the relationship between mental illness and age will be provided in Chapter 6.
5.2.3 Marital Status

The distribution of the sample according to marital status is presented in Table 3.

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>n</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>24</td>
<td>12.2</td>
</tr>
<tr>
<td>Married</td>
<td>123</td>
<td>62.8</td>
</tr>
<tr>
<td>Divorced</td>
<td>38</td>
<td>19.4</td>
</tr>
<tr>
<td>Widowed</td>
<td>11</td>
<td>5.6</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100</td>
</tr>
</tbody>
</table>

The marital status of the individuals in this sample varied among single, married, divorced, and widowed. The majority (62.8%) of the sample were married, 25% of the sample had been married but had been separated from their partners either through divorce or death.

5.3 Results of the Revised NEO Personality Inventory

This section focuses on the first aim of this study, which is to explore and describe personality traits in individuals participating in a group programme at a private psychiatric day clinic. The discussion of personality traits pertains to information extracted from a personality measure, namely the NEO PI-R.

5.3.1 Internal Consistency of the NEO PI-R

As the NEO PI-R has been standardised and normed on American populations and has not been standardised for South African populations, it was important to determine the level of internal consistency, to establish whether the NEO PI-R could be used as a reliable measure of personality, using samples of the South African population. Cronbach’s Coefficient alpha is a general measure
used for estimating the reliability of a test in which items typically have three or more answer options (Aiken, 1997). It is essentially a measure of homogeneity, as it helps to characterise the behaviour domain or trait sampled by the measure. It has been noted that the internal consistency coefficients of affective instruments such as personality tests seem to be lower than those of cognitive tests. Aiken (1997) recommends that a fairly modest reliability coefficient of .60 to .70 may be a satisfactory indication of a strong level of reliability for personality measures. Cronbach’s coefficient alpha was calculated for each of the domains, and is presented in Table 4.

Table 4
Internal Consistency of NEO PI-R Domains

<table>
<thead>
<tr>
<th>NEO PI-R Domains</th>
<th>Chronbach's Coefficient Alpha South Africa</th>
<th>Chronbach's Coefficient Alpha USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism</td>
<td>.82</td>
<td>.92</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.76</td>
<td>.89</td>
</tr>
<tr>
<td>Openness</td>
<td>.67</td>
<td>.87</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>.67</td>
<td>.86</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>.84</td>
<td>.90</td>
</tr>
</tbody>
</table>

For the sample used in this study, the Conscientiousness and Neuroticism domains’ correlation coefficients were above .80 (α = .84, and .82 respectively), suggesting that the components of these domains are contributing adequately to the FFM domains of Conscientiousness and Neuroticism. These high alpha coefficients suggest that these scales are reliable for use in the South African context. The Extraversion domain is lower, but still above .70 (α = .76). For the domains of Openness and Agreeableness, alpha coefficients are closer to .60 (α = 67) indicating that, while the domains scales contribute adequately to the corresponding FFM domains, these scales may need revision for the South African population.
5.3.2 Description of the Sample According to the Domains of the NEO PI-R

The description of the sample according to the five domain scales is outlined in Table 5 below. The mean scores, standard deviation, range, minimum, and maximum for each domain are presented. The domains will be discussed, where possible, in relation to other research conducted using the NEO PI-R. For more meaningful interpretation of data, raw scores have been converted to T-scores, and are described relative to the Form S normative samples (i.e., according to the Form S profile form) where T-scores have a mean of 50 and a standard deviation of 10, and results are presented in five different categories ranging from Very Low ($T = <34.5$), Low ($T = 34.5-44.5$), Average ($T = 44.5-55.5$), High ($T = 55.5-65.5$) and Very High ($T = >65.5$).

Table 5
Means and Standard Deviations of the NEO PI-R Domain T-Scores (n = 196)

<table>
<thead>
<tr>
<th>NEO PI-R Domain Scales</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Range</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism</td>
<td>69.09</td>
<td>10.83</td>
<td>36.13</td>
<td>98.14</td>
<td>62.01</td>
<td>68.92</td>
</tr>
<tr>
<td>Extraversion</td>
<td>46.26</td>
<td>12.07</td>
<td>16.69</td>
<td>84.87</td>
<td>68.18</td>
<td>47.03</td>
</tr>
<tr>
<td>Openness</td>
<td>46.71</td>
<td>10.44</td>
<td>23.66</td>
<td>76.74</td>
<td>53.09</td>
<td>45.93</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>46.89</td>
<td>12.35</td>
<td>11.46</td>
<td>79.51</td>
<td>68.06</td>
<td>47.16</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>45.24</td>
<td>12.85</td>
<td>-0.96</td>
<td>72.64</td>
<td>73.60</td>
<td>45.67</td>
</tr>
</tbody>
</table>

These results provide an indication of the personality profile of the sample. Of importance is the mean T-score on the $N$ domain ($M = 69.09$), which falls into the category of Very High suggesting high levels of $N$ in the sample. The mean T-scores on the other four domains $E$, $O$, $A$, and $C$, were all similar, ($M = 46.26$, 46.71, 46.89 and 45.24, respectively) and fall into the Average category. In summary, then, the personality profile according to the mean T-scores can be described as very high scores on $N$ and average scores on $E$, $O$, $A$ and $C$. 
5.3.3 Correlation Between the Domains of the NEO PI-R

The interrelationship between the domain scores of the sample was examined using the Pearson Product-Moment Correlation Coefficient or Pearson r. The results of the interrelationship of personality traits according to domains are presented in Table 6.

<table>
<thead>
<tr>
<th></th>
<th>Extraversion</th>
<th>Openness</th>
<th>Agreeableness</th>
<th>Conscientiousness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Neuroticism</strong></td>
<td>-.455</td>
<td>-.025</td>
<td>.060</td>
<td>-.491</td>
</tr>
<tr>
<td><strong>Extraversion</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Openness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Agreeableness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Conscientiousness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Bold font indicates statistically significant correlation (p < .05)

Results indicate that, in this sample, certain personality traits are related to each other. Several moderate correlations exist, indicating substantial relationships among domains. Substantial positive relationships were identified between E and O (.482), indicating that the more extraverted participants are, the more curious and open to experiences they tend to be. A substantial negative relationship was found between N and C (-.491), indicating that the higher the level of neuroticism, the less conscientious participants tend to be. As expected, and consistent with previous research findings, a negative relationship was also found between N and E (-.455). Significant but weaker positive relationships were also noted between A and C (.287) and E and C (.206), indicating the tendency for participants higher in A and E to be more conscientious.

The distribution of the sample according to the categories of each domain is outlined in Table 7.
Table 7

Distribution of the Sample According to the Domain Scales of the NEO PI-R

<table>
<thead>
<tr>
<th>NEO PI-R Domain Scales</th>
<th>Very Low</th>
<th>Low</th>
<th>Average</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism</td>
<td>0 (1%)</td>
<td>2 (0%)</td>
<td>16 (8%)</td>
<td>56 (29%)</td>
<td>122 (62%)</td>
</tr>
<tr>
<td>Extraversion</td>
<td>29 (15%)</td>
<td>63 (32%)</td>
<td>61 (31%)</td>
<td>34 (17%)</td>
<td>9 (5%)</td>
</tr>
<tr>
<td>Openness</td>
<td>20 (10%)</td>
<td>68 (34%)</td>
<td>68 (35%)</td>
<td>33 (17%)</td>
<td>7 (4%)</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>31 (16%)</td>
<td>52 (27%)</td>
<td>69 (34%)</td>
<td>33 (17%)</td>
<td>11 (6%)</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>32 (16%)</td>
<td>55 (28%)</td>
<td>70 (36%)</td>
<td>27 (14%)</td>
<td>12 (6%)</td>
</tr>
</tbody>
</table>

As many as 91% of the participants scored in the High to Very High category on the N domain. On E, the distribution is more evenly spread, with 47% scoring in the Very Low and Low categories, 31% scoring in the Average category, and 22% scoring in High or Very High category. Distribution on O and C is almost identical, with 44% of participants scoring very low and low, 35% on O and 36% on C scoring average and 21% and 20% respectively falling in the High and Very High categories. On A, 43% scored very low or low, 34% average and 23% high and very high. Further discussion of the results according to each domain will be discussed in Chapter 6.

5.3.4 Cluster Analysis

Cluster analysis is a classification technique used for forming homogeneous groups within complex data sets (Borgen & Barnett, 1987). The method organises data into meaningful structures, reducing a set of complex data to its central features. According to Borgen and Barnett, cluster analysis is most often used as an exploratory technique to identify and structure subgroups that are of potential value in understanding the research problem.

There are no generally accepted formal statistical tests in cluster analysis. Rather, structure is identified through clustering exploration, and once identified, the research process should continue towards confirmation, testing, and validation of the structure. The choice of method strongly determines the results.
of the probe. Borgen and Barnett (1987) caution that most cluster methods impose structure on the data, even if no underlying groups exist. Thus it becomes important for generalisation purposes to apply multiple analyses to the same data set. To assist in the process of cluster analysis, Hair et al., (1998) identify a six-stage cluster analysis decision process. Stage 1 focuses on the research objectives, stages 2 - 4 delineate the research design, which deals with partitioning the data set to form clusters, and focuses on the assumptions of cluster analysis, deriving the clusters and assessing overall fit. Stage 5 is cluster interpretation which involves understanding the characteristics of each cluster and developing a cluster name which appropriately defines its nature. Stage 6 includes profiling and validating clusters results. This six-stage process was followed throughout the cluster analysis in this study.

In this study, the k-means method of non-hierarchical clustering has been used. K-means clustering will produce exactly 'k' different clusters of greatest possible distinction, by moving objects (domain means) in and out of groups (clusters) to get the most significant results (Microsoft Corporation, 1995).

Mean T-scores on each domain were clustered to examine the underlying personality structure or profile of the data set. A cluster solution of five clusters was judged to be most suitable for data analysis. Four- and six-cluster solutions were investigated, but were deemed inferior, based on the interpretation process during stage 5 of the cluster analyses. A description of the five clusters according to their mean T-scores is provided in Table 8. The mean T-scores were categorised into five different categories, ranging from Very Low ($T \leq 34.5$), Low ($34.5 < T \leq 44.5$), Average ($44.5 < T \leq 55.5$), to High ($55.5 < T \leq 65.5$) and Very High ($T > 65.5$).
Table 8
Description of Cluster Groups by Domain Mean T-scores

<table>
<thead>
<tr>
<th>Cluster</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>35</td>
</tr>
<tr>
<td>2</td>
<td>49</td>
</tr>
<tr>
<td>3</td>
<td>47</td>
</tr>
<tr>
<td>4</td>
<td>30</td>
</tr>
<tr>
<td>5</td>
<td>35</td>
</tr>
<tr>
<td>Neuroticism</td>
<td></td>
</tr>
<tr>
<td>58.24 (H)</td>
<td>61.35 (H)</td>
</tr>
<tr>
<td>Extraversion</td>
<td></td>
</tr>
<tr>
<td>52.86 (A)</td>
<td>60.55 (H)</td>
</tr>
<tr>
<td>Openness</td>
<td></td>
</tr>
<tr>
<td>46.62 (A)</td>
<td>55.58 (H)</td>
</tr>
<tr>
<td>Agreeableness</td>
<td></td>
</tr>
<tr>
<td>50.72 (A)</td>
<td>33.30 (VL)</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td></td>
</tr>
<tr>
<td>58.08 (H)</td>
<td>43.88 (L)</td>
</tr>
</tbody>
</table>

Note: VH = Very High (T > 65.5); H = High (55.5 < T ≤ 65.5);
A = Average (44.5 < T ≤ 55.5); L = Low (34.5 < T ≤ 44.5);
VL = Very Low (T ≤ 34.5)

There appear to be a reasonable number of subjects in each cluster. Cluster 2 has the most participants (n = 49), followed by cluster 3 (n = 47). Clusters 1 and 5 have the same number of subjects (n = 35), while cluster 4 has the fewest subjects (n = 30). According to Hair et al., (1998), the interpretation stage involves examining each cluster in terms of the cluster variate, to assign a label accurately describing the nature of the clusters. The cluster’s centroid can be used as a starting point when interpreting clusters; this can be defined as the average or mean value contained in the cluster on each variable. Thus the average score profiles on personality would be examined, and a descriptive label assigned to each cluster. The following labels have been assigned to each cluster.

5.3.4.1 Cluster 1: The Highly Conscientious Cluster

The profile of personality for cluster 1 (n = 35) includes a high N average E, O and A with a high C. While the domains of N, E, O, and A are similar to the mean T-scores in the sample, this cluster differs from the sample as it presents with the highest mean T-score on C (M = 58.08) which falls into the High category. For this reason the cluster will be labelled ‘The Highly Conscientious Cluster’. Costa
and McCrae (1992a) indicate that $N$ and $C$ are linked to the control of impulses, with high $N$ scorers finding it hard to resist temptation and being less able to control their impulses. $C$ has been linked to the more active processes of self-control, such as planning, organising, and task undertaking.

5.3.4.2 Cluster 2: The Extraverted, Open, Disagreeable Cluster

The profile of participants for cluster 2 ($n = 49$) includes High $N$, $E$, and $O$ scores, a very low $A$ and low $C$ score. This cluster includes the highest number of participants. Variables that distinguish this cluster are the high scores on $E$ and $O$, and the very low scores on $A$. This indicates a cluster of participants who are more sociable, active, assertive, talkative and open, as well as egocentric, sceptical of others’ intentions, and competitive. The descriptive label for this cluster of participants is 'The Extraverted, Open, Disagreeable Cluster'.

5.3.4.3 Cluster 3: The Neurotic Low Scoring Cluster

Cluster 3 ($n = 47$), the second largest of the clusters in the sample, is characterised by scores of very high $N$, and low scores on each of the other domains. Thus the cluster could be described as a group of participants prone to experience negative affect, and at the same time being introverted, conventional or conservative in outlook, disagreeable in interpersonal relations, and tending to have less self-control. Because of these characteristics, this cluster will be labelled 'The Neurotic Low Scoring Cluster'.

5.3.4.4 Cluster 4: The Altruistic Cluster

Cluster 4 has the smallest number of participants ($n = 30$). The cluster can be described as having very high $N$, low $E$ and $O$, high $A$, and average $C$ scores. The distinguishing aspect of cluster 4 is the highest T-score on $A$, and the lowest T-scores on $E$ and $O$. This appears to be a cluster of extremes. The personality of participants in this profile can be described as prone to negative affect, introverted, conservative or conventional in outlook, helpful, and altruistic, with a
tendency to control impulses less well. Because of its high scores on A, this cluster will be described as the 'The Altruistic cluster'.

5.3.4.5 Cluster 5: The Psychiatric Profile Cluster

The last cluster \((n = 35)\) includes a personality profile of very high \(N\), average \(E\), \(O\) and \(A\), and low \(C\). This cluster most closely resembles the general profile of the sample, with the highest T-scores on \(N\), and the lowest T-scores on \(C\). The profile also resembles the profile of a psychiatric population, except for the scores on \(E\), which differ from the psychiatric population which scored low, while this cluster scores in the average range. For this reason, cluster 5 will be labelled as 'The Psychiatric Profile Cluster.'

5.3.5 Personality Differences Among Clusters

The sixth stage of cluster analysis is validation, and in an attempt to provide internal validation data, post hoc analyses were conducted. A multivariate analysis of variance (MANOVA) was conducted on the cluster analysis, in order to determine the significance of differences among the clusters across the personality domain mean T-scores or group means. The results are reported in Table 9, and clearly indicate statistically significant differences among clusters for all domains of the personality profile. Post hoc Scheffé tests were conducted to identify differences between individual clusters. These results are reported in Table 10.

Table 9

<table>
<thead>
<tr>
<th>Results of a MANOVA to determine Differences Among Clusters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SS</strong></td>
</tr>
<tr>
<td>Neuroticism</td>
</tr>
<tr>
<td>Extraversion</td>
</tr>
<tr>
<td>Openness</td>
</tr>
<tr>
<td>Agreeableness</td>
</tr>
<tr>
<td>Conscientiousness</td>
</tr>
</tbody>
</table>
Table 10
Post Hoc Scheffé Test Results to Determine Significance of Factor Cluster Differences

<table>
<thead>
<tr>
<th>Domain</th>
<th>Cluster</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>.599</td>
<td>&lt;.005</td>
<td>&lt;.005</td>
<td>&lt;.005</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>&lt;.005</td>
<td>&lt;.005</td>
<td>&lt;.005</td>
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</tr>
<tr>
<td></td>
<td>3</td>
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<td>.608</td>
<td>.321</td>
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<td></td>
<td>4</td>
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<td>.017</td>
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<td>Extraversion</td>
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<td>&lt;.005</td>
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<td></td>
</tr>
<tr>
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<td></td>
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</tr>
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<td></td>
<td>1</td>
<td>.001</td>
<td>.299</td>
<td>.006</td>
<td>.003</td>
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<td>4</td>
<td></td>
<td></td>
<td></td>
<td>&lt;.005</td>
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<td>Agreeableness</td>
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<td></td>
</tr>
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<td>&lt;.005</td>
<td>.820</td>
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<td>.253</td>
<td>&lt;.005</td>
<td>&lt;.005</td>
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<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>.026</td>
</tr>
<tr>
<td>Conscientiousness</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>&lt;.005</td>
<td>&lt;.005</td>
<td>.011</td>
<td>&lt;.0005</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
<td>.046</td>
<td>.105</td>
<td>.037</td>
</tr>
<tr>
<td></td>
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<td>&lt;.0005</td>
<td>.996</td>
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<tr>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>&lt;.0005</td>
</tr>
</tbody>
</table>

Note: Bold font indicates significant differences (p<.05)
On the $N$ domain, (see Table 8 and 10) cluster 1 and 2 which indicated high $N$ scores, are shown to differ significantly from clusters 3, 4, and 5, where scores on $N$ were on average very high. For clusters 4 and 5, although both were in the Very High $N$ category, the 6.44 points separating them were found to be statistically significant.

On the $E$ domain, (see Table 8 and 10) two patterns emerge. Firstly, the two clusters that have an average score, namely cluster 1 and cluster 5, differ significantly from clusters 2, 3 and 4 which have high, low and low scores respectively. Secondly, there are significant differences between cluster 2 with high scores on $E$, and clusters 3 and 4, which have low scores on $E$. According to Hair et al., (1998) interpretation of each cluster informs the naming process of cluster analysis. This can be applied to cluster 2, where the high score on $E$ differs significantly from every cluster, thus this aspect of cluster 2 has been included in the cluster label.

On the domain of $O$, (see Table 8 and 10) the predominant pattern is the significant differences between those clusters where there was an average score on $O$, namely 1 and 5, and those where there were low scores (clusters 3 and 4) or high scores (cluster 2). There is also an 8.15 point ($p = .003$) significant difference between clusters 1 and 5, even though they both score in the Average category.

On the domain of $A$, (see Table 8 and 10) a similar pattern exists. The clusters in which there were average scores on $A$, namely cluster 1 and cluster 5, were significantly different from clusters 2, 3, and 4, which scored in the categories of Very Low, Low and High respectively. Also cluster 2, which fell into the category of Very Low, is distinguished from those clusters with low and high scores (clusters 3 and 4). This very low score on $A$ confirms the Extraverted, Open, Disagreeable label for cluster 2.
For the domain of $C$, (see Table 8 and 10) clusters 2, 3 and 5 all scored in the Low category, but results showed less strong differences ($p = .046$) between cluster 2 and 3, and a slightly stronger difference between 2 and 5 ($p = .037$). There was a non-significant relationship between cluster 3 and 5. A significant difference was also found between cluster 2 and 5, both of which were low-scoring, and cluster 4, where an average score predominated. However, there was a non-significant relationship between clusters 2 and 4. Most important on this domain are the significant differences between cluster 1, where scores fell in the High category, and clusters 2, 3, 4 and 5, where scores were average or low. This feature of cluster 1 informed the 'Highly Conscientious' label attached to cluster 1.

5.4 The Relationship Between Personality and Biographical Variables

The second aim was to explore and describe the relationship between personality traits and certain biographical variables. The biographical variables of gender, age and marital status will be discussed and explored in relation to the personality profile as measured by the NEO PI-R. For a more meaningful discussion, each of the data analysis methods utilised will be reported according to the biographical variables, with concurrent discussion in Chapter 6.

5.4.1 The NEO PI-R Personality Domains Described in relation to Gender

As described in the previous section, of the 196 participants in the sample, 104 were male and 92 were female. A description of the sample according to gender and personality is outlined in Table 11.
Table 11
The NEO PI-R Domain Scores According to Gender

<table>
<thead>
<tr>
<th></th>
<th>Males (n = 104)</th>
<th>Females (n = 92)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>70.99 (VH)</td>
<td>10.46</td>
</tr>
<tr>
<td>Extraversion</td>
<td>46.59 (A)</td>
<td>11.35</td>
</tr>
<tr>
<td>Openness</td>
<td>45.92 (A)</td>
<td>10.40</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>47.78 (A)</td>
<td>11.26</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>44.47 (L)</td>
<td>13.46</td>
</tr>
</tbody>
</table>

Note: VH = Very High (T > 65.5); H = High (55.5 < T ≤ 65.5); A = Average (44.5 < T ≤ 55.5); L = Low (34.5 < T ≤ 44.5); VL = Very Low (T ≤ 34.5)

Mean T-scores indicate that both males and females scored very high on N, males (M = 70.99) and females (M = 66.92). Both the male and female mean T-scores on the domains of E, O, A are in the Average category. On the domain of C, the mean T-score for the males is M = 44.47. It should be noted that this score falls on the borderline between Low and Average categories. The relationship between gender and personality will be explored further in Chapter 6.

5.4.2 The NEO PI-R Personality Domains Described in relation to Age

In order to correct for small expected frequencies, which would limit the use of statistical tests, the sample was collapsed across categories, and redistributed into two groups with fewer cells and larger frequencies (Harris, 1998). This resulted in a group below 40 years of age, who would fall into the category of young adulthood, and a group 40 years and older, who would be in the stages of middle and older adulthood. 110 participants fit into the category for young adulthood, while 86 participants fit the category for middle adulthood. The results of the age distribution are reported in Table 12.
# Table 12

The NEO PI-R Domain Scores According to Age

<table>
<thead>
<tr>
<th>Domain</th>
<th>Age &lt;40 (n = 110)</th>
<th>Age 40+ (n = 86)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>70.01 (VH)</td>
<td>11.13</td>
</tr>
<tr>
<td>Extraversion</td>
<td>47.53 (A)</td>
<td>12.33</td>
</tr>
<tr>
<td>Openness</td>
<td>46.44 (A)</td>
<td>10.27</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>45.42 (A)</td>
<td>12.29</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>44.36 (L)</td>
<td>12.62</td>
</tr>
</tbody>
</table>

Note: VH = Very High (T > 65.5); H = High (55.5 < T ≤ 65.5); A = Average (44.5 < T ≤ 55.5); L = Low (34.5 < T ≤ 44.5) ; VL = Very Low (T ≤ 34.5)

The mean T-scores indicated that, for both age groups, participants typically scored in the Very High category for N with a mean T-score of 70.01 for the <40 group and 67.92 for the 40+ group. For the 40+ age group, the mean T-scores for E (M = 44.64), O (M = 47.06), A (M = 48.78) and C (M = 46.37) all fall into the Average category, while in the <40 group, only E (M = 47.53), O (M = 46.44) and A (M = 45.42) fall into the Average category. On the domain of C, the mean T-score for the <40 group falls into the Low category, while the corresponding value for the 40+ group falls into the Average category.

## 5.4.3 The NEO PI-R Personality Domains Described in relation to Marital Status

As was done for age, to correct for small, expected frequencies, which would limit the use of statistical tests, the categories of divorced and widowed were collapsed into one group to produce fewer cells with larger frequencies (Harris, 1998). Therefore the marital status category is divided into those participants who have never married (single), participants who are currently married, and those who were previously married, but are now single either through divorce or...
death (Divorced/Widowed). 24 participants were single, 123 were married, and 49 fell into the divorced or widowed category. Table 13 provides a description of the results according to marital status on the five domains of the NEO PI-R.

### Table 13
The NEO PI-R Domain Scores According to Marital Status

<table>
<thead>
<tr>
<th></th>
<th>Single (n = 24)</th>
<th>Married (n = 123)</th>
<th>Divorced or Widowed (n = 49)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>72.78 (VH)</td>
<td>11.46</td>
<td>69.19 (VH)</td>
</tr>
<tr>
<td>Extraversion</td>
<td>46.59 (A)</td>
<td>13.09</td>
<td>44.92 (A)</td>
</tr>
<tr>
<td>Openness</td>
<td>49.56 (A)</td>
<td>10.26</td>
<td>45.21 (A)</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>45.81 (A)</td>
<td>12.16</td>
<td>47.30 (A)</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>37.10 (L)</td>
<td>12.46</td>
<td>46.09 (A)</td>
</tr>
</tbody>
</table>

**Note:** VH = Very High ($T > 65.5$); H = High ($55.5 < T \leq 65.5$); A = Average ($44.5 < T \leq 55.5$); L = Low ($34.5 < T \leq 44.5$); VL = Very Low ($T \leq 34.5$)

In all marital status groups, the results of the mean $T$-scores indicate very high scores on $N$, with the singles group showing the highest mean $T$-score of 72.78. In all three groups, the mean $T$-scores for $E$, $O$ and $A$ fall in the *Average* category. On the domain of $C$, both the married and the divorced or widowed groups, mean $T$-scores fall within the average range, while the participants in the singles group scored a mean $T$-score of 37.10 indicating, low scores for those who never married.

### 5.4.4 Results of the Multivariate Analysis of Variance

A MANOVA was conducted to determine whether the biographical variables of age, gender, and marital status are significantly related to the various
personality dimensions. Results indicate several significant differences that can be seen in Table 14 on the next page.

Results from the MANOVA show a significant difference between males and females on the personality domain of $N$ ($p = .032$). Based on the results reported in Table 11, males had a higher $N$ score ($M = 70.99$) on average than females ($M = 66.92$). No other significant differences on the biographical variable gender were found.

Results indicate that no significant differences were found between age and the personality dimensions. However, on $E$ ($p = .083$) and $A$ ($p = .050$), reportable differences were in evidence. According to the descriptive statistics, it can be deduced that younger patients are more extraverted and less agreeable, compared to older patients.

Results indicate significant differences on the biographical variable of marital status for the personality dimensions of $O$ ($p = .026$) and $C$ ($p = .007$). The Scheffé method of post hoc analysis was used to further identify where the differences on marital status and personality dimensions lie. Table 15 gives the results of this post hoc analysis. On the personality dimension of $O$, a trend exists indicating possible differences between the married and the divorced, but the $p$ value of .084 is not significant. Therefore not enough evidence exists for a conclusion to be made on the difference between those who are married and those who are divorced. There is conclusive evidence to suggest significant differences on the domain of $C$ between single patients and those who are married, and single patients and those who are divorced or widowed. Table 13 demonstrates that single patients are less conscientious than those who are or were married.
Table 14
Results of a MANOVA to Determine the Relationships Between Biographical Variables and the Personality Profile

<table>
<thead>
<tr>
<th>Domain</th>
<th>Source</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism</td>
<td>Gender</td>
<td>532</td>
<td>532</td>
<td>4.68</td>
<td>.032</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>78</td>
<td>78</td>
<td>0.69</td>
<td>.408</td>
</tr>
<tr>
<td></td>
<td>Marital Status</td>
<td>240</td>
<td>120</td>
<td>1.05</td>
<td>.350</td>
</tr>
<tr>
<td>Extraversion</td>
<td>Gender</td>
<td>33</td>
<td>33</td>
<td>0.23</td>
<td>.629</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>433</td>
<td>433</td>
<td>3.04</td>
<td>.083</td>
</tr>
<tr>
<td></td>
<td>Marital Status</td>
<td>810</td>
<td>405</td>
<td>2.84</td>
<td>.061</td>
</tr>
<tr>
<td>Openness</td>
<td>Gender</td>
<td>150</td>
<td>150</td>
<td>1.41</td>
<td>.237</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>24</td>
<td>24</td>
<td>0.22</td>
<td>.636</td>
</tr>
<tr>
<td></td>
<td>Marital Status</td>
<td>792</td>
<td>396</td>
<td>3.72</td>
<td>.026</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>Gender</td>
<td>258</td>
<td>258</td>
<td>1.71</td>
<td>.193</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>587</td>
<td>587</td>
<td>3.88</td>
<td>.050</td>
</tr>
<tr>
<td></td>
<td>Marital Status</td>
<td>44</td>
<td>22</td>
<td>0.14</td>
<td>.865</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>Gender</td>
<td>5</td>
<td>5</td>
<td>0.03</td>
<td>.865</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>38</td>
<td>38</td>
<td>0.24</td>
<td>.624</td>
</tr>
<tr>
<td></td>
<td>Marital Status</td>
<td>1599</td>
<td>799</td>
<td>5.04</td>
<td>.007</td>
</tr>
</tbody>
</table>

Note: Bold font indicates that results are significant, (p<.05)

Table 15
Post Hoc Scheffé Test Results for Marital Status, Openness and Conscientiousness

<table>
<thead>
<tr>
<th></th>
<th>Openness</th>
<th>Conscientiousness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital Status</td>
<td>Married</td>
<td>Divorced or Widowed</td>
</tr>
<tr>
<td>Single</td>
<td>.169</td>
<td>.984</td>
</tr>
<tr>
<td>Married</td>
<td>.084</td>
<td>Married</td>
</tr>
</tbody>
</table>

Note: Bold font indicates that results are statistically significant (p<.05.)
5.4.5 Chi-square Tests

Chi-square tests of independence were used to determine whether the personality domains categorised into low, average and high groups are related to the biographical variables. Certain assumptions need to be met in order for a Chi-square test of independence to be conducted. Harris (1998) and Gravetter and Wallnau (1995) highlight these five assumptions as the following: (a) random sampling has to have taken place, (b) scores have to be independently sampled, (c) the sample size has to be reasonably large with few expected frequencies (less than five), (d) scores have to be representative of the population, and lastly, (e) each participant contributes data to one cell only. The sampling method met these criteria, and where necessary, variables were adjusted to meet the assumption regarding expected frequencies. The Chi-square tests will be discussed according to each of the biographical variables, and while a number of Chi-square tests were conducted, only those where there were significant or reportable results will be reported, and will be discussed further in Chapter 6.

5.4.5.1 Chi-square Test Results for Gender

Chi-square test results that are significant and reportable for gender are presented in Table 16.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Neuroticism</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very Low, Low &amp; Average</td>
<td>Very High &amp; High</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Male</td>
<td>6</td>
<td>5.8</td>
<td>98</td>
<td>94.2</td>
</tr>
<tr>
<td>Female</td>
<td>12</td>
<td>13.0</td>
<td>80</td>
<td>87.0</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>9.2</td>
<td>178</td>
<td>90.8</td>
</tr>
</tbody>
</table>

A Chi-square test of independence indicated that there was a reportable gender difference on the domain of Neuroticism, \( \chi^2(\text{d.f.} = 1) = 3.10, p = .078. \)
There appears to be a difference on gender between high and low scores. Of the 92 female participants, 13% had a very low, low or average N scores compared to only 5.8% of the males. This indicates that, in this sample, females tend to be more emotionally stable than men, experiencing less negative affect. However, it should be noted that results were only significant at a 90% level, thus while not significant but only reportable, this suggests a trend and direction in which there may be differences between the gender groups. The relationship between gender and personality domains is discussed further in Chapter 6.

5.4.5.2 Chi-square Test Results for Age

Examining the relationships between the biographical variable of age and personality traits, several Chi-square test results were found to be significant or reportable. These results are presented in Tables 17, 18 and 19.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Agreeableness</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very Low &amp; Low</td>
<td>Average</td>
<td>Very High</td>
<td></td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>&lt;30</td>
<td>17</td>
<td>65.4</td>
<td>7</td>
<td>26.9</td>
<td>2</td>
<td>7.7</td>
<td>26</td>
</tr>
<tr>
<td>30-39</td>
<td>36</td>
<td>42.9</td>
<td>29</td>
<td>34.5</td>
<td>19</td>
<td>22.6</td>
<td>84</td>
</tr>
<tr>
<td>40-49</td>
<td>23</td>
<td>34.3</td>
<td>29</td>
<td>43.3</td>
<td>15</td>
<td>22.4</td>
<td>67</td>
</tr>
<tr>
<td>50+</td>
<td>7</td>
<td>36.8</td>
<td>4</td>
<td>21.1</td>
<td>8</td>
<td>42.1</td>
<td>19</td>
</tr>
<tr>
<td>Total</td>
<td>83</td>
<td>42.3</td>
<td>69</td>
<td>35.2</td>
<td>44</td>
<td>22.4</td>
<td>196</td>
</tr>
</tbody>
</table>

A Chi-square test of independence indicated that there was a significant relationship between age and scores on the domain of Agreeableness, $\chi^2$(d.f. = 6) = 13.05, $p = .042$. Most noticeable was that 65.4% of the participants were below 30 years of age, and scored in the category of Very Low and Low on Agreeableness. This is the largest percentage of participants for any age group
in any category, indicating that those less than 30 years of age scored significantly lower on A than did other age groups. Also of significance is a pattern that is established in the age groups <30 and 30-39 (young adulthood). The majority of the participants in each group scored in the Very Low or Low category, while in the age group 40-49, (middle adulthood) the highest number 29(43.3%) of participants scored in the Average category. In the age group 50+ the highest number of participants (42.1%) scored in the Very High and High category. This suggests that, with an increase in age, there is a corresponding increase in agreeableness.

Table 18
Age and Openness

<table>
<thead>
<tr>
<th>Age</th>
<th>Very Low &amp; Low</th>
<th>Average</th>
<th>Very High &amp; High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n   %</td>
<td>n   %</td>
<td>n   %</td>
<td>n   %</td>
</tr>
<tr>
<td>&lt;30</td>
<td>6  23.1</td>
<td>11  42.3</td>
<td>9  34.6</td>
<td>26  100</td>
</tr>
<tr>
<td>30-39</td>
<td>43  51.2</td>
<td>29  34.5</td>
<td>12  14.3</td>
<td>84  100</td>
</tr>
<tr>
<td>40-49</td>
<td>28  41.8</td>
<td>25  37.3</td>
<td>14  20.9</td>
<td>67  100</td>
</tr>
<tr>
<td>50+</td>
<td>11  57.9</td>
<td>3  15.8</td>
<td>5  26.3</td>
<td>19  100</td>
</tr>
<tr>
<td>Total</td>
<td>88  44.9</td>
<td>68  34.7</td>
<td>40  20.4</td>
<td>196 100</td>
</tr>
</tbody>
</table>

A Chi-square test of independence indicated that there was a reportable difference between age and scores on the domain of Openness, $\chi^2$(d.f. = 6) = 11.3, p = .079. The highest percentage (42.3%) of the participants below the age of 30 scored in the Average category. In the other age categories, the highest percentage of participants scored in the Very Low and Low category on Openness. The most closed group was the over-50s, with 57.9% scoring in the Very Low and Low category. This suggests that an increase in age corresponds with a decrease in levels of Openness.
## Table 19

**Age and Conscientiousness**

<table>
<thead>
<tr>
<th>Age</th>
<th>Very Low &amp; Low</th>
<th>Average</th>
<th>Very High &amp; High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>&lt;30</td>
<td>17</td>
<td>65.4</td>
<td>5</td>
<td>19.2</td>
</tr>
<tr>
<td>30-39</td>
<td>36</td>
<td>42.9</td>
<td>33</td>
<td>39.3</td>
</tr>
<tr>
<td>40-49</td>
<td>23</td>
<td>34.3</td>
<td>25</td>
<td>37.3</td>
</tr>
<tr>
<td>50+</td>
<td>11</td>
<td>57.9</td>
<td>7</td>
<td>36.8</td>
</tr>
<tr>
<td>Total</td>
<td>87</td>
<td>44.4</td>
<td>70</td>
<td>35.7</td>
</tr>
</tbody>
</table>

A Chi-square test of independence indicated that there was a reportable relationship between age and scores on the domain of Conscientiousness, $\chi^2$ (d.f. = 6) = 12.17, p = .058. Similarly to results on age and Agreeableness, most noticeable is that 65.4% of the participants were below 30 years of age, and scored in the category of *Very Low and Low* on Conscientiousness. This is the largest percentage of participants for any age group in any category, indicating that those less than 30 years of age scored significantly lower on C than did other age groups.

### 5.4.5.3 Chi-square Test Results for Marital Status

Chi-square test results that are significant and reportable for marital status are presented in Tables 20 and 21.
Table 20
Openness and Marital Status

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Very Low &amp; Low</th>
<th>Average</th>
<th>Very High &amp; High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Single</td>
<td>9</td>
<td>37.5</td>
<td>6</td>
<td>25.0</td>
</tr>
<tr>
<td>Married</td>
<td>63</td>
<td>51.2</td>
<td>42</td>
<td>34.1</td>
</tr>
<tr>
<td>Divorced and Widowed</td>
<td>16</td>
<td>32.7</td>
<td>20</td>
<td>40.8</td>
</tr>
<tr>
<td>Total</td>
<td>88</td>
<td>44.9</td>
<td>68</td>
<td>34.7</td>
</tr>
</tbody>
</table>

A Chi-square test of independence indicated that there was a significant relationship between marital status and scores on the domain of Openness, \( \chi^2 \) (d.f. = 4) = 10.56, p = .032. Of the married group of participants, over half (51.2%) scored very low or low on O, and only 18 (14.5%) scored in the Very High and High category. This suggests the tendency for married patients to be less open than the other groups. Of the divorced and widowed participants, 20 (40.8%) scored in the average range, while the participants who were single tended to be most open, with 9 (37.5%) scoring in the very high or high range.

Table 21
Conscientiousness and Marital Status

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Very Low &amp; Low</th>
<th>Average</th>
<th>Very High &amp; High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Single</td>
<td>18</td>
<td>75.0</td>
<td>5</td>
<td>20.8</td>
</tr>
<tr>
<td>Married</td>
<td>50</td>
<td>40.7</td>
<td>45</td>
<td>36.6</td>
</tr>
<tr>
<td>Divorced and Widowed</td>
<td>19</td>
<td>38.8</td>
<td>20</td>
<td>40.8</td>
</tr>
<tr>
<td>Total</td>
<td>87</td>
<td>44.4</td>
<td>70</td>
<td>35.7</td>
</tr>
</tbody>
</table>
A Chi-square test of independence indicated that there was a significant relationship between marital status and scores on the domain of Conscientiousness, \( \chi^2(\text{d.f.} = 4) = 11.17, p = .025 \). Most noticeable is that 18 (75%) of participants in the single group scored in the Very Low and Low category, while less than half of currently and previously married participants scored in the Very Low and Low category. This suggests that single individuals tend to be less conscientious than those who are married and those who are divorced or widowed.

5.5 Conclusion

The results of the study have been reported and presented in relation to the two aims of the study. In terms of aim one, the reliability of the NEO PI-R for use in South Africa was determined by Coefficient Alphas. Further, the interrelationship of domains was correlated, and relationships consistent with research and literature were found. The personality profile and distribution of the NEO PI-R domains were presented, and lastly cluster analysis was conducted, with results indicating five distinct cluster groupings. For aim two, each biographical variable was explored according to domain scores, and MANOVAs and Chi-square tests of independence were conducted, to explore the relationships between personality and the biographical variables of gender, age and marital status. A discussion of the results presented in this chapter will be provided in Chapter 6.
Chapter 6

Discussion

6.1 Chapter Preview

This chapter will present a discussion about the results of this study as presented in Chapter 5. Firstly, the results relating to the biographical variables will be explained, and then the results relating to both aims will be discussed. Information will be related, as far as possible, to existing literature and previous research studies conducted on personality measures and personality theory as discussed in Chapter 2, as well as assessment and treatment within the psychiatric care context, elaborated upon in Chapter 3.

6.2 Biographical Description of the Sample

The biographical variables of gender, age and marital status are discussed in this section, with the aim being to provide an overall description of personality in general within the context of psychiatric care.

6.2.1 Gender

As reported in Table 1 of Chapter 5, 104 participants were male and 92 participants were female. Results indicate that the difference in percentage is only 6.9%, which could be summarised as a fairly equal distribution. This correlates with previous research indicating that men and women utilise, and are about equally represented at, psychiatric outpatient facilities (Al-Issa, 1982). Despite these findings, gender differences in the prevalence of mental disorders have been noted. Results across culture and over time indicate that mental disorders are more common among women than men, and that women show consistently higher rates of mental illness than men (Viinamäki, Hintikka, Kontula, Niskanen & Koskela, 2000). It has been reported that the rates of neuroses
among women appear to be, on average, twice the rate of males, with women experiencing more anxiety and affective disorders, while men are more likely to experience substance-abuse and personality disorders (Golomb, Fava, Abraham, Rosenbaum, 1995; Henderson, Andrews & Hall, 2000). Conclusions about the relative prevalence of psychopathology among men and women should be limited to specific types of mental illness, as some disorders affect the genders equally. However, research indicates that generalised anxiety disorder, panic disorder, phobias, major depression, dysthymic disorders, and borderline personality disorders, are all diagnosed substantially more often in women than in men (APA, 2000). A hypothesis as to why results of this study seem to contradict previous research findings, showing a higher number of men seeking treatment, can be understood in light of the type of outpatients presenting for treatment at Parkwood Day Clinic. While patients from all walks of life are treated, there is a trend at present for men and women to frequent the clinic as part of the procedure for medical boarding. This may have caused an unusual number of men to frequent Parkwood Day Clinic, who under other circumstances may not have been admitted with psychiatric illness. It is surmised that, for this reason, the number of men in the sample is inflated.

6.2.2 Age

The relationship between age and adult development is complex, and according to Strauss and Harding (1990), there is no theory that integrates an understanding of normal adult development. A number of theories of adult development have been proposed, which link development to stages in an adult’s life. Common among these is the distinction according to chronological age between young adulthood, middle adulthood, and late adulthood.

Erik Erikson's psychosocial developmental theory (see Chapter 2) is considered the only formal attempt at describing life development (Santrock, 1985). According to Erikson's eight stages of psychosocial development, all the participants fell between the stages of young adulthood (i.e., 20 - 40 years) and
middle adulthood (i.e., 40 - 65 years). 56.2 % of the sample corresponded with Erikson's 6th stage of psychosocial development, which is intimacy versus isolation, while 43.9%, the rest of the sample, corresponded with the 7th stage of psychosocial development, which is generativity versus stagnation (Kaplan et al., 1994; Meyer, 1997; Morris & Maisto, 2002). The developmental task to be achieved at the 6th stage is the formation of intimate relationships. The developmental task to be achieved at the 7th stage is a level of generativity. Successful resolution of these developmental crises during adulthood results in optimal personality development, while non-resolution results in the tendency to move towards negative poles of personality development, which form the basis for mental illness (Meyer, 1997).

The movement through developmental tasks through adult life involves a number of transitions. Some adults experience smooth transitions, while others experience major crises manifested by marital problems and psychiatric symptoms such as anxiety and depression (Kaplan et al., 1994). From the above, it is apparent that chronological age may be related to developmental life stages which, if not resolved successfully, may predispose adults at these ages to be prone to the development of psychiatric disorders.

However, chronological age can also be directly linked to the etiology of psychiatric disorders. For the mood disorders, ages of onset range from the early 20s to the 50s, with the mean onset for bipolar disorders being 30 years, and major depressive disorders being 40 years (APA, 2000; Kaplan et al., 1994). For anxiety disorders, age of onset varies considerably, with the onset often linked to exposure to trauma, or the experience of panic attacks. However, for panic disorder and obsessive compulsive disorder, ages of onset are between adolescence to the mid 30s (APA, 2000). Therefore, the young adults and middle adults studied in this sample fell into the age ranges in which the onset of psychiatric disorder is most prevalent.
6.2.3 Marital Status

There has been little research conducted on the relationship between marital status and psychiatric illness. Research into the utilisation of mental hospitals and the rates of mental illness, conducted in 1972 and reported by Belle (1980), revealed that men have higher rates of mental illness than women. However, marital status varied according to the type of psychiatric institutions, with more married men admitted to state and country hospitals, while a higher number of widowed, divorced or separated men received services from outpatient psychiatric services. Belle’s conclusion that men experience more mental illness is contrary to the body of research into gender and mental illness, which generally reflects that women experience a higher rate of mental illness than men (APA, 2000; Viinamäki et al., 2000). According to the same study, women who never married showed higher rates of utilisation than single men. However, Belle concludes that the highest rates of utilisation, regardless of the type of facility, are among the divorced or separated. This may be due to the fact that psychiatric illness tends to contribute significantly to marital breakdown (Al-Issa, 1982).

The next point concerns the relationship between marital status and psychiatric disorders. Stress is a known factor related to the development of psychiatric disorders, particularly depression and anxiety disorders. A number of studies have found significant relationships between severe life events and the onset of major depressive disorder. Most often, these events have included severe losses and major role losses (Barlow & Durand, 2002). The death or loss of a spouse, and divorce, are rated first and second as the most stressful life events on Holmes and Rahe’s Social Readjustment Scale (Morris & Maisto, 2002). Individuals who are working through loss, experience a high degree of stress and depression, and tend to be worried and unhappy about the future. Kaplan et al., (1994) note that major depressive disorder occurs most often in people who are divorced or separated, or who have no close interpersonal relationships. This depression that follows divorce has been associated with diminished psychological adaptation, and an increase in suicide rate, which is
three to four times higher than for married persons (Gerdes, 1988). Furthermore, bipolar I disorder may be more common in single and divorced people than in those who are married. Thus it appears that psychiatric disorders may affect, and be affected by, marital status, with those who are divorced, widowed or separated, experiencing higher rates of mental illness.

6.3 Discussion of the Results of the NEO PI-R

6.3.1 Internal Consistency of the NEO PI-R

Coefficient Alphas obtained for a USA sample (see Table 4) indicate very high results (all above .85), indicating that the NEO PI-R measure is proving very reliable in the USA. Table 4 in Chapter 5 indicates that the highest coefficient alphas occur on domains $N$ ($\alpha = .92$) and $C$ ($\alpha = 90$). Costa and McCrae (1992a) report that similar values have been replicated in other studies comparing men and women, college students, and clinical samples. These results compare favourably with the coefficient alphas found for this sample (also presented in Table 4 of Chapter 5). Thus, in the USA sample and South African samples, the $N$ and $C$ domains are measured most accurately, while the $O$ and $A$ scores appear less accurate, although still reliable. Although the NEO PI-R has not been standardised for use with South African populations, similar trends have been noted in both this research and in other studies. Horn (2000), using a Xhosa-speaking sample, reports high coefficients on $N$ and $C$ (.83 and .77 respectively) and the lowest coefficients on $E$ and $O$. (68 and .57 respectively) Both the findings of this study and previous research suggest that the scales of $N$ and $C$ are the most reliable for use on South African samples, while revision is suggested for the scales of $O$ and $A$.

6.3.2 Correlation Between the Domains of the NEO PI-R

Correlation examines the interrelationship between domains of the NEO PI-R. The results presented in Table 6 of Chapter 5, indicate several interrelationships. The most substantial is the positive relationship between $E$ and $O$, suggesting
that the more extraverted the individual, the more open they are to experience, and conversely, those that are more open to their inner worlds, experience a wide range of feelings which include the positive dimensions of affect (Costa & McCrae, 1992a). Piedmont (1998) notes that there is some correlational overlap to be expected owing to the way the measure was developed. As a result, some of the facet scales have small magnitude secondary loadings on other domains. As a result, on the domain of $O$, the facets of feelings loads positively on $E$. Despite the secondary loading, a substantive relationship exists between $E$ and $O$ in this sample. This correlation of .482 is consistent with other correlations conducted on the NEO PI-R (Costa & McCrae, 1992a), and with other inventories used to measure the FFM, which show correlations of .40 (Caruso & Cliff, 1997). A substantial negative correlation is also reported in Table 6 of Chapter 5, between $N$ and $C$. This suggests that the higher the level of Neuroticism, the less conscientious are participants likely to be, and similarly that individuals in control of their impulses cope well with stress and are able to compete and succeed (Piedmont, 1998). This relationship is also supported by previous research into the NEO PI-R and other inventories measuring the FFM (Caruso & Cliff, 1997; Costa & McCrae, 1992a). Other correlations are a negative relationship between $N$ and $E$ which was also found to have a small correlation in studies examining other inventories measuring the FFM (Caruso & Cliff, 1997). This relationship is not unexpected, because of the psychiatric nature of the sample, as individuals showing very high levels of negative affect accompanied by depression and anxiety, would find it difficult to experience positive emotions. The other very slight positive correlations are between $A$ and $C$ and between $E$ and $C$, suggesting that the individuals in this sample who are conscientious and successful, tend to be more agreeable and warm, and display more positive tendencies.
6.3.3 Description of the Sample According to the Domains of the NEO PI-R

When evaluating a NEO PI-R profile, T-scores between 45 - 55 are considered average or normative. Piedmont (1998) suggests that this makes interpretation difficult, as participants scoring average are equally likely to exhibit behaviours characteristic of high and low poles. T-scores above 55 and 65 can be considered high and very high, while those below 45 and 35 are considered low and very low. Scores in either of these regions carry interpretative value, as the respondent begins to reflect more consistently the characteristics defining that end of the pole. T-scores above 80 or below 20 may indicate the presence of deficits in an individual's ability to function in their environment.

As was described in Chapter 2, the personality profile of T-scores of the NEO PI-R can be examined in a number of ways to facilitate understanding of the client. However, Costa and McCrae (1992a) note that profile interpretations must always be considered tentative, as ratings (self or observer) are not infallible. The most common method for profiling is first to examine the domains, focusing on the most distinctive and salient domains for each profile. This will provide a glimpse of the overall dynamics that characterise personality. Secondly, facets for each domain will be examined, to provide more detail and an intimate understanding of each individual. Lastly, pairs of domains organised into a number of two-dimensional planes can be examined (Piedmont, 1998). A number of these planes have been researched and include the following:
1. The Affect (Costa & McCrae, 1992a) or Emotional Wellbeing (Piedmont, 1998) plane, which is defined by N and E and represents an individual's basic emotional style.
2. The Interpersonal plane defined by E and A (Piedmont, 1998).
3. The plane defined by E and O, which has been used to describe vocational interests (Costa et al., 1984), treatment response (Piedmont, 1998), and the selection of optimal forms of therapy (Miller, 1991).

The other possible planes focus on competitiveness as defined by N and C (Piedmont, 1998), the dimensions of character are determined by combining A
and $C$, patterns of activity are determined by $E$ and $C$, and academic performance is determined by $O$ and $C$. While these two-dimensional planes are of potential interest, little research has been conducted on them (Costa & McCrae, 1992a).

The exploration and evaluation of the NEO PI-R personality traits and personality clusters identified for this sample will be examined firstly according to the domain scales, only because facet exploration becomes too complex and is beyond the scope of this study, and secondly according to the three most researched, two-dimensional planes of Emotional Well-being, Interpersonal Functioning and Treatment Response.

6.3.3.1 Neuroticism ($N$)

As was discussed in Chapter 2, the Neuroticism ($N$) scale contrasts adjustment or emotional stability with maladjustment or neuroticism. The general tendency to experience negative affect and the accompanying disturbed cognitive and behavioural style, is the core of the $N$ domain (McCrae & Costa, 1987; McCrae & John, 1992). High scorers on $N$ tend to experience, and be more susceptible to, high levels of psychological distress, and most psychiatric conditions share the features of psychological distress to which high $N$ individuals are prone (Costa & McCrae, 1992b; McCrae, 1991). Although many types of emotional distress are experienced by patients attending psychiatric outpatient facilities, Costa & McCrae (1992b) indicate that depressive and anxiety states and hostility are common with disorders such as social phobias, PTSD, and the depressive disorders commonly being diagnosed. Research has shown that individuals prone to any one of these anxiety or depressive emotional states are also likely to experience others. While high scores on this domain do not indicate the presence of psychiatric disorders, individuals diagnosed with psychiatric disorders score high on $N$. According to Piedmont (1998), high scores on $N$ place individuals at risk for receiving a psychiatric diagnosis.
High scorers on $N$ are prone to negative affect, such as recurrent nervous tension, fear, embarrassment, frustration, sadness, guilt, anger, disgust, irrational ideas, low self-esteem, excessive cravings, poor impulse control, somatic complaints, and maladaptive coping responses (Costa & McCrae, 1992a; McCrae & Costa, 1987; Piedmont, 1998). Low scorers are considered emotionally stable, displaying trends such as being calm, even-tempered and relaxed.

The results presented in Table 5 in Chapter 5 indicate a mean T-score of 69.09, which falls into the *Very High* category. The distribution of the sample reported in Table 7 of Chapter 5 shows that 122 of 196 (62%) participants scored very high on $N$. In all the previous research consulted for this study, where clinical populations have been studied, regardless of diagnosis, participants have scored in the *Very High* category on $N$ (Bagby et al., 1999; Bagby et al., 1996a; Bagby et al., 1996b; Costa & McCrae, 1992b; Fagan et al., 1991; Jain, Blais, Otto, Hirshfeld & Sachs, 1999; Miller, 1991; Talbert, Braswell, Albrecht, Hyer & Boudewyns, 1993). The results of this study concur with previous research findings, and two related hypotheses that those people traditionally diagnosed with neuroses generally score higher on measures of $N$ (Costa & McCrae, 1992a). The converse also exists, that high $N$ may signal a state condition of concurrent psychiatric symptoms that may be severe enough to warrant treatment (Fagan, 1991). The fact that, in the distribution, only 9% of the sample had scores in the categories *Very Low, Low* and *Average*, further indicates that, while some participants may not have been diagnosed with a specific psychiatric disorder and may be struggling with problems in living, the pervasive tendency of the participants in this sample is to experience large amounts of negative affect with associated cognitive and behavioural styles.

### 6.3.3.2 Extraversion ($E$)

Extraversion ($E$) is the dimension underlying a broad number of traits including sociability, activity, and the tendency to experience positive emotions
such as joy and pleasure. As noted in Chapter 2, the domain can be divided into two qualities, namely interpersonal involvement and energy. In terms of interpersonal involvement, high scorers tend to be sociable, assertive, talkative, cheerful, liking people and preferring large groups or gatherings. High scorers also experience their emotions with greater intensity (Miller, 1991). In terms of energy, high scorers tend to be active, upbeat, optimistic and energetic (Costa & McCrae, 1992a). Low scorers tend to be less personally involved with people, and are often described as reserved, quiet, retiring and preferring to be alone. Although not high-spirited and exuberant, introverts are not unhappy or pessimistic. In terms of energy, low scorers on $E$ tend to be even-paced, sober and independent (Costa & McCrae, 1992a).

The domain results of this study, as presented Chapter 5, Table 5, indicate a mean T-score falling in the average range. Research conducted on other clinical samples, namely in private clinical practice (Miller, 1991), a behavioural medical unit (Muten, 1991), and a sexual behavioural consultation unit (Fagen et al., 1991), revealed that in all three clinical samples, participants scored average on $E$. This is consistent with the findings of this study. An examination of the distribution of the sample presented in Table 7 of Chapter 5, reveals that 63 (32%) participants of the sample scored in the Low category, and 61 (31%) participants scored in the Average category. This suggests that the sample may be tending to be more introverted. Research using the NEO PI-R on a range of depressive disorders, indicated that the mean T-scores tended to fall into the same category, with seasonal affective disorder ($M = 42.5$), non seasonal affective depression ($M = 36.6$) (Bagby et al., 1996a), and unipolar depression ($M = 44.5$) (Bagby et al., 1996b) all falling into the Low category. Similar studies conducted on personality profiles of PTSD patients also showed a low mean T-score on $E$ ($M = 44$) (Talbert et al., 1993). Therefore although this sample scored in the average range on $E$, the distribution around the mean extends more to the Low category. This may be a function of the type of disorders treated at
Parkwood Day Clinic, namely depression and anxiety disorders, particularly PTSD as highlighted and discussed in Chapter 3.

6.3.3.3 Openness ($O$)

Of all the domains, the domain of Openness ($O$) is the most controversial, and the least developed and explored. According to Costa and McCrae (1992a), the elements of Openness have played a role in most personality theories and in the measurement of personality, but have only recently been organised into a single broad domain. Openness is defined as the proactive seeking and appreciation of experience for its own sake, and tolerance for, and exploration of, the unfamiliar (Piedmont, 1998).

High scorers on $O$ tend to be imaginative, sensitive to art and beauty, and to have a rich and complex emotional life. They are also intellectually curious, behaviourally flexible, and non-dogmatic in their values and attitudes (Costa & McCrae, 1992b). Low scorers tend to engage in conventional behaviour, preferring the familiar to the novel. They also tend to be conservative in outlook, with a narrower scope and intensity of interests.

The domain results of this study, as presented in Chapter 5, Table 5, indicate a mean T-score falling in the *Average* category. ($M = 46.17, SD = 10.44$) The distribution of the sample presented in Table 7 of Chapter 5, indicates that 68 (34%) of the participants scored in the low range on $O$, and 68 (35%) of the participants scored in the average range on $O$. This is consistent with previous research findings conducted on other clinical samples, where participants scored in the *Average* category for $O$ (Costa & McCrae, 1992b; Miller, 1991). The distribution of the sample suggests conventionality and conformity. Average to low scores on $O$ are not necessarily associated with poor mental health or psychiatric disorders, as conventionality and conformity can be seen as viable paths to adjustment (Costa & McCrae, 1992b). Of most interpretative use when looking at $O$, is that it can be used to gauge the type of treatment that patients

are likely to find acceptable, and to predict their possible reactions to psychotherapy. According to Miller (1991), psychotherapy treatments can be divided into the novel, where patients are open to new and unusual experiences of themselves, such as psychoanalysis, Jungian analysis and hypnotherapy, or conventional therapies, where the therapy process is emotionally reassuring and a practical experience, such as behaviour and cognitive therapy. It has been suggested that patients scoring high on $O$ prefer novel therapy experiences, and low scorers prefer more conventional approaches. As participants in the sample tended more towards the low pole in the domain of Openness, these results suggest that the programmes at Parkwood Day Clinic should continue to be of a more conventional nature.

6.3.3.4 Agreeableness ($A$)

As a broad dimension of personality, the domain of Agreeableness ($A$) is less familiar than $N$ and $E$, but some of its component traits such as trust, have been widely researched (McCrae & Costa, 1997). $A$ has been classed along with $C$ as a classic dimension of “character” describing good versus evil, or well- versus ill-intentioned individuals. According to Costa and McCrae (1992a), $A$ measures interpersonal tendencies or attitudes that individuals hold towards other people.

High scorers could be described as fundamentally altruistic, compassionate, sympathetic, trusting, helpful and forgiving, providing nurturance, emotional support and care towards others (McCrae & John, 1992; Piedmont, 1998). Low scoring individuals are described as antagonistic (Costa & McCrae 1992b; Digman & Inouye, 1986; McCrae & Costa, 1997), tending to be egocentric, indifferent or sceptical of others, spiteful, jealous and competitive. The personality traits described above suggest the capacity for friendly relationships at the high pole, and negative and hostile relationships towards the low pole (Digman & Inouye, 1986).
The results for the domain of $A$ as presented in Table 5 of Chapter 5, indicate a mean of 46.89, which falls into the *Average* category. Previous research on a clinical sample conducted by Miller (1991) revealed an average score for $A$ ($M = 47.3$). While results of the Bagby et al., (1999) study comparing three psychiatric samples on the NEO PI-R also indicated a mean T-score for $A$ ($M = 47.08$) falling in the average range, which corresponds with the results of this study. Evaluation of the distribution of the sample in Table 7 of Chapter 5, indicates that 23% of the sample scored high and very high, while 27% scored low and 16% scored very low. This suggests that, although the mean falls into the *Average* category, 43% of the sample tended towards the low pole of $A$. A possible suggestion for this trend towards scoring low on $A$, may correspond with other research conducted on clinical samples where participants scored low on $A$. Profiles for patients diagnosed with PTSD score very low on $A$ ($M = 24$) (Talbert et al., 1993), while those diagnosed with bipolar depression (Jain et al., 1999) scored in the low range ($M = 39.6$). Thus the trend in a psychiatric sample extends from average to low scoring on $A$. The tendency, in this sample, for scores to be distributed more towards the low pole, may be a function of the type of disorders treated at Parkwood Day Clinic, namely the depressive and anxiety disorders.

6.3.3.5 Conscientiousness ($C$)

Conscientiousness ($C$) involves the degree of organisation, motivation and persistence in goal-directed behaviour. The domain is characterised, along with $A$, as a dimension of “character”. It contrasts weak-willed versus strong-willed individuals. These judgmental overtones, according to McCrae and John (1992), may have caused the traits making up this domain to be overlooked or ignored. However, $C$ measures objectively observable dimensions of individual differences. Therefore some people are thorough, neat, diligent, well-organised, responsible, and achievement-orientated, while others are not. Costa and McCrae (1992a) confirm this when they add that $C$ has been associated with academic and vocational success. The dimension is worthy of much more empirical attention than it has received (Piedmont, 1998).
High scorers on C tend to be purposeful, strong-willed and determined, punctual, reliable, dependable, and fastidious. Individuals scoring low on C tend to be lackadaisical, sloppy, lazy, and hedonistic (Caruso & Cliff, 1997; Costa & McCrae, 1992a; Piedmont, 1998).

The domain results of this study as presented in Chapter 5, Table 5, indicate a mean T-score for C of 45.24, which falls into the Average category. Previous research into clinical samples indicate the tendency for samples of psychiatric patients to score low on C (M = 41.32) (Bagby et al., 1999). This trend is also reported by Costa and McCrae (1992b) and Miller (1991), whose samples scored low on C. Results on profiles of patients suffering from forms of depression also indicated low scores on C, with seasonal affective depression (M = 41.0, Jain et al., 1999) and (M = 38.2, Bagby et al., 1996a), bipolar depression (M = 42.2, Bagby et al, 1996b) and unipolar depression (M = 42.4, Bagby et al., 1996b) all scoring in the Low category. This is contrary to the sample of this study, who scored in the Average category. Table 7 in Chapter 5 gives results of the distribution of the sample, which indicates a distribution of 87 (44%) scoring low and very low, and 70 (36%) of the sample scoring average. Thus, while the sample mean score falls into the Average category, the distribution tends towards the Low category. This reflects the clinical nature of the sample, as research indicates that low C is a characteristic of psychiatric samples (Costa & McCrae, 1995; McCrae, 1991).

6.3.4 Cluster Analysis

The results of the cluster analysis provide the best description of the personality profile of the sample, in order to meet the outcomes of aim one. The clusters will be discussed according to the domain scales only, and the two-dimensional planes of Emotional Well-being, Interpersonal Functioning, and Treatment Response.
6.3.4.1 The Highly Conscientious Cluster

The most outstanding feature of cluster 1 is the high score on $C$, suggesting that individuals in this cluster tend to be purposeful, punctual, reliable, dependable, and fastidious. While the overall sample scores very high on $N$, this cluster scores in the high category, suggesting a group of participants that are more emotionally stable. Both the domains of $N$ and $C$ have been linked to impulse control. It has been suggested that high $N$ scorers find it difficult to resist temptation, and are less able to control their impulses, while $C$ has been linked to the processing, planning and carrying out of tasks (Costa & McCrae, 1992a). Thus people high in $C$ have the tendency to control impulses well, having the ability to delay gratification of desires. On the positive side, this tendency leads to academic and occupational achievement, with those high in $C$ working “smarter and harder” than those low in $C$ (Mount & Barrick, 1998). However, high $C$ has also been associated with workaholic behaviour (Piedmont, 1998). On the negative side, according to McCrae (1991), a very high $C$ has been associated with Obsessive Compulsive Personality disorder (Costa & McCrae, 1992b). From the above it is hypothesised that this cluster tends to be more emotionally stable, better able to control their impulses, and having a tendency to work hard. This cluster group is in the best position to benefit from psychotherapy, as moderate levels of $N$ and high levels of $C$ have been associated with good treatment outcomes (Miller, 1991). Owing to the nature of the profile, indicating average scores on $E$, $O$, and $A$, a discussion of the two-dimensional planes for cluster 1 is not possible.

6.3.4.2 The Open, Extraverted, Disagreeable Cluster

As outlined in Chapter 5, this cluster scores high on $N$ and $O$, high on $E$ and very low on $A$. The most salient features of this profile are the emphasis on affect, or emotionality. These participants experience high levels of negative affect, as well as average to high levels of positive affect. As indicated above, high levels of $N$ have been associated with psychological distress, as manifested by anxiety, anger, depression, and the tendency to develop psychiatric disorders.
(Bagby et al., 1996b), while high scores on E have been associated with mania (Costa & McCrae, 1992b). In a study comparing unipolar depressed patients and patients with bipolar disorder, Bagby et al., (1996b) concluded that T-scores on E were significant predictors of a patients status, with patients with bipolar disorders differing from unipolar depressed patients in their ability to experience positive emotions. On the positive side, participants scoring high on E tend to experience more positive feelings, such as joy, excitement or pride. The domain of O has also been linked to the experience of affect, with high scorers having rich, complex, emotional lives (Costa & McCrae, 1992b). O has also been linked to inner permeability, with high scorers having value systems available for evaluation and modification, therefore “updates” of inner experience are possible. Studies comparing patients with seasonal affective depression (SAD) and those with major depression (Bagby et al., 1996a; Jain et al., 1999), show that those patients diagnosed with SAD scored significantly higher on the domain of O. This is believed to explain the apparent emotional sensitivity to the internal and external environment which patients with SAD experience. From the above, it is clear that this cluster is more sensitive to their outer and inner worlds, experiencing emotion more intensely than other groups of people.

This cluster also has a disagreeable aspect, scoring very low on A. Very high or very low scores on A have been associated with psychopathology. Paranoia, antisocial features and sociopathy are negatively related to A (Costa & McCrae, 1992b). Individuals who are low on A tend to be mistrustful and sceptical at a cognitive level; at a behavioural level they can be uncooperative, stubborn and rude, while emotionally they tend to be callous and unsympathetic. Attachment and a sense of bonding with others may also be defective (McCrae & Costa, 1987). It has also been suggested that disagreeable people may receive less social support simply because they have antagonised the people who would have provided it (Costa & McCrae, 1992a).
Evaluation of the two-dimensional planes for this cluster reveal that, in terms of Emotional Well-being, participants of this cluster experience a wide range of affect, and high levels of both positive and negative affect. Accordingly, life may be experienced as a series of emotional ups and downs. On the Interpersonal plane, participants of this cluster could be described as dominant and self-assured, tending to be assertive, forceful, firm, persistent and self-confident. In terms of the plane of Treatment Responses, the participants of this cluster have a well-developed inner world; they tend to be focused on ideas, feelings and emotions. They may also experience a strong need for socialisation, and like talking to others about feelings. However, this cluster's low levels of A, including scepticism and mistrust, may disrupt the therapy process, interfering with the rapport between the client and therapist, and the rapport in the group therapy environment (Muten, 1991). Group environments orientated to personal revelations are an ideal therapeutic medium for this cluster of participants.

6.3.4.3 The Neurotic Low Scoring Cluster

As reported in Chapter 5, participants in this cluster scored very high on N and low on every other domain. This cluster resembles a cluster described by Lorr and Strack (1993) as "introverted, lacking in openness, disorganised, and disagreeable", where participants scored in the Average category on all domains. As Lorr and Strack's sample consisted of college students, this could account for the differences found on N. However, it should be noted that, according to Costa and McCrae, (1992a) and Piedmont, (1998), an elevated N score is expected for psychiatric samples. This cluster also corresponds to the typical profile for psychiatric patients, having an elevated score on N and low scores on A and C (Costa and McCrae, 1995; Costa & McCrae, 1992b; McCrae, 1991).

Evaluation of the two-dimensional planes reveals that, in terms of Emotional Well-being, participants in this cluster have a low sense of well-being. Life may be perceived as subjectively difficult, with participants being easily distressed and overwhelmed (Piedmont, 1998). Costa and McCrae (1992a) suggest that
individuals high in N and low in E, O, A and C may be extremely unhappy. These individuals experience intense negative emotions (very high N), have a limited capacity to experience positive emotions (low E), tend to be rigid and inflexible (low O), have less satisfying interpersonal relationships (low A), and may not achieve their goals (low C). On the plane of Interpersonal Functioning, the tendency towards introversion, and the disagreeable aspects of these participants' characters, may make it difficult for individuals in this cluster to express affection. These participants may appear detached and unconcerned about others, enjoying solitary pursuits and priding themselves on self-reliance (Piedmont, 1998). In terms of the Treatment Response plane, this cluster may find the "talking" aspects of therapy difficult. Talking to others about inner emotions may be problematic, as they are not responsive to a wide range of feelings, which remain diffuse and non-specific. Piedmont (1998) suggests that traditional, direct, functional, non-emotional approaches such as cognitive-behavioural therapy may be useful types of therapy for this cluster.

6.3.4.4 The Altruistic Cluster

This cluster contains the smallest number of participants, and as outlined in Chapter 5, the most outstanding feature of this cluster is the high score on A. In all other research consulted on psychiatric samples, results for A tended to be average, low or very low (Bagby et al., 1999; Bagby et al., 1996a; Bagby et al., 1996b; Costa & McCrae, 1992b; Fagan et al., 1991; Jain et al., 1999; Miller, 1991; Talbert et al., 1993). Not one sample included a high mean score on A. Although individuals scoring high in A show greater levels of happiness and life satisfaction because their love, altruism and capacity for friendly relationships lead to more satisfying relationships (Costa & McCrae, 1992a), extreme scores on A have been considered maladaptive, with high scorers tending to be dependent and fawning (McCrae & Costa, 1987). According to Miller (1991), high scorers are often exploited and victimised by others, because of their altruistic tendencies to reach out and to try and see the best in others. Another outstanding feature of this cluster is the lowest T-score on O, suggesting
closedness. These participants may seem unable to symbolise or fantasise, their speech may be boring and overly conventional, they may be rigid and conservative in their thinking and values, and resist attempts to explore in therapy (Miller, 1991).

On the two-dimensional planes, in terms of Emotional Well-being, the very high scores on $N$ and the low scores on $E$ suggest a pattern similar to cluster 3, with a low sense of well-being and coping. (See section 6.3.4.3) On the plane of Interpersonal Functioning, the high scores on $A$ and the low scores on $E$ tend to produce the tendency to be unassuming and self-effacing (Piedmont, 1998). In terms of Treatment Response, this cluster is also similar to cluster 3, showing introversion (low scores on $E$), and the tendency to be more “closed” (low scores on $O$). This cluster may find the “talking” and emotional aspects of therapy problematic. However, this cluster's high standing on $A$ has implications for the positive development of rapport and trust with the therapist and group members, thus facilitating the therapy process (Miller, 1991).

6.3.4.5 The Psychiatric Profile Cluster

The most salient features of this cluster are the highest T-score on $N$, average scores on $E$, $O$ and $A$, and the lowest T-score on $C$. This profile most closely resembles the general profile of the sample. In a study conducted by Bagby et al., (1999) replicating the FFM of personality in a psychiatric sample, the results indicated a very high score on $N$, a low score on $E$ and $C$, and average scores for $O$ and $A$. This is similar to this cluster, apart from the low score on $E$. This cluster also corresponds to studies on “normal” populations conducted by Lorr and Strack (1993), who describe a similar cluster of “very disorganised and marginally neurotic” participants. The only significant difference is the expected elevated score on $N$, because the sample in this study comprised individuals experiencing psychiatric symptoms and problems in daily living. From the above, it can be concluded that minor variations on this cluster are apparent in clinical and normal populations. While limited studies have been conducted in order to
obtain characteristic personality profiles using the NEO PI-R, further studies may also find the traits of very high or high $N$, average or low $E$, average $O$ and $A$, and low $C$ to be a pervasive profile of personality throughout populations. Owing to the nature of the profile, which includes average scores on $E$, $O$, and $A$, a discussion of the two-dimensional planes for cluster 5 is not possible.

### 6.3.5 Implications for Psychotherapy

Most clinicians employ a variety of forms of therapy, and to varying degrees, can be eclectic in their approach. Clearly, the nature of the problem dictates the best approach, to some extent, but differences in the personalities of the patients may also have implications for therapy (Costa & McCrae, 1992a). The results of the NEO PI-R can be useful to clinicians, as it provides a detailed, accurate portrait of the client's needs, feelings, proximate motives, and interpersonal style, which can be used to match personality traits with types of treatment. Although this matching is useful and promising, Costa and McCrae (1992a) warn that these links should be regarded as hypothesis until further research can be conducted. Miller (1991) provides a system for linking NEO PI-R domains with treatment implications. The personality profile of the patients in this study will be matched to treatment types in the following section.

According to Miller (1991), $N$ influences the intensity and duration of the patient's distress. Results in this sample indicate scores on $N$ in the Very High category, which indicates a pervasive tendency for participants to experience large amounts of negative affect, cognition and behavioural styles. It is suggested that, with very high $N$ patients, the selection of treatment focus should be on generic difficulties, such as regulation of mood, anxiety management, or chronic self-defeating behaviour patterns (Miller, 1991). At Parkwood Day Clinic, the life-skills training component of the group programme (see Chapter 3) already being offered, which covers topics such as coping skills, stress and time management and emotional regulation, appears to be particularly suited to patients scoring very high on $N$. 
According to Miller (1991), levels of $E$ influence the patient's enthusiasm for psychotherapy, and his or her expressiveness in treatment. On the whole, extraverts (high in $E$) are gregarious and like to talk, and introverts (low in $E$) are not, and do not like to talk. This has important implications for the selection of the psychotherapeutic approaches to be used, as most systems of psychotherapy involve conversation. Results of this study indicate the tendency towards introversion on $E$. This suggests a group of people who may prefer a more directive form of group psychotherapy.

$O$ is considered to influence the patient's reaction to the therapist's interventions (Miller, 1991). Systems of psychotherapy differ in their level of unconventionality, and treatments can be rank-ordered according to the degree to which they require novel behaviour and thinking from the clients. Psychotherapy systems that require patients to be open to new and unusual experiences of themselves include psychoanalysis, Jungian analysis, and hypnotherapy, while more conventional psychotherapies tend to be emotionally reassuring, and to offer practical experience (Piedmont, 1998). Those patients who are high in $O$ welcome more unconventional therapy, while patients low in $O$ prefer emotional support and common-sense advice (Costa & McCrae, 1992a). As the participants in this sample tended more towards the low pole on the domain of $O$, the results suggest that the programmes at Parkwood Day Clinic remain of a more conventional nature.

As $A$ influences the patient's reactions to others, including the person of the therapist, levels of $A$ will impact on the therapeutic alliance. Muten (1991) indicates that low levels of $A$ suggest scepticism and mistrust, which could disrupt the therapy process, interfere with the rapport between the client and therapist, and the rapport in the group therapy environment. However, patients scoring high in $A$ tend to accept interpretations uncritically, and are willing to form an alliance immediately (Miller, 1991). While $A$ has been found to have little implication for choice of psychotherapy, it does provide for a better
understanding of patients and the possible group dynamics which arise in group psychotherapy. The tendency for this sample to score towards the more disagreeable pole of A suggests that patients may struggle with establishing rapport and the development of a therapeutic alliance. In terms of the lifeskills groups which are offered at Parkwood Day Clinic, those with a focus on anger and conflict management, assertiveness training, communication skills, art therapy and relaxation techniques, are valuable in raising the levels of A.

Interestingly, levels of C suggest the patient's willingness to do the work of psychotherapy. Patients low in C will still want to be relieved of their symptoms and problems in living, but are less likely to change their behaviour, or endure psychological or physical discomfort, even when they recognise the desirability of doing so (Miller, 1991). Lackadaisical and noncompliant behaviour that is often interpreted as “resistant” is also a feature of low C. Patients high in C tend to be willing and able to cooperate with treatment and make efforts to improve, if the mode of treatment selected is suitable to them (Piedmont, 1998). The tendency for this sample to be average on C, tending towards being less conscientious, indicates possible resistance to complying with psychotherapy and treatment outcomes.

From the above, it can be concluded that the psychotherapeutic intervention suggested for the patients at Parkwood Day Clinic, when matched according to the personality profiles, should be a conventional, directive approach to psychotherapy, focusing on generic difficulties and chronic self-defeating behaviour patterns.

6.4 The Relationship Between Personality and Biographical Variables

The second aim was to explore and describe the relationship between personality traits and certain biographical variables. In this section, the results of
6.4.1 The NEO PI-R Personality Domains Described in relation to Gender

As reported in Chapter 5, the profiles for both gender groups on the domains, is characterised by very high scores on $N$. The MANOVA conducted on the sample, comparing the personality domains and biographical variables, and reported in Table 14 of Chapter 5, indicates significant differences on $N$ between males and females. Gender differences on the domain of $N$ have consistently been reported, with women tending to score higher on $N$ than men (Costa & McCrae, 1992a; Lynn & Martin, 1997; Smith & Riese, 1998). When looking at specific traits of $N$, women score higher than men on anxiety and depression (Costa, Terracciano & McCrae, 2001; Feingold, 1994). The Chi-square tests of independence give an indication of where the gender differences lie. For this sample, as reported in Chapter 5, more females score in the Average category, while more males score in the Very High and High category. It should be noted that these results were not highly significant, but reportable, indicating a possible trend.

The average score for females on $N$ is surprising, as psychological well-being and happiness have been found to be related to $N$. In a study done by Fujita, Diener and Sandvik (1991) on negative affect and well-being, it was found that women are more affectively intense than men. Women were found to experience high levels of negative affect and high levels of positive affect at the same time, reporting high levels of distress as well as high levels of overall well-being. From this it can be speculated that, in this study, the average female scorers on $N$ may not be less emotional than other women, but may just be reporting more positive affect and less distress, which might have influenced the scores obtained on $N$.

Furthermore, the results obtained, suggesting that males score higher than females on $N$, is contradictory to most literature and research (Costa & McCrae,
1992a; Lynn & Martin, 1997; Smith & Riese, 1998). A possible explanation may be found in the nature of the sample. As a large percentage of the men in the sample were members of the South African Police Service, and were being assessed and treated at Parkwood Day Clinic for the purposes of Medical Boarding, interestingly, a number of these patients received tentative diagnoses of depression or PTSD. This could have inflated the numbers of men in the sample.

Furthermore, in studies done regarding depression, Zlotnick, Shea, Pilkonis, Elkin, and Ryan (1996) indicated that depressed men who seek treatment tend to possess more feminine qualities, such as greater relational or dependency needs, than men from the general population. Therefore the greater proportion of men in the sample seemingly displaying traits similar to women, such as higher emotional expression, might account for some of the results obtained.

6.4.2 The NEO PI-R Personality Domains Described in relation to Age

Despite theories of adult development, longitudinal data suggest that people do not change much simply as a result of growing older (McCrae, 1991). Personality does change between adolescence and young adulthood, and these important changes may be attributed to nature or nurture. Studies of adult personality development have generally shown little or no maturational change for most personality traits over the age of 30 (Costa & McCrae, 1992a; McCrae, 1991; Piedmont, 1998; Viken, Rose, Kapiro, & Koskenvuo, 1994) Recent research conducted by Roberts and DelVecchio (2000) on personality trait consistency peaks, suggests that, while personality traits become consistent with age, there appears to be a steplike linear increase until the age of over 50, when personality peaks. Thus, it appears that personality traits are mostly consistent in adulthood, with some indication of dynamic qualities. It can be concluded that, in general, the personality dispositions and the disorders to which they predispose individuals, tend to be stable in adulthood (Costa & McCrae, 1986).
As reported in Chapter 5 for both of the age categories of young adulthood (<40), and middle adulthood (40+), the personality profile is similar, with very high scores on N, and scores falling in the Average category for E, O and A. The only domain reflecting a difference is the domain of C, where the young adulthood group falls into the Low category, while scores for the middle adulthood group are in the Average category. A closer evaluation reveals that on N and E, the middle adulthood age group scored on average 2 points lower than the young adulthood group, while for A and C, the middle adulthood age group scored 23 points higher than the young adulthood age group. This is consistent with literature and research studies conducted in a number of cultures, which indicate that older individuals tend to be slightly lower on N, E, O, and slightly higher on A and C than younger adults (Costa & McCrae, 1992a, McCrae et al., 1999). Aldwin and Levenson (1994) sum up this evidence when they state that generally there appears to be a decrease in levels of N, and increases in those personality traits reflecting competence, from early adulthood to midlife.

The MANOVA (Table 14, Chapter 5) conducted specifically to see if there were differences between each age category and personality domains, indicated no significant differences, although on the domain of A, a reportable difference was found. This was confirmed by the Chi-square test of independence reported in Table 17 of Chapter 5, which revealed significant differences between the age categories on A. Of the participants less than 30 years of age, 65% scored in the Very Low and Low categories, suggesting the highest levels of disagreeableness for this age group. The Chi-square test also indicated that those in the young 30-39 category tended to be more disagreeable, as evidenced by a larger percentage scoring in the Very Low and Low category, while adults in the middle adulthood group tended to be more agreeable, with a higher percentage of scores in the Very High and High category. These results show that with an increase in age there appears to be an increase in A. Chi-square tests of independence presented in Table 18 and Table 19 of Chapter 5, also indicate reportable differences for age and Openness, and age and Conscientiousness.
Results indicate that in all age categories besides those younger than 30, the highest percentage of participants scored in the Very Low and Low category on Openness. On C, participants less than 30 years of age scored significantly lower than other age groups. These results suggest that an increase in age corresponds with a decrease in levels of O and an increase in levels of C.

Literature indicates that personality changes from adolescence to young adulthood and into middle adulthood, serve as adaptive functions. Moving into the adult world requires personality changes in response to the developmental and social tasks of career development, marriage and parenthood. It can be argued that it may be advantageous to younger adults to be higher in E and O while searching for life partners and establishing careers, but that higher levels A of C would be more valuable when raising a family or consolidating a career. The functions of middle adulthood also require adaptive personality functioning to social tasks, which include the heavy responsibilities of career success and family development. In order to cope with and handle the complex environments and multiple pressures of middle adulthood, an individual’s emotional stability, dependability and altruism need to be sufficiently developed, in order to handle these life tasks effectively (see Chapter 3). This corresponds with the decreases in N and E with age, and the corresponding increases in A and C throughout adult development. Therefore, older adults appear to be less emotionally volatile and more attuned to social demands, suggesting an increase in psychological maturity (McCrae et al., 1999).

6.4.3 The NEO PI-R Personality Domains Described in relation to Marital Status

Although little research has been conducted on personality and marital status, several studies have focused on personality and marital adjustment (Bouchard, 1999), and personality and marital success (Newcomb & Bentler, 1980). A survey of the literature dealing with the differences between single, married and divorced persons on personality variables yielded no results. Furthermore, Costa,
McCrae and Zonderman (1987) failed to find any moderating effects of personality by environmental variables such as marital status.

In the present study, the results of the relationship between marital status and personality domains as reported in Table 13 of Chapter 5, reveal a similar distribution for all marital status groups of very high $N$, average $E$, average $O$ and average $A$. Only on $C$ was a difference noted, with the married and divorced or widowed scoring in the Average category, while the scores obtained for the singles group was considerable lower (37.10) and fell into the Low category. A MANOVA (Table 14, Chapter 5) was conducted to delineate significant differences, and significant relationships were observed on $O$ and $C$. Post hoc analysis revealed that on $O$ there was a significant difference between the divorced and the married. The Chi-square test of independence conducted gave an indication of this difference (see Table 20 Chapter 5). A high percentage of married persons scored in the Very Low and Low category, while the largest percentage of divorced and widowed scored average on $O$. This suggests that divorced or widowed people in this sample tended to be more open. A hypothesis put forward by Bouchard (1990) suggests that open people may tolerate and respect differences in behaviour and thought, and be more inclined to listen to a partner. This may be adaptive in interpersonal relationships, particularly in the formation of and maintenance of relationships with possible potential spouses. However, it should be noted that these findings cannot be conclusive, as the $p$-values of the post hoc analysis do not indicate statistically significant differences. Yet, this could be described as a possible trend that deserves further exploration.

On the domain of $C$ post hoc analysis presented in Table 15 in Chapter 5, suggests that there are significant differences between single individuals and married and divorced individuals. Chi-square tests of independence (see Table 21 Chapter 5) show that a significantly larger proportion (75%) of the single group scored in the Very Low and Low category compared to the other groups (40.7% and 38.8% for the currently and previously married groups respectively).
The researcher speculates that the difference between those who are single and those who are previously or currently married may be due to changes in responsibility and lifestyle that occur when individuals marry.

6.5 Conclusion

The results reported in Chapter 5 have been discussed in this chapter. The findings have been linked to previous studies and the literature reviewed in Chapters 2 and 3 of this study. Some of the research findings confirmed previous research studies and literature, while some results appear to be unique to the characteristics of this sample. The conclusions based on these results, limitations of this study, and recommendations for future research, will be considered in the final chapter.
Chapter 7

Conclusions Limitations and Recommendations

7.1 Chapter Preview

The results of the study were presented in Chapter 5 and discussed in Chapter 6. From the results and discussion it is necessary to make conclusions based on these findings. This chapter provides a summary of the main findings and conclusions of the results. The value and limitations of this study are also discussed, and recommendations for possible future research are outlined.

7.2 Objectives of the Study Revisited

The main findings of the study will be presented in accordance with the aims of the study, which were firstly, to explore and describe the personality traits of patients participating in a group programme at a private psychiatric day clinic, and secondly, to examine these personality traits in relation to the biographical variables of gender, age and marital status.

7.3 Results of the NEO PI-R

7.3.1 Internal Consistency

In order to meet the criteria for the first aim, it was important to establish if the NEO PI-R is a reliable measure to use with South African populations. Cronbach's coefficient alphas were calculated as a measure of internal consistency. Results revealed coefficient alphas of between .67 - .82 suggesting that the NEO PI-R, although not normed for South African populations, is a reliable measure of personality in the South African context. The O and A domains with alpha values around .70 may need to be revised for the South African population.
7.3.2 Correlation Between the Domains of the NEO PI-R

Pearson's product moment correlation coefficient was used to determine the correlation between the domains. Positive substantial relationships were found between $E$ and $O$, while a substantive negative correlation was observed between $N$ and $C$. A smaller negative correlation was evident between the domains of $N$ and $E$. These correlations are consistent with numerous research studies into the domains of the NEO PI-R (Costa & McCrae, 1992a; Piedmont, 1998), and other personality inventories designed to measure the FFM (Caruso & Cliff, 1997), confirming the validity of NEO PI-R's use in South Africa as an accurate description of personality.

7.3.3 The Personality Profile of the Sample

The description of the personality profile according to the NEO PI-R domains, based on the mean T-scores, showed very high scores on $N$, and average scores for $E$, $O$, $A$, and $C$. The distribution of the sample according to domains revealed that on these domains, between 43-47% scored in the Very Low or Low categories, suggesting that, although some participants scored in the Average category, most tended to score more towards the low poles for $E$, $O$, $A$ and $C$.

7.3.4 Cluster Analysis

To further describe the personality profile of the sample, cluster analysis was conducted. This revealed five distinct personality profile clusters. The first cluster, named The Highly Conscientious Cluster, represents participants who score high on $N$ and high on $C$. The second cluster, The Extraverted, Open, and Disagreeable Cluster, is characterised by high scores on $N$, $E$, $O$, and very low scores on $A$. The third cluster was labelled the Neurotic Low Scoring cluster, as it represents participants who scored very high on $N$, and low on all the other domains. The Altruistic Cluster is the fourth profile cluster, characterised by a high score on $A$, a very high $N$ score, and low scores on $E$ and $O$. Lastly, the Psychiatric Profile cluster was identified, so named because it resembles other
profiles of psychiatric patients found in previous research. It is represented by very high $N$, average $E$ and $O$, and low $A$ and $C$ scores.

### 7.4 The Relationship Between Personality and Biographical Variables

The second aim was to explore the personality characteristics of the sample in relation to the biographical variables of gender, age and marital status.

#### 7.4.1 Gender

For the biographical variables of gender, significant differences were found between males and females on $N$, with the majority of males scoring in the category of *Very High* and *High*, and the majority of females scoring in the *Average* category. Gender differences have consistently been found on $N$, with females usually scoring higher than males (Costa & McCrae, 1992a; Lynn & Martin, 1997; Smith & Riese, 1998). The controversial findings of this study are surmised to be a result of the nature of the individuals seeking treatment, particularly, the large numbers of men seeking treatment as part of the process for medical boarding.

#### 7.4.2 Age

For the variable age, the results indicate significant differences on Agreeableness, with participants in the young adulthood group scoring significantly lower on $A$ than participants in the middle adulthood group. This finding is consistent with literature and previous research studies conducted in a number of cultures, which indicates that older individuals tend to be slightly lower on $N$, $E$ and $O$, and slightly higher on $A$ and $C$, than younger adults (Costa & McCrae, 1992a, McCrae et al., 1999).

#### 7.4.3 Marital Status

With regards to marital status, Costa and McCrae, (1992a) indicate that typically personality scores are largely independent of demographic variables
such as marital status. However, a number of findings can be reported, based on the results of this study. Firstly, on the domain of $O$, significant differences were found between the divorced or widowed and the married, with the married scoring in the *Low* category, and the divorced or widowed in the *Average* category. This suggests that the divorced and widowed tend to be more open, and the married tend to be more closed. This may be attributed to differing communication styles. On the domain of $C$, significant differences were noted between the singles group and the married, and the singles group and the divorced or widowed. In both cases, the single group tended to score lower on $C$. It has been speculated that the low scores may be as a result of differences in responsibility and lifestyle between single and married groups.

### 7.5 The Value of the Research

The current study was undertaken to contribute to a body of research into the association of personality traits with psychiatric symptoms, and problems of living, in South Africa. This research has value in that it contributes to a number of areas. Firstly, while research has been conducted on the NEO PI-R and psychiatric disorders, research providing an understanding of personality profiles using the NEO PI-R is limited. Profiles have only been established for some of the mood disorders and anxiety disorders. This study contributes to this area by providing an understanding of the personality profile of a non-diagnosis specific, psychiatric sample. Secondly, while South African studies have been conducted to establish the cross-cultural applicability of the measure, and to translate the NEO PI-R for languages used in South Africa, no previous research has explored and described personality in relation to psychiatric samples in South Africa. Therefore this study adds to research using the NEO PI-R in South Africa. This study also has value in that it provides direction for effective assessment and the development of management plans used to assist patients receiving treatment at a secondary care level. Consideration of personality traits based on the profile established, may be useful in matching patients' characteristics with optimal
psycho-educational, psychotherapeutic, and psychopharmacological treatment options.

7.6 Limitations of the Study

There are various limitations related to the current study. These include limitations relating to the design, the sampling method, and literature and previous research.

7.6.1 Limitations of the Design

The design of the study posed particular limitations. The current study measures the personality characteristics of patients at one point in time. While personality is considered fairly consistent in adulthood, possibilities for change still exist. The onset of psychiatric disorders and intense life stressors has been shown to have an impact on personality scores (Piedmont, 1998). Scores for patients diagnosed with depression have been known to change between the periods of depression and remission. Psychotherapy may also affect personality scores. Changes in the mean level of the domain scores have been noted in numerous studies pre- and post-psychotherapy (Trull, Useda, Costa & McCrae, 1995). As only one testing session was conducted, no account can be given for the possibility of remission and for the expected change which those seeking treatment may have received.

Another limitation may be inherent in ex post facto research. While this is advantageous, in that data has already been collected, the researcher has no control over the content of the data. Incomplete data on the biographical questionnaire limited the use of certain biographical variables, which could have been useful in providing a more comprehensive description of the context of research and the personality profiles.
7.6.2 Limitations of the Sampling Method

The sampling method employed was non-probability convenience sampling. Since the sample was not randomly selected, there was no way of determining how representative the sample was. Furthermore, this sampling procedure may have rendered results not sufficiently varied to allow for generalisation (Harris, 1998). This means that the results obtained in this study are specific only for the sample in question, and cannot be generalised to other non-diagnosis specific populations.

7.6.3 Limitations of Lack of Literature and Previous Research

Limited research and available information should also be considered as limitations to this study. Literature relating to psychiatric health care was limited. The developments in the NHS in South Africa are still being implemented, with constant change in progress. As a result, little information on the primary, secondary and tertiary care levels for psychiatric care, and the centres which provide these treatments, could be obtained.

Very little research has been conducted using the NEO PI-R in South Africa. This was a limitation, as normative group profiles have not yet been researched and established for the South African population. Therefore, no South African control group could be used as a comparison for the results and findings of this study. In addition to this, although extensive research has been conducted on the NEO PI-R world-wide, and while the domains of $N$ and $E$ have been extensively researched, as mentioned in the previous chapter, the domains of $O$, $A$ and $C$ are underrepresented in psychological literature.

7.7 Recommendations for Future Research

Since research using the NEO PI-R is limited in the South African context, it is necessary to continue with this line of research. Based on the limitations of this study (as discussed above), the following recommendations for future research
are suggested. Firstly, it is recommended that a study be conducted to establish NEO PI-R profiles of a “normal” population group in South Africa. This would provide a comparison group for further studies conducted using the NEO PI-R. Secondly, it is recommended that the current study be replicated using a more representative sample, so that the results can be generalised to a larger portion of the psychiatric South African population. This would validate and refine the results of this study. Thirdly, research into the personality profiles of patients diagnosed with specific disorders is limited to studies outside the borders of South Africa. Understanding personality profiles that may be related to specific disorders could further assist in matching specific treatments with patient characteristics. Lastly, research could be conducted at Parkwood Day Clinic to explore and evaluate the treatment programmes presented. This would allow for the development of treatment programmes tailored to the personality profiles as presented in the findings above.

7.8 Conclusion

This study was an attempt to explore and describe the personality characteristics of a non-diagnosis specific sample attending a psychiatric day clinic. The study also explored the relationship between personality traits and the biographical variables of age, gender and marital status. Results revealed the NEO PI-R to be internally consistent, and thus viable for use in South Africa, despite it not being normed for the South African population. Correlations revealed for the most part consistent interrelationships between domains and previous research conducted on the NEO PI-R itself, and on other personality inventories used to measure the FFM.

Results indicate a general profile characterised by very high N scores and average scores on E, O, A and C. Cluster analysis revealed five distinct clusters which describe the profile of the sample in more detail. Concerning the relationship between personality and the biographical variables of gender, age
and marital status, gender differences were confirmed on the domain of $N$, and in terms of age, the young adulthood group scored significantly lower on $A$ than the middle adulthood group. Unexpected results were found for the variable marital status, which included significant differences between married and divorced or widowed persons on $O$, with the single group scoring significantly lower than both the married groups and the divorced or widowed groups on $C$. While these results cannot be generalised to other psychiatric populations, they may point towards trends that cannot be ignored. A recommendation for future research is that a replication of this study be done in other psychiatric samples, to confirm and refine these results. It is also recommended that research into normal South African populations be done, so as to establish normative groups for comparison in South Africa.

In conclusion, personality is a central concept in psychology because it speaks about people – who they are, how they come to be where they are, and where they are heading in their lives. According to Piedmont (1998), personality is the foundation for building theories of psychopathology and treatment. Using the NEO PI-R for personality assessment in a clinical context, provides an objective, broad perspective of patient functioning, and very clear evidence of where the patient is psychologically. Results of the NEO PI-R on an individual patient can be used for diagnostic purposes, to enhance empathy and rapport, to provide insight, and to anticipate the course of psychotherapy. However, the most important contribution of the NEO PI-R is the matching of treatment options to patient personality characteristics. Currently there are no generic treatment models that work equally well for all patients, and it is well documented that certain patients benefit more from certain types of psychotherapies than others (Piedmont, 1998). To date, there has been no conclusive, systematic way of linking patient characteristics to therapeutic techniques or to treatment outcomes (Costa & McCrae, 1992a; Piedmont, 1998). The personality profiles obtained from the NEO PI-R results serve to facilitate this linking process.
7.8.1 Concluding Remark

By exploring and describing the personality traits of this sample, a better understanding of the patients receiving treatment at Parkwood Day Clinic has been created. This insight can, through the matching of patient personality characteristics with specific treatment programmes lead to the improvement and development of better treatment options provided at Parkwood Day Clinic in the future. In turn this will facilitate efficient and effective psychiatric care provided at a secondary treatment level for those patients living with psychiatric disorders or symptoms and problems in living, in and beyond The Nelson Mandela Metropole.


References


Appendix A

Biographical Questionnaire
BIOGRAPHICAL DETAILS

Welcome to Parkwood Cottage. We hope that you will benefit from your involvement in our programme. We also hope that you will enjoy the programme!

Please answer the following questions.

1. **Name:**
   ........................................................................................................................................

2. **Marital status:**
   
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<th>Divorced</th>
<th>Widower</th>
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3. **Children:**

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4. **Address:**

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<th>Street address</th>
<th>Suburb, Town/City</th>
<th>Postal code</th>
<th>Telephone numbers</th>
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5. **Previous psychological or psychiatric treatment and/or hospitalizations:**

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<th>Name of GP, psychiatrist, or psychologist</th>
<th>Problem</th>
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6. **Previous operations or surgical procedures:**

<table>
<thead>
<tr>
<th>When?</th>
<th>Type of operation or procedure</th>
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<tbody>
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</table>

7. **Do you smoke (Please indicate the amount) …………………………………………**

8. **What type of alcoholic beverages do you prefer? ……………………………………**

9. **What type of medication do you use? …………………………………………………**

10. **Where do you work? …………………………………………………………………….**

11. **What work do you do there? …………………………………………………………….**
12. Do any of the following conditions feature in your medical history?

<table>
<thead>
<tr>
<th>Condition</th>
<th>Yes</th>
<th>No</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Heart disease</td>
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<tr>
<td>Blood pressure</td>
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<td>Respiratory problems</td>
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<td>Jaundice</td>
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<td>Diabetes</td>
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<td>Gastric problems</td>
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<td>Kidney problems</td>
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<td>Porphyria</td>
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<td>Neuro/Muscular problems</td>
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<td>Back/neck problems</td>
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<td>Allergies</td>
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<tr>
<td>HIV/AIDS</td>
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Appendix B

Consent Form
Welcome to Parkwood Day Clinic!

Parkwood’s therapeutic programmes are aimed at providing individuals with the basic life- and coping skills necessary for effective adjustment and well-being.

Apart from rendering professional services, Parkwood is also a training and research unit. As a result, the therapeutic programmes are scientifically designed and continuously refined. The programme consists of:

- Group psychotherapy
- Lifestyle management (relaxation training, exercise, nutrition)
- Identity development
- Goal-setting and motivational training
- Coping skills training
- Stress-management
- Relationship skills training
- Communication skills training
- Assertiveness training
- Emotional regulation training (anxiety, panic, phobias, obsessive-compulsive disorder, post-traumatic stress disorder, depression, anger)
- Conflict management
- Thinking skills training
- Time management

- Individual psychotherapy is available for group members who are not seeing a psychologist already.

The programmes are designed to offer guidance and support, rather than answers, solutions, or advice.

We treat all group members as adults and as individuals. This requires us to be respectful and to preserve the dignity of every group member.
However, we are also very protective of the **integrity and effectiveness of our programme**

Experience has taught us that the strict adherence to the following 20 contribute to a relaxed, disciplined and professional atmosphere.

All group members who participate in our programmes are required to adhere to the following rules.

1. The programme runs over **three weeks**. Group members are required to attend the full programme (**Mondays to Fridays 09:00-15:30**).

2. Group members will be responsible for the **treatment fees** if they are absent from the programme without the knowledge and consent of the professional nurse at Parkwood.

3. Personal business, doctor’s and psychologist’s **appointments** are to be conducted after 15:30.

4. Group members must take special care not to disrupt the treatment programme by **leaving early or arriving late**.

5. Group members are encouraged to **participate and cooperate** fully during the therapeutic programme.

6. **No violent, offensive, or abusive behaviour** will be tolerated at Parkwood. The treatment programme of a patient who behaves violently or abusively will be suspended.

7. The following **objects and substances** are not allowed on the premises of Parkwood:
   - Firearms
   - Alcohol
   - Drugs.

8. The treatment programme of a patient who is suspected to be under the influence of **alcohol or drugs** will be suspended.

9. Individuals who use **prescribed medication** may only bring the prescribed dosage to Parkwood. Taking of the medication is the responsibility of the patient.

10. **No smoking** is allowed inside any building at Parkwood. The smoking are is on the 3rd floor in the cafeteria “North meets South”.
11. Parkwood’s **dress code** is informal and comfortable. Please keep in mind that the programme includes regular walking exercises.

12. Individuals who follow a **special diet** must please advise the secretary about this.

13. Individuals will not be assisted with making or receiving **telephone calls** at Parkwood. Exceptions will obviously be made in emergency situations when relatives or colleagues could leave messages with the staff.

14. Cell phones must be switched off during group sessions. If they are accidentally left on, and the phone does ring, please switch the phone off immediately. No answering will be allowed.

15. Group members are encouraged to maintain **absolute confidentiality** about the issues individuals share during the therapeutic programme. If confidentiality is broken, the involved parties will be discharged.

16. At Parkwood inappropriate **relationships** are unacceptable because they tend to undermine therapeutic processes and goals. Relationships that are detrimental to the group programme may lead to the suspension of the group members involved.

17. Group members should use the secure **parking facilities** at the Hunterscraig hospital and are encouraged not to park in the surrounding streets.

18. Any individual wishing to terminate group therapy at any time, must excuse them-selves PERSONALLY from the other group members.

19. Tea snacks and lunches are placed in the kitchen. Everything is self service. The juice will only be served at lunch time and one glass of juice to one person. The milk must only be used for coffee or tea.

20. No vulgar or crude language will be accepted at Parkwood.

---

I, ................................................................., the undersigned, understand and agree to abide by the above mentioned rules. I also understand that Parkwood functions as a service, training and research unit and agree that clinical records be utilized for training and research purposes. I understand that all data be treated as STRICTLY CONFIDENTIAL.

Signed: ........................................... Date: ....../....../2003
I, ........................................................................................................, the undersigned, understand and agree to abide by the above mentioned rules. I also understand that Parkwood functions as a service, training and research unit and agree that clinical records be utilised for training and research purposes. I understand that all data be treated as **STRICTLY CONFIDENTIAL**.

Signed: ..................................................   Date: ....../....../2003

Witness 1:  ..............................   Witness 2:  ..............................................