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Chapter 4

Methodology

4.1 Introduction

As seen in the chapter on theory, the emphasis for the research is from an interactional point of view. To attain research from this viewpoint, Haley (1967) comments that one needs to have:

(a) a collection of facts- observable events which either occur or do not occur,

(b) to formulate these facts into patterned regularities, and

(c) to devise theories to account for these regularities and be willing to discard past ideas if these handicap us in our effects.

With the difficult and controversial issue of determining which are facts, and that 'facts' are determined by the ways in which we collect them, the researcher's way forward is to obtain information from as many varied viewpoints as possible, though also limited due to certain contextual aspects, regardless of the controversy.

4.2 Aims of the research

The aims of this research, already set out in chapter one, are:

(a) to provide a psychological understanding of the interactional styles and communication behaviour of persons who have committed the crime of serial murder.

(b) To explore the expression of their personalities and intelligence, as part of their patterns of interaction, and

(c) to investigate the findings and formulate ideas on possible theoretical

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explanations of serial murder as part of man's "social order" (Haley, 1967).

The reader is reminded that 'understanding' is defined from an interactional approach, namely as "...a person's personality traits... The interactional model views these traits as components of relationships... (and) asks how one person experiences another, and furthermore, how he allows others to respond to him" (Swart & Wiehahn, 1979, p. 14). The concept of personality is seen as relational. It means that the personality can be defined in terms of relational qualities or attributes (Beyers, clinical psychology lectures, 1996)

The following is an exposition of the methodology.

4.3 Qualitative research

The human sciences, when seen from a positivist point of view, have in many instances taken their lead from physics and chemistry. This has lead to a dominance of beliefs such as objective observation, quantifiable data and verifiable 'truths'. This dominant discourse has lead to a patriarchical view in which viewpoints differing from that discourse were marginalised. Feminist theories and post- modernism have slowly begun challenging that view, making qualitative research an acceptable way of doing science.

Historically qualitative research can be seen as marginalised in both its participants and methodology (Maykut & Morehouse, 1994). Freud studied neurotic women and children, both groups which were on the margins of the male patriarchal scientific culture. Anthropologists studied 'primitive' tribes, and criminologists studies gangs and institutionalised people, again all these groups are considered to be 'marginalised' by society. Furthermore, qualitative researchers

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present their findings in a language that does not directly challenge traditional ways of doing science. Often methods of research conducted are not even included in the findings or reports. This creates the idea that there are no rigorous ways of collecting and analysing qualitative data (Maykut & Morehouse, 1994). The following table briefly lays out the differences between the quantitative (positivist) approach versus a qualitative approach, such as one from a phenomenological point of view.

Table 3: Postulates of the research paradigms

Questions	Postulates of the Positivist Approach	Postulates of the Phenomenological Approach
1. How does the world work?	Reality is one. By carefully dividing and studying its parts, the whole world can be understood.	There are multiple realities. These realities are socio-psychological constructions forming an interconnected whole. These realities can only be understood as such.
2. What is the relationship between the knower and the known?	The knower can stand outside of what is to be known. True objectivity is possible.	The knower and the known are interdependent.
3. What role do values play in understanding the world?	Values can be suspended in order to understand.	Values mediate and shape what is understood.
4. Are causal linkages possible?	One event comes before another event and can be said to cause that event.	Events shape each other. Multidirectional relationships can be discovered.
5. What is the possibility of generalisation?	Explanations from one time and place can be generalised to other times and places.	Only tentative explanations for one time and place are possible.

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Questions	Postulates of the Positivist Approach	Postulates of the Phenomenological Approach
6. What does research contribute to knowledge?	Generally, the positivist seeks verification or proof of propositions.	Generally, the phenomenologist seeks to discover or uncover propositions.
	These postulates undergrid different approaches to inquiry.	These postulates undergrid different approaches to inquiry.
	Quantitative research approach	Qualitative research approach

In qualitative research three issues are relevant. The first is the relationship between words and numbers in the two different approaches to research; secondly, the perspectival observer versus the objective observer; and thirdly, discovery versus proof.

Relationship between words and numbers: Qualitative research emphasises understanding through examining people's words, actions and records. The traditional or quantitative approach looks past the words, actions and records, to see only their mathematical significance. The traditional approach quantifies these results. Statistics plays a large role in shaping this view of science. The major differences lie not in the presence or absence of 'counting' of a particular word or behaviour, but rather in the meaning given to the words, behaviours or information as interpreted through qualitative analysis or statistical analysis as opposed to patterns of meaning emerging from the data (Holloway, 1997; Maykut & Morehouse, 1994). To understand the world under investigation, people's words and actions are used by qualitative researchers. Qualitative research seeks to understand a situation as it is constructed by the participants. The task of the qualitative researcher is to capture the process of interpretation conducted by the person. Words are the way that most people come to understand their situations. Then the researcher must find

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patterns within those words and actions, and present those patterns for others to inspect while at the same time staying as close to the construction of the world as the participants originally experienced it. However, to present the results of the research to the participants in a manner which they can understand is to include the participants in the discovery (Keeney & Ross, 1992). If the knower and the known are interdependent then there must be integrity between how the researcher experiences the participants in the study, how the participants experience the situation and their participation in it, and how those results are presented (Maykut & Morehouse, 1994).

Perspectival versus objective views: The traditional position has had the advantage of being defined objective and subjective in relation to research. The term objective has become synonymous with truth, facts and reality. The term subjective has become synonymous with partially- true, tentative and less- than- real. Another way of looking at these terms is to say that 'objective' is to describe something or someone as an object, an object is *other,* therefore to be objective is to make something into 'other'. Objectivity is to be cold and distant. Subjectivity is to be aware of the 'action'. Phenomenologically it is to be aware of the actor's perspective, the purpose of the qualitative researcher is to become aware of the world of the agent or subject (Denzin & Lincoln, 2000; Maykut & Morehouse, 1994). Qualitative researchers also realise that they are not outside of the process as impartial observers, but are also subjects or actors. They are exposed to the same constraints in understanding the world as are the persons they are investigating. The term perspectival is perhaps a more apt description since it has the advantage of being inclusive of differing perspectives, not only the one of the researcher.

Discovery versus proof: The goal of qualitative research is to discover patterns which emerge after close observation, documentation, and analysis of the research topic. The results are not

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generalisable but rather are contextual findings. Searching for a pattern to help understand a person, situation or phenomena is an activity for qualitative research and is based on postulates I which states that reality is multiple and constructed; IV which states that events are simultaneously and mutually shaped; and VI which states that the goal of this approach is discovery (Maykut & Morehouse, 1994).

The present study, as supported by the above arguments, is qualitative in nature.

4.4 Designing the qualitative research

The questions one asks determines the answers one finds. A qualitative study has a focus but it is initially broad, allowing for important meanings to be discovered. The foci for the design are on the following aspects:

An exploratory and descriptive focus: qualitative research studies are designed to discover what can be learned about some phenomenon, in this instance serial murder. The research subjects, as they are traditionally known, are called participants, in this case individuals who have committed serial murder. The outcome of this study is not the generalisation of results, but a deeper understanding of the individuals who commit such crimes (Denzin & Lincoln, 2000; Marshall & Rossman, 1999).

Emergent design: for many the idea of a design developing over time is ludicrous. Yet many researchers have experienced the scenario where, during their research, they discover a feature for which their research design did not allow consideration. The very notion of pursuing such discoveries is what underlies qualitative approaches to investigation. This broadening or

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narrowing of the focus of inquiry, and consequent sampling of new candidates is anticipated and planned for, as best as one can, in qualitative research designs. Non- emergent research designs can be employed where the focus of inquiry is pursued using qualitative methods of data collection and data analysis, but the data is collected then analysed. This study can be said to have elements of both since the initial phase which involved clinical interviews, which generated clinical impressions and an interactional analysis, led to the selection of certain psychometric tests selected to focus on certain areas that the researcher 'discovered' during that initial phase (Holloway, 1997, Marshall & Rossman, 1999; Maykut & Morehouse, 1994).

Purposive Sample: In qualitative research the participants are carefully selected for inclusion, based on the possibility that each one will expand the variability of the sample. This type of sampling increases the likelihood that variability common in any social phenomenon will be represented in the data. Here the participants were selected on the basis that:

(a) They had to fulfill the criteria for serial murder [see chapter 2]:

- They were motivated to kill.
- They murdered three or more persons.
- The murders occurred at different times.
- The murders appear unconnected.
- The motive is not primarily for material gain.
- The motive is not primarily revenge.
- Elimination of a witness is not the intention.

(b) The chosen participants had to have been convicted of their crimes.

(c) Participants had to be from the same culture.

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Data collection in the natural setting: Qualitative researchers are interested in understanding participant's experience in context. The natural setting is where the researcher is most likely to discover what is to be known about the phenomenon of interest. Obviously, with a topic such as serial murder one cannot enter into the environment in which the murders take place, but in attempting to understand the individual who commits such crimes one can go to the 'natural' environment of the person's current situation, which is the correctional facility context. All interviews and testing were conducted in correctional facilities. If one also follows the dictum that the interview situation is a microcosm of the person's outer world, then the interview can be seen as a source of information as to how the person would relate to others in the macrocosm (Denzin & Lincoln, 2000).

Emphasis on 'human- as- instrument': This stresses the role of the researcher in the qualitative research process. The qualitative researcher has the added responsibility of being both the collector of data and the culler of meaning from that data, usually in the form of words and actions. It is possible to include other formal instruments such as tests or questionnaires in a qualitative study (Keeney & Ross, 1992; Maykut & Morehouse, 1994).

In this research the researcher conducts unstructured interviews and conducts an interactional analysis, thereby collecting and culling the data. Furthermore the researcher uses psychometric tests such as the MMPI-2, MCMI-III, TAT, and 16PF, to add to the 'culled' data with the intention of contributing to the description of the individual. Even within the tests however, information is 'culled' in the sense that it is weighed up against information gathered from the interview.

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Qualitative Methods of Data Collection: The data of qualitative inquiry is most often the words and actions people use, and this requires methods allowing the researcher to capture and make use of that data. The most useful ways are through participant observation, in- depth interviews, group interviews, and collection of relevant documents (Denzin & Lincoln, 2000; Holloway, 1997; Marshall & Rossman, 1999).

This data is collected by the researcher in the form of field notes, audio and video- taped interviews. This research made use of the following per individual:

(a) forty hours of in- depth interviews, which were unstructured in nature,

(b) participant observation, both which were video- recorded,

(c) psychometric tests, as described later, which were used descriptively contributing to different 'angles' in the description of the person, and

(d) medical and background history as recorded in the individual's competency to stand trial forensic observation records.

Maykut and Morehouse (1994) state that a combination of various data collection methods increases the likelihood that the phenomenon under study is being understood from various points of view and ways of knowing. Furthermore, that a convergence of a major theme or pattern in the data lends strong credibility to the findings. The interactional analysis was the result of 3 researchers opinions with only the common themes highlighted by all three researchers being included. In addition, certain tests were scored or interpreted by independent sources, often 'blind' to the nature, purpose and sample of the study to prevent certain biases influencing the test results.

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Early and ongoing inductive data analysis: The points mentioned above lead to two important characteristics of qualitative data analysis. Firstly, it is an ongoing research activity, in contrast to an end stage as in quantitative research. Secondly, is it primarily inductive, as opposed to deductive in quantitative research (Holloway, 1997). Data analysis begins when the researcher has accumulated a subset of the data, providing an opportunity for the salient aspects of the phenomenon to emerge. These initial leads are followed up by pursuing the relevant, persons, settings or documents that will help shed light on the phenomenon of interest. This can lead to either a narrowing or broadening of the research focus as the data suggests. In other words, what is important is not predetermined by the researcher, but rather the data (Marshall & Rossman, 1999).

In this study unstructured interviews were initially held after which an interactional analysis was done on the video- recorded interviews. A psychometric test was also used to see if the themes elicited matched the overall interactional analysis from the interviews. Later a battery of selected psychometric tests were selected to follow- up certain aspects the researcher felt were indicated from the previous data. Finally the information was compared to see which aspects were constant themes that could help in the description of the individual.

A case study approach to reporting research outcomes: The results of a qualitative research study are most effectively presented within a narrative, also referred to as a case study. The number of cased studies and their length can vary. Long case studies allow reader sufficient information for understanding research outcomes. A qualitative research report characterised by rich description should provide the reader with enough information to determine whether the findings of the study possibly apply to other settings (Holloway, 1997; Denzin & Lincoln, 2000, Maykut &

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Morehouse, 1994).

This report shall include in- depth unstructured interviews, psychometric testing and information from the initial forensic observations conducted during the initial court proceedings. This information therefore covers a period of between 5 and 7 years in these individual's lives. As Bromley (1986) states, the aim of a case- study, as with any scientific investigation, is not to find the 'correct' or 'true' interpretation, but rather to eliminate erroneous conclusions so that the researcher is left with the best possible interpretation.

4.5 Procedures and methods

The aim of the study is to obtain an understanding of the interactions of persons who have committed serial murder. With the concept "understanding" is meant an analysis of their interactional behaviour with their world, including themselves and others and secondly "understanding" their interactions through the use of psychometric tests. The focus of the study is not murder per se, in the process the murders may become irrelevant, though the analyses may shed light on the phenomenon of serial murder. The research procedure was conducted as follows:

1) A literature study was conducted to gain an understanding of the field of serial murder and to review what research has already been conducted.

2) A research proposal was drafted and presented before the research committee of the Department of Psychology of the University of Pretoria.

3) Once approval was granted the proposal was submitted to the Department of Correctional Service's Psychology Section for approval.

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4) Once approval was obtained by the Department of Correctional Services, possible candidates were sought by consultation with members of the South African Police Services, members of the Department of Correctional Services, and the Print Media.

5) Discussions with the relevant correctional facilities for confirmation of the identified individuals whereabouts.

6) Two candidates were selected as potential participants due to the fact that they fulfilled the previously mentioned criteria of the operationalised definition of a serial murderer. Their background details are mentioned in chapter 5 as part of the results.

7) These candidates were approached and explained the purpose and nature of the research and were given the opportunity to express their views and pose any questions, after agreeing to participate they all signed research agreements. These agreements also guaranteed confidentiality of their identity (see appendix 1)

8) The researchers and process of research

a) The next phase involved the researcher and a colleague, also a clinical psychologist, together interviewing each individual in the correctional facility according to the interview method described below. These interviews were video- recorded with the permission of the candidates and the Department of Correctional Services

b) Clinical impressions were recorded immediately after the first interview. Discussions between the researcher and his colleague helped to determine common major observations and impressions between the researchers.

c) Review of the forensic file of the competency to stand trial evaluation.

d) Application of the following tests over numerous sessions by the author: Thematic Apperception Test, Minnesota Multiphasic Personality Inventory 2nd Edition, Millon Clinical Multiaxial Inventory IIIed, 16 Personality Factor Questionnaire, South African

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Wechsler Adult Intelligence Scale.

e) Interpretation of the above- mentioned tests. The TAT was interpreted blindly by a licensed clinical psychologist, the MMPI-2 and MCMI-III were scored and interpreted by means of a computer generated report, the 16PF was interpreted by the author as was the SAWAIS. The interactional analysis was done by the author, his colleague, the above mentioned clinical psychologist from point (a), and the research supervisor, a professor of psychology. Only the common elements from all three were included in the noted interactional analysis.

f) Integration of all relevant material by the author by means of grouping common themes in the feedback from the tests conducted and interactional analysis. Where appropriate these were grouped under the headings: profile validity (see chapter 5), diagnostic considerations, and interpersonal considerations (see chapter 6).

g) Reporting on the individual and integrated findings.

4.6 Tools used in the research process

4.6.1 Scrutiny of the competency to stand trial forensic evaluation file

The author had access to information from the individual's forensic evaluation for competency to stand trial. The files provided information regarding their personal history such as their family background, socio- economic condition, and also provided information regarding the crimes for which they were accused. This information is discussed under the heading 'Brief history' in chapter 5. The file also included the results of medical tests that were conducted at the time of the evaluation. These results are mentioned under the heading 'Medical investigations previously conducted' in chapter 5. While the file also included psychometric test information, only the intelligence level, as determined by the South African Wechsler Adult Intelligence Scale

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(SAWAIS), was included. This was in addition to the researcher's own administration of the SAWAIS and clinical impression of the individual's intelligence level during the research. These results are discussed under the heading 'Intelligence level' in chapter 5.

4.6.2 Clinical impressions

The impressions were written down independently by the researcher and his colleague after the first interview. Discussions led to consensus on the clinical impressions and only those common to both researchers were made use of.

4.6.3 The interview

According to Taylor and Bogdan (1984, p.77) "By in- depth qualitative interviewing we mean repeated face- to- face encounters between the researcher and the informants directed towards understanding informants' perspectives on their lives, experiences, or situations as expressed in their own words."

The research for this dissertation followed in- depth qualitative interviews. In contrast to Douglas' challenging interview, the 'soft' interview method was followed, which means in- depth interviewing, basically unstructured in nature (Olivier, Haasbroek, Beyers, DeJongh van Arkel, Marchetti, Roos, Schurink, Schurink & Visser, 1991). With this method freedom of exploration is largely left to the offender. The interviews were intended to be unstructured so as to limit contamination by preconceived concepts or ideas on behalf of the researchers. Approximately 40 hours per individual were used in the research. On the basis of the unstructured interviews, the interactions were analysed.

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4.6.4 Interactional analysis

The interactional analysis was used to help in determining the individuals interactional styles. It was based on the first 3 interviews, each interview was one hour long. This was also used in relation to the above mentioned methods to determine certain common themes and interactional styles. Nardone and Watzlawick (1993) feel that the following questions need be answered to arrive at an interactional conclusion:

i) What are the client's observable behaviours and usual behaviour patterns?

ii) How does the client define the problem?

iii) How does the problem manifest itself?

iv) In whose company does the problem appear, worsen, disguise itself, or disappear?

v) Where does it usually appear?

vi) How often does it appear and how serious is it?

vii) What has been done so far to solve the problem?

viii) Who would be most affected by the disappearance of the problem?

Swart and Wiehahn (1979) have a similar approach but term it a descriptive interactional analysis. They posit the following five steps will lead the clinician to arrive at fairly complete understanding of the client's situation:

i) *How does the client talk to the therapist?*

Is his speech logical, coherent, or are there any thought disorders? Is there aggressive speech, ambivalence, anxiety, sympathy. It is also necessary to take note of any non- verbal actions which may validate or contradict the verbal communication.

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ii) *How does the individual talk about the problem?*

Is there blaming, insight, denial, intellectualisation, vagueness on behalf of the person?

iii) *What is the nature of the patient's relationships with other people?*

How does the person talk about these relationships, and how are these relationships helping maintain the symptom in the here- and- now? By examining the client- therapist relationship and the client's previous relationships in his past, an understanding of how the person relates to others and his environment can be reached. The relationship is regarded as a microcosm of the client's world (Yalom, 1995 & personal communication, June 1997) and serves as a basis for 'analysing' the client's interactional style. For the author this serves as the most important aspect of the interactional analysis in that the interaction in front of one in a therapeutic situation is the only reality the therapist has.

iv) *What does the individual achieve by his actions?*

Here secondary gain plays a large role. On a more meta- level, what is the symptom's function? Here the effect on others is vitally important. If the 'others' behave in a consistent way that benefits the individual then the behaviour will most likely continue. If the 'others' start to behave differently then the same 'benefits' might not be there for the individual and the action therefore loses its meaning and becomes purposeless. The individual must then find other means to achieve the same goal. In layman's term, the individual can only behave in a certain way if the 'others' allow him to. Hence the systemic viewpoint of altering the feedback and the ability to 'cure' 'sick' individuals without having ever seen them in therapy. The therapist may use his own feelings and reactions in therapy as a 'springboard' for the therapeutic interventions he embarks on, (traditional therapies such as psychoanalysis may term these feelings and reactions as 'counter- transference').

v) *In what context is the interview taking place?*

The context can have an influence on the type of interaction taking place. An individual who has been ordered by a court to enter therapy, or because of a spouse who has insisted on the therapy, is going to bring to the therapy situation a different style of communicating than someone who has entered therapy voluntarily. Taking the context into account allows the therapy to be adapted to the individual, thereby being respectful of the client's situation instead of drawing certain conclusions about the client's resistance' or 'denial' and forming a therapeutic base on hypotheses attached to these 'defence' mechanisms as is the case with more traditional approaches.

vi) Beyers (personal communication, 1995) believes another question needs be asked to complete the analysis: what are the client's strengths? By determining these as far as possible the therapist aims at finding out which interactional factors, which may even include the above, could contribute to a positive prognosis in therapy. It is necessary to exploit these strengths to help affect change in even a small area of the individual's interactional style. In this was the interactional analysis is seen as a rigid way of behaving and the attempt is to become more flexible in one's interactions with the world.

The following method, as revised from the above by the author, was ultimately used:

i) How does he speak?

ii) How does he speak about the problem?

In the case of serial murder, the concept of 'problem' is defined as the participant's behaviour of serial murder.

iii) In what context does the problem appear?

The context is twofold: (i) the then- and- there context of the murders, and (ii) the here- and- now context of the Department of Correctional Services' facility.

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iv) What has been done to solve the problem?

v) Nature of the individual's relationships with people?

vi) Context of interview?

vii) Strong points of individual?

viii) Negative points?

ix) Effect of individual on researcher?

The researcher felt that these questions were more relevant to the research goals, whereas some of the questions, as posed by Nardone and Watzlawick (1993) seem too pathology- orientated.

4.6.5 The South African Wechsler Adult Intelligence Scale (SAWAIS)

The SAWAIS, although largely criticised by many as being inaccurate and possessing deep-rooted problems with the tests' construction (Nell, 1994), was nevertheless used by the author to obtain a 'rough' IQ figure. This figure was then compared with the results of the SAWAIS conducted during the individual's competency to stand trial evaluation and the author's clinical impression of the individual's IQ, to see how the three results compared. No neuropsychological conclusions were made from this test and sub-scales were not compared to each other, primarily because of the inaccuracies inherent in the test. For full SAWAIS results see appendix 2.

4.6.6 Thematic Apperception Test (TAT)

The TAT was used as a further means of determining how the individual interacts with his environment and sees interpersonal relations. The TAT protocols were interpreted by a qualified clinical psychologist from the University of Pretoria who was not given any information as to the individuals identities or the nature research project. This was done to prevent the interpreter

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from reading certain themes into the protocols and biasing his comments. The TATs were then used to see if any themes that were noted in the interviews, clinical impressions and interactional analyses were repeated or refuted. The cards that were used were the following: 1, 2, 3BM, 4, 6BM, 7BM, 8BM, 10, 12M, 13MF. The full TAT protocols are included as appendix 3.

4.6.7 Millon Clinical Multiaxial Inventory IIIrd Edition (MCMI-III)

The MCMI-III was incorporated into the research because of its focus on pathology. The test covers certain Axis I pathologies, and all the Axis II pathologies including two that Millon felt needed to be included even though they were not included in the DSM-IV. Besides the diagnostic emphasis it allows for a description of the individual's personality, even though more based in the language of pathology. It also has certain validity scales which help control for the exaggeration or under reporting of symptomology. This under- or -over reporting will also give the researcher an indication of the individual's possible overall attitude to the assessment process. The scales which are included are, on Axis II; Schizoid, Avoidant, Depressive, Dependant, Histrionic, Narcissistic, Antisocial, Aggressive (Sadistic), Compulsive, Passive- Aggressive, Self- Defeating, Schizotypal, Borderline and Paranoid. On Axis I; Anxiety Disorder, Somatoform Disorder, Bipolar: Manic Disorder, Dysthymic Disorder, Alcohol Dependance, Drug Dependance, Post- Traumatic Stress, Thought Disorder, Major Depression and Delusional Disorder.

4.6.8 Minnesota Multiphasic Personality Inventory 2nd Edition (MMPI-2)

The MMPI-2 was used because it is a broad- band test designed to assess a number of major patterns of personality and emotional disorders. A standard six level reading ability is required making it accessible to a large audience. It also provides internal checks to assess the level of

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cooperation on behalf of the individual being tested, a distinct issue when testing in the forensic setting. It consists of the following clinical scales; Hypochondriasis, Depression, Conversion Hysteria, Psychopathic Deviate, Masculinity- Femininity, Paranoia, Psychasthenia (similar to obsessive- compulsive disorder), Schizophrenia, Hypomania, Social Introversion. Besides these clinical scales there are a number of supplementary scales offered to assist in interpreting the basic scales and augment the coverage of clinical problems and disorders. These supplementary scales are; Anxiety, Repression, Ego Strength, MacAndrew Alcoholism Scale Revised, Over controlled Hostility, Dominance, Social Responsibility, College Maladjustment, Gender- Role Scales, Post Traumatic Stress Disorder Scales, Marital Distress Scale, Addiction Potential Scale, and Addiction Admission Scale. Furthermore Content Scales have also been developed and are useful in describing and predicting personality variables. These scales include; Anxiety, Fears, Obsessiveness, Depression, Health Concerns, Bizarre Mentation, Anger, Cynicism, Antisocial Practices, Type A, Low Self- Esteem, Social Discomfort, Family Problems, Work Interference, and Negative Treatment Indicators.

Critical Items were developed in an attempt to assess an incipient disorder or prodromal syndrome. The Koss- Butcher Critical Items Sets and Lachar- Wrobel Critical Item Sets are the most widely used (Butcher et al., 1989). The Harris- Lingoes Subscales were developed for scales 2, 3, 4, 6, 8, and 9. The following were developed; D1: Subjective Depression, D2: Psychomotor Retardation, D3: Physical Malfunctioning, D4: Mental Dullness, D5: Brooding, Hy1: Denial of Social Anxiety, Hy2: Need for Affection, Hy3: Lassitude- Malaise, Hy4: Somatic Complaints, Hy5: Inhibition of Aggression, Pd1: Familial Discord, Pd2: Authority Problems, Pd3: Social Imperturbability, Pd4: Social Alienation, Pd5: Self- Alienation, Pa1: Persecutory Ideas, Pa2: Poignancy, Pa3: Naivete, Sc1: Social Alienation, Sc2: Emotional Alienation, Sc3: Lack of Ego

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Mastery (Cognitive), Sc4: Lack of Ego Mastery (Conative), Sc5: Lack of Ego Mastery (Defective Inhibition), Sc6: Bizarre Sensory Experiences, Ma1: Amorality, Ma2: Psychomotor Acceleration, Ma3: Imperturbability, Ma4: Ego Inflation (Butcher et al, 1989). Thus the MMPI-2 allows for the examination of a lagre variety of aspects of personality function.

4.6.9 The 16 Personality Factor Questionnaire (16 PF)

Since one's personality plays a role in behaviour in almost all areas of life and the 16PF covers the most important dimensions of personality, it is an obvious choice when wanting to assess an individual's personality, as defined in 4.2. The advantage of this test as opposed to others such as the MMPI-2 or MCMI-III is that it is not pathology based, in other words it does not attempt to correlate an individual to a diagnostic category. Instead this test is descriptive in nature, it is for these reasons that the test has gained wide usage in various research fields. This test is incorporated to add a 'healthy' balance to the method of investigation so that the research does not slip into the pitfall of trying to just force the individuals into one or another existing diagnostic category.

4.6.10 Integration

All material gathered by means of the above procedures were integrated by finding the corresponding main or primary themes and using them for the basis of any hypotheses made. Words are the way that most people come to understand their context. Research must find patterns within those words and actions and present those patterns. By identifying common words and patterns in the test and interview data, these can be presented under common headings or categories, these are: profile considerations (in the case of tests), diagnostic considerations, and interpersonal considerations.

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In the following section the rational of the tests are put forward and discussed.

4.7 The South African Wechsler Adult Intelligence Scale

As the name implies, the SAWAIS was adapted from the 1939 Wechsler- Bellevue Adult Intelligence Scale. The purpose of this test is to measure a number of aspects of intelligence that could be clinically useful and also to provide separate measures for Verbal IQ, Practical IQ and Total IQ for English and Afrikaans speaking South Africans. There are five verbal and five practical subtests in the scale as well as a vocabulary subtest which is administered separately. The vocabulary subtest however, is not commonly used. The test was published by the National Institute of Personnel Research in 1969 under the name South African Wechsler Adult Intelligence Scale, this has led most psychologists to believe that the South African version is a local version of the 1955 WAIS which in itself was a fundamentally revised and re- normed Wechsler- Bellevue (Nell, 1994).

The norms are age related and make provision for the natural effects of ageing. The subtests are thought to measure different aspects of intelligence at different ages. The norm sample was drawn from English and Afrikaans- speaking white South Africans between the ages 18 and 59. Information regarding the reliability of the subtests and composite scales and regarding the equivalence of the English and Afrikaans forms for the norm group is not available. There is also uncertainty surrounding the representativeness of the norm sample (Owen & Taljaard, 1989). Coetzee and Madge (1981) developed norms for the full- scale as well as short- forms for a white South African psychiatric population.

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A large amount of literature is available about the use of the Wechsler Adult Intelligence Scale, however, due to a lack of empirical evidence, one should be cautious about assuming that this literature is also applicable to the SAWAIS (Owen & Taljaard, 1989). This test is at present under revision at the Human Sciences Research Coucil.

4.8 Projective techniques

Projective Techniques fall into the realm of personality assessment. These may include tests such as the House- Tree- Person Drawing Test, Kinetic- Family- Drawing Test (KFD), the Rorschach Inkblot Method (Rorschach) , and the Thematic Apperception Test (TAT). The term projective test originates from Freud's development of the concept of projection. This is defined as a psychological mechanism by which the individual "projects" inner feelings onto the external world and then imagines that these feelings are being expressed by the outside world towards himself (Bellak & Abrams, 1996; Brill, 1938). Projective Tests have no correct answers and are considered to be less structured, more open ended, more creative with the individual freer to express inner feelings and reveal basic personality orientation. Projective Tests are also used in personality assessment.

4.8.1 Concepts involved in projective testing

The meaning of projection: According to Kline (2000) a simple definition of a projective test is that of a stimulus to which subjects have to respond, designed so that it encourages subjects to project into their responses their own feelings, desires and emotions. Eysenk (1959) raised the objection that projective testing lacks a coherent theory in the sense that there is no theoretical account as to why or how or in which conditions as individual would project anything about him- or herself onto a projective test stimulus. It must be also said that the defence mechanism of

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projection is not necessarily involved in projective testing.

The Projective Stimulus: The most widely used examples of projective techniques, the Rorschach Inkblot Method and the Thematic Apperception Test, use ambiguous visual stimuli which subjects have to describe. The essence therefore is ambiguity since it is the ambiguous nature that forces the individual to project, thus reflecting something about themselves. In other words, responses not stimulus bound must have arisen from something within the subject (Kline, 2000).

Identification: Many of these tests assume that individuals will identify with the individual portrayed in the picture. Murray (1938) assumed that, and for those reasons there are often different cards for males and females.

Projective Test Stimuli (non- visual): While the most well known projective tests are visual in nature, the Rorschach and TAT, there are projective tests that are not 'visual' in the same sense. Sentence completion tests, free drawing such as the House Tree Person Test (Buck, 1970), Solid Objects, Auditory Projective Tests such as the Sound Apperception Test (Bean, 1965).

Reasons for continued use of projective tests: Despite certain criticisms projective techniques continue to be used. Various reasons exist for this situation: they are unique sources of data, some results from projective techniques suggest that they are powerful techniques, the richness of projective test data, the success of some objective scoring methods (Kline, 2000).

4.8.2 Thematic Apperception Test (TAT)

When Murray developed the TAT he was a professor of Psychology at Harvard University. It was

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during this time that Freud's works were being translated into English and brought to America by students of Freud, such as Murray's graduate student Leopold Bellak. It was felt that since the TAT story is a personal narrative similar to a dream that might be reported to psychotherapist, the TAT would lend itself well to similar methods of analysis as in Freud's *Interpretation of Dreams* (Brill, 1938). At the Harvard Psychological Clinic, Murray experimented with a number of different methods of studying human imagination and personality organisation. One day one of Murray's students reported to Murray that her son had created stories to different pictures in a magazine. One of Murray's assistants set out to collect a number of different pictures of paintings, advertisements, pictures for movies and other sources. These were redrawn so that the pictures would have a consistent style of presentation. Card 1 for example was a picture of child prodigy violin virtuoso, Yehudi Menuhin. Because Murray felt Freud's view of man to be too one- sided he emphasized that his need- press approach provides a way of scoring the TAT so that a psychologist can use the variables without subscribing to any particular theory of drives (Bellak & Abrams, 1996). In 1948, upon a suggestion by Ernst Kris, Bellak and his wife, Sonya Sorel, set out to create a series of different pictures of animals in different situations in an attempt to see if the pictures would be of more clinical use with children, this became known as the Children's Apperception Test (CAT). In 1973 Bellak and his wife went about in a similar manner to create a series of pictures appropriate for use with the elderly population, this was to become known as the Senior Apperception Test (SAT) (Bellak & Abrams, 1996).

The TAT of Henry Murray consists of 31 pictures of people in different situations. Cards are given in specific sequences depending on age and gender. Some cards are used for all ages and genders. Murray developed a method of scoring the TAT but, despite a copy being sold with every set of plates, his method never became popular because his need- press method took almost

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four hours to complete. With Murray's support Bellak developed a method of scoring the TAT in 1941 which was much shorter (Bellak & Abrams, 1996).

In the field of psychology today there is an increasing interest in the narrative mode of thought and explanation. This mode of thought is more concerned with experience as it unfolds over time; the intentions, desires, and wishes of characters; their understanding of human motivation; and with the goals for which they strive. Human lives, like stories, are narratives, and there is a structure to these experiences which gives them meaning (Cramer, 1999). This meaning is neither true nor false, the same story can be subject to many interpretations, or meanings. The TAT is also a narrative; it also expresses the narrative of the storyteller, representing a construction of reality, not a reconstruction. The storyteller creates meaning through the construction of story lines, the listener through interpretation. All these constructions are influenced by context, and reflect the intentions of both creator and interpreter (Cramer, 1999).

4.8.2.1 Using the TAT to assess level of object relations

Westen (1991, 1995) used the TAT to assess the developmental level of object relations, also the distortion of object relations, as this occurs in the Borderline Personality Disorders (BPS). Westen regards the TAT as a good source of data for assessing object relations because subjects are asked to draw on their internal object representations to construct characters and interaction in response to an ambiguous interpersonal situation as depicted on the TAT cards. He developed what is known as the Social Cognition and Object Relations Scale (SCORS) in which there are four areas of psychological functioning; (a) knowing about a person's internal, psychic representations of significant others; (b) knowing about the quality of affect in relationships with others; (c) knowing about the capacity for emotional investment in relationships, moral

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standards and values; (d) knowing about the capacity of the individual for understanding interpersonal motivation. Each of these areas can be characterised by five developmental levels, ranging from primitive to mature (Cramer, 1999). The use of a coding system like SCORS is that it provides the clinician with a way of systematically determining the developmental level, or relative pathology, of different respondents, based on the assessment of object relations.

4.8.2.2 Using the TAT to assess defence mechanisms

Another more recent approach for using the TAT is the Defence Mechanisms Manual developed by Cramer (1991). This method is used to assess the presence of three defence mechanisms, each chose to represent varying degrees of maturity. *Denial* is the most primitive mechanism of the three; *projection* being somewhat more complex, and more mature defence that denial; and finally *identification* which is a considerably more complex and more mature defence. All three defences are coded according to a series of set criteria. Each story is rated for each defence by more than one rater. Various studies have demonstrated adequate inter- rater reliability (Cramer, 1991; Cramer, Blatt & Ford, 1988).

4.8.2.3 Reliability and validity of the TAT

Measures of reliability based on internal consistency are not appropriate for the TAT. The cards are not the same as a series of items on a personality scale, all which are supposed to measure the same personality trait. The cards were designed to represent different areas of psychological functioning and tap different kinds of psychological conflict (Cramer, 1999). Looking for close consistency across different TAT cards is therefore pointless, coefficient alpha being an inappropriate measure of reliability for the TAT. Furthermore, there are difficulties with test-retest reliability. Initial exposure to the cards could alter subsequent responses on a second testing

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(Bellack & Abrams, 1997). Also, test- retest reliability is based on the assumption that the characteristic being measured does not change over time. In the case of certain personality aspects, such as defence mechanisms, this is not always the case.

Cramer (1999) feels that the only appropriate method of determining TAT reliability is an approach used in all observational methods, the TAT being one such method, not a psychometric test. Reliability in observational studies is based on the agreement between two or more independent observers, therefore an inter- rater reliability is perhaps a more appropriate method of determining reliability with the TAT. Cramer (1999) feels validity should also be sought in the confirmation of theoretical predictions.

4.9 The Millon Clinical Multiaxial Inventory III (MCMI-III)

For the past four decades Theodore Millon has been developing a theory of personality in scientific literature (Millon, 1996). In an attempt to develop an integrated, unified science of personology and psychopathology he has advocated that, rather than developing independently and in a disconnected manner, an approach should embody four explicit elements. These are *theories*, or heuristic conceptual schemes. Secondly, these theories enable the development of a formal *nosology*, such as the DSM-IV. Thirdly, this nosology allows for the development of coordinated *instruments*, such as psychometric tools, empirically grounded enough to enable the hypotheses of the theory to be scientifically investigated. Fourthly, from these instruments, areas can be targeted for *interventions* (Davis, 1999).

Millon's original Biosocial Model was developed in the late 1960s. In the early 1990s he re-conceptualised his model of personality into an evolutionary model. The Biosocial model focused

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on two main points, firstly, biophysical constitution and past experiences. The personality style with which a person relates to his world is based in basic constitutional factors. A child's energy, tempo, intelligence, physical strength, and sensory activity, all comprise a given set of capabilities that colour how events are perceived and influences his or her responses to the events. If pressures and demands upon the child are too severe, they may force the child to devise alternative strategies that are potentially problematic or contrary to his or her natural inclination (Choca, 1999; Davis, 1999; Millon, 1996).

The model that was reconceptualised in the 1990s indicated a reevaluation of the deeper or latent features that may underlie human functioning. For this Millon turned outside of the field of psychology. He felt that the deeper laws of human functioning may best be explained by looking at universal principles found in non- psychological manifestations of nature such as physics, chemistry and biology. What he deduced from these was that the principles and process of evolution are essentially universal, yet are expressed differently, as seen in the diverse fields of physics, chemistry, biology, and psychology. Millon observed a parallel between the phylogenic (history of evolution of animal or plant type) evolution of the genetic composition of a species and the ontogenic (the origin and development of an individual) development of the adaptive strategies of an individual organism, in other words its personality style. At any point in time a species will possess a limited set of genes that serve as trait potentials. Over succeeding generations the frequency distribution of the genes will change in their relative proportions depending on how well the traits they undergrid contribute to the suitability of the species to that environment. Parallel to that an individual organism begins life with a limited subset of genes of their species and the trait potentials they subserve. In time the prominence of these trait potentials, not the proportion of the genes themselves, will become differentially prominent as

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the organism interacts with the environment. The organism then 'learns' from these experiences which traits 'fit' best, that is, which are optimally suited to the ecosystem. Therefore in ontogenesis, it is the prominence of gene- based traits that changes as adaptive learning takes place. A parallel evolutionary process takes place, one within the life of a species and the other within the life of the individual organism. The organism shapes latent potentials into adaptive and manifest styles of perceiving, feeling, thinking and acting. These unique ways of adaption, reinforced by the interaction of biologic endowment and social experience, compromise the elements of what we call a personality style, which is a formative process within a single organism's lifetime (Davis, 1999; Millon, 1996, Millon, 2000). Disorders of personality would represent unique styles of maladaptive functioning that can be traced to deficiencies, imbalances or conflicts in the capacity of a species to relate to the environment(s) it faces.

Four spheres or domains in which evolutionary and ecological principles are demonstrated were labelled by Millon, these provide a conceptual background from the adjacent sciences and furnish a rough model concerning the styles of personality disorder. These four domains are existence, adaption, replication and abstraction (Davis, 1999; Millon, 1996, Millon, 2000).

Existence refers to the transformation of random or less organised states into those possessing distinct and durable structures of greater survivability. In other words the aims of existence relate to life enhancement and life preservation. Millon termed this the *pleasure- pain* polarity. Two intertwined strategies are required for survival: one to achieve existence and the other to preserve it. The aim of the first is the enhancement of life; that is creating ecologically survivable organisms. The aim of the second is the preservation of life; that is, avoiding events that might terminate it. A shifting balance between the two aims makes up the pleasure- pain bipolarity and

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typifies normality

With regards to modes of adaption, for an organism to maintain its unique composition, differentiated from the larger ecosystem of which it is a part, requires good fortune and effective modes of functioning. Millon termed these adaptive modes; *ecological accommodation* and *ecological modification*, or what he also termed as the *passive- active* polarity. The modes of adaption fit into the two- part polarity. The first mode, ecological accommodation, implies an inclination to 'fit in' to the environment, to locate and remain securely anchored in a niche, being subjected to the unpredictablilities and whims of the environment. Underlying this mode is the expectation that the environment will furnish both the nourishment and protection needed to sustain existence. This is the evolutionary process employed by the plant kingdom, a passive, stationary, rooted, yet essentially pliant and dependant survival mode. The second of the two adaptive modes is that of the animal kingdom. This represents a primary inclination to towards modifying the ecosystem, arranging or changing the elements constituting the larger milieu. Optimal functioning amongst humans requires a flexible balance that involves both adaptive polarities (Choca, 1999; Davis, 1999; Millon, 1996; Millon, 2000).

The third ecological principle refers to strategies of replication. The polarity here is between reproductive individuation and reproductive nurturance, Millon termed this the *self- other* polarity. Recombinant (def: incorporated into chromosome other than its original one) replication requires the partnership of two parents, each contributing genetic material in a distinctive and species- characteristic manner. Similarly, the attention and care given to the offspring of a species is also species distinctive. Noteworthy is the difference between the contributing parents degree to which they protect and nourish joint offspring. Although this might be balanced and

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complementary, it is rarely identical or comparable in devotion or determination. This difference in reproductive investment strategies underlies the evolution of the male and female genders, the foundation for the third polarity Millon proposes to account for the procession of evolution. This differentiation undergrids what he terms the *self- other* orientation polarity, individuals can be both self- actualising and other- encouraging, usually leaning more to one or the other (Davis, 1999; Millon, 1996, Millon, 2000).

The fourth polarity refers to the processes of abstraction, or the capacity to symbolize one's world. This polarity is less central to his personality studies, but more relevant to his cognitive-neuroscience formulations. It is therefore bypassed in his personality- orientated version of his theories.

4.9.1 Taxonomy

From this evolutionary model Millon developed theoretical concepts that describe normal personalities and personality disorders. He developed a classification scheme that combined in a matrix what he termed *dependant, independent, ambivalent, discordant* and *detached* styles with an activity- passivity dimension. As it evolved these generated 11 basic types and 3 severe variants, for a total of 14 personality prototypes. These were conceived as prototypal and heuristic constructs, not as diagnostic entities, even though they have a close correspondence to the DSM-IV personality disorders. The following outline the 11 basic pathological patterns and the 3 deemed to be severe patterns.

1) Schizoid Prototype: comprises of the *passive- detached* personality style. This individual has developed a prominent deficiency in the capacity to experience both elements of the first polarity,

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pleasure and pain. Most obvious is the person's social passivity, with affectional needs and emotional feelings being minimal. The individual functions as an indifferent, passive observer, detached from the rewards and demands of human relationships (Millon, 2000; Millon & Davis, 1996).

2) Avoidant Prototype: displays an *active- detached* style. This individual experiences an encompassing fear and mistrust of others, preoccupying them with attempts to distance themselves from psychic pain. It is only through active withdrawal that they can protect themselves. Therefore, despite their desire to relate, they have learned it best to deny these feelings and keep an interpersonal distance (Millon, 2000; Millon & Davis, 1996).

3) Depressive Prototype: these individuals are seen as possessing a *pain- passive* personality style, in which there is an acceptance of pain as inevitable and a consequent adoption of passive accommodation. Individuals are noted by a long- standing pattern of glumness, pessimism, and inability to experience pleasure. There is also prominent self- devaluation and a loss of hope that 'normality' can ever be achieved (Millon, 2000; Millon & Davis, 1996).

4) Dependant Prototype: these individuals display a *passive- dependant* style, noted by a constant search for relationships in which one can lean on others for affection, security and leadership. This lack of autonomy is often a result of parental overprotection, as a result they learn the benefits of assuming a passive role in interpersonal relations, accepting support and willingly submitting themselves to the wishes of others to maintain their continued support and affection (Millon, 2000; Millon & Davis, 1996).

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5) Histrionic Prototype: this prototype possesses an *active- dependant* style. The person is motivated by an almost insatiable, indiscriminate, search for approval and affection from others. The nature of the behaviour may give the false impression of self- assurance and independence, but beneath lies a fear of autonomy and need for social acceptance and approval from others. Affection needs to be replenished constantly and is sought in almost every source of interpersonal contact (Millon, 2000; Millon & Davis, 1996).

6) Narcissistic Prototype: exhibits a *passive- independent* style, primarily noted by egotistic self-involvement. From early experience these individuals have learned to overvalue their self- worth, expecting good things to happen to them with little effort on their part. Their confidence is however mainly based on false premises. They assume others will recognise their specialness and will maintain an air of arrogance and self- assurance, an exploit others to their own advantage (Millon, 2000; Millon & Davis, 1996).

7) Antisocial Prototype: this type displays an *active- independent* style. It is noted by a learned mistrust of others and consequent desire for autonomy and retribution. Many engage in deceitful and illegal behaviour designed to exploit the environment. A significant proportion are irresponsible and impulsive, although others may artfully evade detection, while engaging in activities that appear socially commendable, unless their life is examined carefully (Millon, 2000; Millon & Davis, 1996).

8) Sadistic Prototype: this type is described by Millon as an *actively discordant* style due to the person's self- focus and a reversal of the pain- pleasure polarity, that being, they enjoy giving pain to significant others. They may feel pleased or indifferent to the destructive consequences

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of their cruel behaviour. Many are hypersensitive to humiliation and therefore adopt a hostile attitude to counter these feelings, their actions are seen by them as being justified because people are seen as unreliable and deceitful. Autonomy and hostility are considered the only means to head of deceit and betrayal (Millon, 2000; Millon & Davis, 1996).

9) Obsessive- Compulsive Prototype: Millon sees this prototype as having a *passive- ambivalent* style, this means that they exhibit a conflict between hostility towards others and a fear of social disapproval. They evidence an ambivalence between self and other. By suppressing resentment and over conforming and over complying in their surface behaviours they attempt to resolve the conflict. Underneath this front, however, are anger and intense oppositional feelings that can, at times, break through their controls (Millon, 2000; Millon & Davis, 1996).

10) Negativistic Prototype: this prototype possesses an *active - ambivalent* style. They display an inability to resolve the self- other conflict similar to those in the obsessive- compulsive prototype, however, their ambivalence remains close to consciousness and intrudes into everyday life. These individuals find themselves in endless difficulties and disappointments as they vacillate between deference and conformity at one time, and oppositional aggressiveness to others the next time. Their behaviour therefore displays an erratic pattern of explosive anger or stubbornness intermingled with moments of guilt and shame (Millon, 2000; Millon & Davis, 1996).

11) Masochistic Prototype: This is also known as the self- defeating type, it is described by Millon as a *passive- discordant* style. It is a pattern of giving into the abuses and suffering of life, but also often of self- sacrificing. These people may even encourage others to take advantage of

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them, hoping thereby to ultimately experience the lesser of more severe evils they anticipate. Some exaggerate their deficits and place themselves in inferior positions to avoid more troubling abuses (Millon, 2000; Millon & Davis, 1996).

The following prototypes in the classification system described by Millon are those deemed to be among the more severely dysfunctional. Their differentiation from the other 11 is made by several criteria, mainly deficits in social competence and periodic psychotic episodes.

12) Schizotypal Prototype: this reflects a constellation of behaviours that reflect poorly integrated or unusually dysfunctional schizoid or avoidant personality patterns. Most of these individuals prefer isolation with minimal personal attachments or obligations. Others may perceive them as strange or different due to behavioural eccentricities and cognitive dysfunctions (Millon, 2000; Millon & Davis, 1996).

13) Millon's Borderline Prototype (originally termed cycloid): this prototype represents a severely dysfunctional self- versus- other orientation. These individuals can experience intense endogenous moods, with recurring periods of dejection and apathy mixed with periods of anger, anxiety, or euphoria. Many engage in self- mutilating behaviour and suicidal thoughts, appear preoccupied with securing affection, have difficulty maintaining a clear- sense of identity, and display a cognitive- affective ambivalence, as expressed in simultaneous feelings of rage, love, and guilt towards significant others (Millon, 2000; Millon & Davis, 1996).

14) Paranoid Prototype: these individuals are described by Millon as exhibiting a dysfunctional independent (self- orientated) personality style. They display a strong mistrust of others and

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defensiveness against anticipated criticism and deception (Choca, 1999; Millon, 2000).

4.9.2 Instrumentation

Millon began with the question, 'do psychological syndromes, such as personality prototypes, have signs and symptoms that cluster together as do medical syndromes?' (Davis, 1999). He felt that the observation of these personality prototypes by clinicians may be connected to the fact that people possess enduring biophysical dispositions that consistently colour their experiences and that the range of experiences to which people are exposed throughout their lives is limited and repetitive. Once several components of a particular cluster are identified, knowledgeable observers should be able to infer the likely presence of other, unobserved, yet frequently correlated features comprising that cluster. Instrumentation can play a role in helping determine the presence of such symptom clusters (Craig, 1999a; Davis, 1999; Millon, 2000).

Like the DSM classification system, Millon identifies certain criteria for each personality disorder, but these are encompass a broader set of diagnostic domains (Millon, 1996; 2000; Millon & Davis, 1996). The domain model illustrates that categorical (qualitative distinction) and dimensional (quantitative distinction) approaches need not be in opposition or considered mutually exclusive. Millon discerns between the relatively stable and organised clinical domains (structures) from those that represent processing and modulating domains (functions)

4.9.2.1 Functional domains

Functional characteristics represent dynamic processes that transpire within the intrapsychic world and between the individual and his or her psychosocial environment. They represent expressive modes of regulatory action: behaviours, cognitions, perceptions, affect and

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mechanisms that manage, adjust, transform, coordinate, balance, discharge, and control the give and take of inner and outer life. Specific modalities and expressive variations characterise certain personalities best but even the most distinct personalities will display variations throughout the individual's life. The following are four functional diagnostic domains relevant to personality; expressive behaviour, interpersonal conduct, cognitive style, regulatory mechanisms (Davis, 1999; Millon & Davis, 1996)

4.9.2.2 Structural domains

These can be defined as cognitive- affective substrates and action dispositions of a quasi permanent nature. These attributes represent an embedded and enduring template of imprinted memories, attitudes, needs, fears, conflicts that guide the experience and transform the nature of ongoing life events. These structures have an orienting and preemptive effect in that they alter the character of action and the impact of subsequent experiences in line with preformed inclinations and expectancies. By temporal precedence they guide the character of current events. Four structural attributes relevant to personality have been described: self- image, object relationships, morphologic organization, mood- temperament (Davis, 1999; Millon & Davis, 2000).

The MCMI-III is a diagnostic test aligned with the Diagnostic and Statistical Manual fourth edition, diagnostic criteria. While not encompassing all the diagnostic categories in the DSM-IV, it does include almost all the Axis II personality disorders and a number of Axis I disorders. The scales included are; on Axis II: Schizoid, Avoidant, Depressive, Dependant, Histrionic, Narcissistic, Antisocial, Aggressive (Sadistic), Compulsive, Passive- Aggressive (Negativistic), Self- Defeating, Schizotypal, Borderline, and Paranoid. On Axis I the following are included;

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Anxiety, Somatoform, Bipolar: Manic, Dysthymia, Alcohol Dependence, Drug Dependence, Post- Traumatic Stress Disorder, Thought Disorder, Major Depression, Delusional Disorder (Millon, 1994). The test is in a true- false format, and as with any self- report inventory, the testee is required to know something about his or her personality, behaviour, and symptoms and also be willing to report them honestly on the test.

Interest in the test is far reaching with only research on the Rorschach and MMPI-2 having generated more published literature (Craig, 1999a; Weiner, 2000). Since the test's introduction in 1977 over 500 published article have appeared on the topic. The test has also been translated into various foreign languages (Craig, 1999a; Millon, 2000). In developing the test Millon used Loevinger's three- step test construction and validation, in which validation occurs throughout the test development process (Loevinger, 1957). At stage 1 theoretical- substantive items were constructed based on how well their content corresponded with Millon's theory. During stage two, known as internal validation, 289 items were prepared for stage three, external validation. With the MCMI-II this process was continued with an experimental version of 368 items, the introduction of an item- weighting system, and validity scales and various adjustments were added and fine tuned, increasing the test to four validity scales and thirteen personality disorder scales. The MCMI-III made further changes (Millon, 1994). Almost 50% of the items from the MCMI-II were changed and the scales reduced in length. Two new scales were added, PTSD and Depressive. Noteworthy response items dealing with eating disorders and child abuse were added but not scored on any scale, and the item- weighting scoring system was changed from a 3- point to a 2- point scale.

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Millon introduced the concept of base rate scores (BR), this is a transformed score that selects that point in the distribution of scores whereby the patient has all of the features of the disorder or syndrome at the diagnostic level. This approach was used because personality disorders and clinical syndromes are not normally distributed and a T score type of transformation would therefore not be appropriate (Craig, 1999a). BR scores of 85 or more on the personality scales are said to be diagnostic, but scores between 75 and 84 reflect some of the behaviours and traits of that disorder but not necessarily at a diagnostic level, however, it is not possible to tell which behaviours or traits (Millon, 1994).

4.9.2.3 Profile invalidity

Computer adjustments are made to MCMI scores on all scales which could be affected by under- or over reporting of symptoms. Scales Y (Desirability) and Z (Debasement) are used to detect and correct fake- good and fake- bad responses. Results are considered invalid when respondents endorse two or three of the unusual items on the three- item Validity Index, or obtain scores above or below a certain level on the Disclosure index (scale X) (Millon, 1994). Most studies indicate that the MCMI has been able to detect fake- bad response sets with better efficiency than a fake- good response set (Craig, 1999a).

4.9.2.4 Effects of demographic variables

In the United States of America the following differences based on gender and race were noted. Men score higher on Scale 6A (Antisocial); women higher on Scales H and CC (Somatoform Disorder and Major Depression respectively). No gender differences were consistently noted on Scales 2A and 8A (Avoidant and Negativistic respectively). No other conclusions were able to be drawn from the data available regarding gender.

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With regards to race the following differences were noted; African Americans score consistently higher on Scales 5 (Narcissistic), 6A (Antisocial), P (paranoid), T (Drug Dependance) and PP (Delusional Disorder). No racial differences were noted between blacks and whites on Scales 3 (Dependent), 7 (Compulsive), 8A (Negativistic) and A (Anxiety Disorder). No data are available for comparisons between whites and other ethnic groups on the MCMI scales (Craig, 1999a).

4.9.2.5 Strengths and weaknesses

The MCMI is unique in that it is one of the few assessment instruments in the field of psychology that was derived from a comprehensive theory. It is increasingly coordinated with the American Psychiatric Association's multiaxial diagnostic system, in the DSM. It enhances diagnostic efficiency by taking into account the base rates of the disorders it measures. It is also a short test to administer taking on average 20- 30 minutes. Interpretation is made easy if one is familiar with the DSMs terminology and criteria. It is however, susceptible to respondents with an acquiescent response set because most of the items are keyed true. It has difficulty in assessing patients with minor personality pathology and patients with severe personality dysfunction, such as psychotic disorders.

It cannot be used as a broad screening instrument since it is only designed for people experiencing problems, and may therefore over- score people who are 'normal' (Millon, 1994; Retzlaff, 1995). Furthermore, interpretation of personality scales where the BR score falls between 75 and 84 is a problem (Craig, 1999a). MCMI-III is not a general personality instrument to be used for 'normal' populations or for any purpose other than diagnostic screening or clinical assessment. Normative data and transformation scores are based entirely on clinical samples and

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only applicable to individuals who display psychological problems or who are engaged in a program of professional psychotherapy or psychodiagnostic evaluation. Assessment for forensic purposes is appropriate since many such cases were included in the normative sample. A further limitation, as with all self- report methods of data collection, is the tendency of similar patients to interpret questions differently, the patient's emotional state at the time of testing, and the possibility of patients to create false impressions.

4.9.2.6 Clinical and research uses

a) Primary intent is to provide information to clinicians who must make assessment and treatment decisions about individuals with emotional and interpersonal difficulties

b) Can be used in following settings: psychiatric outpatients, community agencies, university settings, general and psychiatric hospitals, court and private practice.

c) Cut- off scores can be used to make diagnoses.

d) Research uses: scale scores and profile patterns can be used to make and test a variety of clinical, experimental and demographic hypotheses.

4.10 The Minnesota Multiphasic Personality Inventory 2 (MMPI-2)

4.10.1 Introduction

The Minnesota Multiphasic Personality Inventory-2 is a broad band test intended to assess a number of personality patterns and emotional disorders (Butcher, Dahlstrom, Graham, Tellegen & Kaemmer; 1989). An eighth- grade (standard 6) level of reading comprehension and participant cooperation are necessary for successful administration. The test itself provides internal mechanisms in the event that these requirements have not been met (Butcher et al, 1989). The MMPI-2 can be used in a wide variety of settings and the tester can make use of a wide range

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of computer- based interpretive services providing diagnostic and assessment hypotheses.

4.10.2 Administering the MMPI-2

The ease with which the MMPI-2 can be administered and scored may lull some individuals into using the MMPI-2 in ways that may be unsuitable and compromise the ethical and professional requirements which all psychological assessment methods require. The testee needs to be assured of privacy, freedom from distraction and intrusions, and assurance that the results will be respected, safeguarded and used for the sole intention of his/ her benefit or treatment. If the administration of the test is not carried out by a fully qualified professional then supervision of the administrator by such a person is essential.

4.10.3 Testability of the subject

The usefulness of the data obtained via the test relies on the subject's ability to understand and comply with test instructions and with the requirements of the task, comprehension and interpretation of the content of the items as they relate to him or her, and to record these in a way required by the form of the test being administered. Certain conditions and emotional states may impair this ability: visual impairments, learning disorders, chemical intoxication, toxic reactions, delirium, post- seizure confusion due to an epileptic disorder, hallucinations, profound psychomotor retardation due to a major depressive disorder or extreme mania (Butcher et al, 1989). Also the subject must be able to read the content and interpret the meaning in the cultural context from which they have been derived. Although there are validational methods built into the test itself which can help determine the acceptability of an administration, it is better for the person administering the test to try and determine these for himself prior to testing. It is necessary that the subject have a sixth- grade (standard 4) or higher reading ability to adequately understand

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the item content. Based on contemporary reading proficiency levels, it would now require an eighth-grade (standard 6) reading level to comprehend the content of all the MMPI-2 items and respond to them appropriately.

4.10.4 International adaptions of the MMPI-2

As of yet the MMPI-2 has not been adapted to the South African context. The original MMPI, however, has been widely used amongst white South African population groups for many years. The MMPI-2 has been adapted to many other foreign contexts since its creation. So far the test has been or is being adapted to the following countries: Japan, Korea, China (Hong Kong and Mainland People's Republic of China), Thailand, Vietnam, Chile, Argentina, Mexico, Nicaragua, Puerto Rico, Spain, Belgium, Netherlands, Norway, Iceland, Russia, France, Italy, Greece, Turkey, an Arabic Translation, Hebrew translation, and a Persian version (Butcher, 1996). This indicates the popularity of the test worldwide and its adaptability to foreign contexts. An Butcher (1996) states that the international scene for personality assessment has become increasingly more active over the past two decades, especially since the publication of the MMPI-2 in 1989.

Butcher (1996) states there are many factors for the extensive development of the MMPI-2 in international contexts. Firstly, a fair number of countries have undergone rapid political-economic changes and have become more open to adapting Western technology to their situations. Countries not traditionally open to psychological testing are now more receptive to assessment methods developed in the West. Countries without the financial and professional resources to develop new instruments could now adapt clinical tests to their own situations.

Secondly, communication between mental- health professionals from various countries have

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continued to broaden thus increasing ideas regarding procedures and models of practice. Thirdly, linked to the second point, advances in technology have facilitated the rapid communication of professionals, allowing for more efficient collaboration with regards to research. Such tools as FAX machines, the Internet, and express mail allows researchers to communicate even on an hourly basis. As Butcher states:

> When Pancheri and I were working on our handbook we had great difficulty communicating because the mail between the United States and Italy was so unreliable that correspondence and data were routinely lost between Minneapolis and Rome. Telephone calls, though more reliable, were prohibitively expensive and had to be very brief.
>
> (1996: xxviii)

Finally, the publication of two new MMPI instruments, the MMPI-2 for adults in 1989 and the MMPI-A for adolescents in 1992, made translation and adaption much easier and immediately rewarding for foreign psychologists. The revised items were much easier to translate and the new norms based on a more diverse sample of Americans proved to be a closer match to normals from other countries.

4.10.5 The validity scales

For the test to yield the most accurate information the test subject needs to approach the test-taking task in accordance with the test instructions. Subjects need to read the test item, consider its content and respond in an as honest and accurate as possible manner within the true- false format. When excessive deviations from this procedure occurs the protocol should be considered

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invalid and cannot be interpreted any further. But this does not mean that the exercise has been fruitless, test- taking attitude can also aid in evaluating an individual, such as a person who is applying for medical pension or has some other secondary gain, also certain personality disorders might be more likely than others to manipulate test responses.

Hathaway and McKinley hoped that such distortions would be less likely with the MMPI due to the empirical keying procedure used in the development of the MMPI, as opposed to earlier face-valid inventories. However, they recognised the importance of assessing test- taking altitudes. In the original MMPI four validity indicators were developed and are still used in the MMPI-2, in addition, three new validity indicators were developed specifically for the MMPI-2 (Butcher et al, 1989: Graham, 1987; Graham, 1993). These seven indicators are:

- i) Cannot say (?) score
- ii) L- scale
- iii) F- scale
- iv) K- scale
- v) Back- page infrequency (Fb) scale
- vi) Variable response inconsistency scale (VRIN)
- vii) True response inconsistency scale (TRIN)

4.10.5.1 Cannot say (?) score

This scale is simply the number of omitted items, including those answered as both true and false. Reasons may vary as to why subjects omit items on the test. Sometimes, it is due to carelessness or confusion. Alternatively, omissions can be as a result of an attempt to avoid admitting undesirable things about oneself without actively lying by answering incorrectly on the

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test item. Indecisive people who cannot decide between responses may leave items unanswered. Sometimes responses are omitted due to a lack of information or experience necessary for a meaningful response (Graham, 1993).

Regardless of the reason for the omission(s) a large number of them can lead to lowered scores on other scales, this then affects the validity of the protocol. The MMPI- 2 manual suggests that protocols with thirty or more items omitted must be regarded as highly suspect, if not completely invalid (Butcher et al, 1989; Graham, 1993). Graham (1993) however, feels that an amount of thirty or more omissions is too liberal and says it is his own practice to interpret with great caution protocols with over 10 items missing and to not interpret at all protocols with more than 30 items missing.

4.10.5.2 The L- scale

The L- scale was originally constructed to detect an intentional and rather unsophisticated attempt on behalf of the subject to present him/ herself in a favourable light. All fifteen items in the original L-scale have been maintained in the MMPI-2. The items deal with minor flaws and weaknesses to which most people are willing to admit, for example, "I do not like everyone I know". Individuals who are intentionally trying to present themselves in a favourable light are not willing to admit to even such minor 'flaws'. These subjects will produce high L-scale scores. The average number of 'true' endorsed responses in the normative sample was approximately three.

The following are summaries of hypotheses made from either high or low L-scale scores, it should be noted that these descriptions are modal ones and that all descriptions will not

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necessarily apply to all individuals with a given score. The hypotheses must be validated by referring to other test and non- test data (Graham, 1993).

According to the MMPI-2 manual, the following can be regarded as rough cut- off boundaries regarding implications for the scale elevations:

Table 4: Cut- off points for the L- scale

T-Score Level	Usefulness of Profile	Sources of Elevation	Interpretive Possibilities
Very High (80 & above)	Probably invalid	Faking well- adjusted	Test resistance or naivete
High (70- 79)	Questionable validity	Random responding, denial of faults	Confusional state, Repressive style, Lacks insight
Moderate (60- 69)	Probably valid	Defensive set	Over- conventional and conforming, Moralistic, Rigidly virtuous
Modal (50- 59)	Valid	Typical test- taking approach	Comfortable with own self- image
Low (49 & below)	Possibly faking-bad	"Plus- getting" set, All True responding	Over- emphasizing pathology, Self- confident and independent, Cynical, sarcastic

(From Butcher et al., 1989:25)

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4.10.5.2.1 Summary of the descriptors for the L- scale

High L-scale scores are indicative of persons who:

a) are trying to create a favourable impression of themselves by not responding honestly to items
b) may be defensive, denying or repressing
c) may be confused
d) manifest little or no insight into their own motivations
e) show little awareness of consequences to other people of their behaviour
f) over evaluate their own worth
g) tend to be conventional and socially conforming
h) are unoriginal in thinking and inflexible in problem solving
i) are rigid and moralistic
j) have poor tolerance for stress and pressure

Low L-scale scores are indicative of persons who:

a) probably respond frankly to items
b) are confident enough about themselves to be able to admit minor faults and shortcomings
c) in some cases may be exaggerating negative characteristics
d) are perceptive and socially reliant
e) are seen as strong, natural and relaxed
f) are self- reliant and independent
g) function effectively in leadership roles
h) communicate ideas effectively
i) may be described by others as cynical and sarcastic

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4.10.5.3 The F- Scale

The F- scale was originally developed to assess deviant or atypical ways of responding to test items. In the new MMPI-2 certain items were dropped because of objectionable content, leaving the scale with 60 items. The F-scale serves three important functions. Firstly, it is an index of test- taking attitude and is useful in detecting deviant response sets. Second, if one can rule out profile invalidity, the F- scale is a reliable indicator of degree of psychopathology, with higher scores implying greater psychopathology. Thirdly, scores on this scale can be used to generate inferences about other extra- test characteristics and behaviours (Graham, 1993).

Table 5: Cut- off points for the F- scale

T- Score Level	Usefulness of Profile	Sources of Elevation	Interpretive Possibilities
Very High (91 and above)	Probably invalid	Random responding, Scoring errors, severe dyslexia	Uncooperative, faking bad, Marginal reading ability, Test resistance
High (71- 90)	Questionable validity	Malingering, Psychotic processes, All true responding	Plea for help, Adolescent identity crisis, Confusional state

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Moderate (56- 70)	Probably valid	Desire to be unconventional, Strong political or social or religious comments, Lagging attention, Extreme honesty in answering, Agitation in midst of crisis	Risk of aggressive acting- out, Moody, restless, unstable, Moderately severe psychopathology, Self-critical, Agitated, distractible
Modal (45- 55)	Acceptable record	A few deviant beliefs	Well- functioning Typical test responding
Low (44 and below)	Acceptable record	Conformity Possibly faking good	Conventional, Sincere, Socially conforming

(From Butcher et al., 1989:26)

4.10.5.3.1 Summary of the descriptors for the F- scale

Graham (1993) has slightly different cut off points regarding hypotheses made from scale scores and more detailed commentary on the implications of these scores. He summarises the high and low scores as follows:

T- scores equal or greater than 100 are indicative of persons who:

a) may have responded randomly to MMPI-2 items

b) may have responded true to all of the MMPI-2 items or false to all of the items

c) may have been "faking bad" when taking the MMPI-2

d) if hospitalised psychiatric patients, may present with:

i. delusions

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ii. visual and/ or auditory hallucinations

iii. reduced speech

iv. withdrawal

v. poor judgement

vi. short attention span

vii. Lack of knowledge of reasons for hospitalization

viii. psychotic diagnosis

ix. some extra- test signs of organicity

T- scores in a range of 80- 99 are indicative of persons who:

a) may be malingering

b) may be exaggerating symptoms and problems as a plea for help

c) may be quite resistant to the testing procedure

d) may be clearly psychotic

T scores in a range of 65 to 79 are indicative of persons who:

a) may have very deviant social, political, or religious beliefs

b) may manifest clinically severe neurotic or psychotic disorders

c) if relatively free of psychopathology, are described as:

i. moody

ii. restless

iii. dissatisfied

iv. changeable, unstable

v. curious and complex

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vi. opinionated

vii. opportunistic

T scores between 50 and 65 are indicative of persons who:

a) have endorsed items relevant to a particular problem area

b) typically function adequately in most aspects of their life situations

T scores that are below 50 can indicate the following:

a) answered items as most normal people do

b) are likely to be free of disabling psychopathology

c) are socially conforming

d) may have "faked good" in responding to the MMPI-2 items

4.10.5.4 The K- Scale

The K- scale is a more subtle and effective index of attempts by testees to deny psychopathology and present themselves in a favourable light, or to exaggerate psychopathology and appear in an unfavourable light. It was thus thought that high scores on the scale indicated a defensive approach to the test whereas low scores were thought to indicate unusual frankness and self-critical attitudes. A statistical procedure was also developed for correcting scores on some of the clinical scales, the K- correction (Graham, 1993; Butcher et al, 1989).

The items in the K- scale cover several different content areas in which a person can deny problems, such as hostility, suspiciousness, excessive worry. This scale's items tend to be much more subtle than items on the L- scale, it is therefore less likely that a defensive person will

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recognise the purpose of the items and manipulate his responses (Graham, 1993). Although above- average scores on the K- scale usually represent defensiveness, moderate elevations sometimes reflect ego strength and psychological resources. There is no clear way to determine when elevated scores indicate clinical defensiveness or more positive characteristics. A rule of thumb may be that if the person does not appear to be psychologically disturbed and appears to be functioning relatively well, an elevated score may reflect positive characteristics rather than defensiveness (Graham, 1993).

Table 6: Cut- off points for the K- scale

T- Score Level	Sources of Elevation	Interpretive Possibilities
High (71 and above)	Marked defensiveness Faking good All false responding Guardedness in employment situations	Shy, inhibited, lacking emotional involvement Reliance on denial Lacks insight
Moderate (56- 70)	Moderate defensiveness No acknowledgement of distress	Adaptive Self- reliant Unwilling to seek help
Modal (41- 55)	Balance between self- protectedness and self- disclosure	Sufficient resources for intervention
Low (40 and below)	Faking bad responding All true responding Plea for help Inadequate defences	Cynical, sceptical Panic state Poor self- concept Critical of self and others

(From Butcher et al., 1989)

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4.10.5.4.1. Summary of descriptors for the K- scale

Graham (1993) makes the following hypotheses surrounding the different scores. Very high scores are indicative of persons who:

a) may have responded false to most of the items

b) may have tried to "fake good" in responding to items

Moderately high scores are indicative of persons who:

a) may have approached the test- taking task defensively

b) may be trying to give an appearance of adequacy, control, and effectiveness

c) are shy and inhibited

d) are hesitant about becoming emotionally involved with people

e) are intolerant, unaccepting of unconventional attitudes and beliefs in others

f) lack self- insight and self- understanding

g) are not likely to display overt delinquent behaviour

h) if clinical scales are also elevated, may be seriously disturbed psychologically but have little awareness of this

i) if not seriously disturbed psychologically, may have above- average ego strength and other positive characteristics

Average scores on the K- scale are indicative of persons who:

a) maintain a healthy balance between positive self- evaluation and self- criticism in responding to items

b) are psychologically well adjusted

c) show few overt signs of emotional disturbance

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d) are independent and self- reliant

e) are capable of dealing with problems in daily life

f) exhibit wide interests

g) are ingenious, enterprising, versatile, and resourceful

h) think clearly and approach problems in reasonable and systematic ways

i) mix well socially

j) are enthusiastic and verbally fluent

k) take an ascendant role in relationships

Low K- scores are indicative of persons who:

a) may have responded true to most of the items

b) may have tried to "fake bad" when responding

c) may be exaggerating problems as a plea for help

d) may exhibit acute psychotic or organic confusion

e) are critical of self and others and are self- dissatisfied

f) are ineffective in dealing with the problems of daily life

g) show little insight into their own motives and behaviour

h) are socially conforming

i) are overly compliant with authority

j) have a slow personal tempo

k) are inhibited, retiring, and shallow

l) are socially awkward

m) are blunt and harsh in social situations

n) are cynical, sceptical, caustic, and disbelieving

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o) are suspicious about the motivations of other people

4.10.5.5 Back- page infrequency (Fb) scale

In a protocol where the F- scale score is valid, an elevated Fb- score could indicate that the subject responded to items in the second half of the test in an invalid manner. In this situation, one could make hypotheses regarding the scales whose items occur early in the test, but scales that are based on items that occur later in the test should not be interpreted. Because of the newness of this scale extensive research is lacking regarding optimal cut- off scores for identifying invalid records. Until such research has been conducted it is possibly best practice to use the same T-score cut- offs for the Fb- scale as for the F- scale. Persons who randomly respond to items throughout the test will have very elevated Fb- scale scores and elevated scores on the VRIN scale (above 80). Testees that respond 'true' to most items or who "fake bad" will most likely produce very elevated scores on the Fb- scale. In a 'true' response bias, the high Fb- score will be accompanied by a TRIN- scale T- score greater than 80 in the true direction (Graham, 1993).

4.10.5.6 Variable Response Inconsistency Scale (VRIN) and True Response Inconsistency Scale (TRIN)

Both of these scales are new additions and complement traditional MMPI validity indicators. Both provide an index of the tendency of a subject to respond to items in ways that are inconsistent or contradictory, thus resembling the Carelessness scale. They both consist of pairs of specially selected items.

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The members of each VRIN item pair have either similar or opposite content, each pair is scored for the occurrence of an inconsistency in the responses to the two items. The score on the VRIN scale is the total number of items pairs answered inconsistently. A high VRIN score is a warning that a testee may have been answering items in an indiscriminate manner, and may raise possibility that the profile may be invalid and essentially uninterpretable.

The TRIN scale consists solely of pairs that are opposite in content. Inconsistency therefore occurs when a testee responds 'true' to both items of the pair, when this occurs one point is added to the TRIN score. If the testee responds by answering 'false' to certain item pairs, one point is subtracted. Therefore high TRIN scores indicates someone who gives 'true' answers indiscriminately and low TRIN scores indicates someone who answers 'false' indiscriminately. Thus either very high or very low scores may indicate indiscriminate answering and may render the profile invalid.

TRIN and VRIN are intended to complement L, F, and K scales in unique ways.

A high F score and high VRIN score can indicate a profile that is uninterpretable due to carelessness or confusion. A high F and low VRIN could reflect either true psychopathology or deliberate efforts to fake bad. A high K score and low TRIN is most likely to reflect indiscriminate False- responding. The use of TRIN and VRIN is currently experimental and caution should be exercised when using them for interpretive purposes, but in the mean time the following rough guidelines can be used to determine significant inconsistency: VRIN raw scores of 13 or greater and TRIN raw scores of 5 or less or 13 of greater (Butcher et al, 1989).

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4.10.5.7 The clinical scales

The clinical scales of the MMPI-2 are basically the same as those found in the original MMPI. Some items were deleted from some of the scales because they had become dated or deemed to have objectionable content, usually to do with religious beliefs or bowel or bladder function. Some items were modified slightly to modernize them, eliminate sexist references, or to improve readability (Graham, 1993).

The definition of a high score on a scale has differed greatly in literature and from one scale to another. Low scores have also been defined in different ways in literature. Several studies with the MMPI-2 have attempted to clarify the meaning of low scores on the clinical scales. Keiller and Graham (1993) concluded in their research that low scores convey important information but not as much as high scores. The exceptions were scales 5 and 0 for which limited inferences can be made about low scorers.

In general T- scores greater than 65 are considered to be high. It must be taken into account that T- score levels that are used have been established some what arbitrarily and clinical judgement is necessary in deciding which inferences should be applied to scores at or near the cut- off scores for the levels. It should also be taken into account that not every inference presented will apply to every person who has a T- score at that level (Graham, 1993).

4.10.5.7.1 Scale 1: Hypochondriasis

This scale was developed to identify persons who manifested a pattern of symptoms associated with the label hypochondriasis. This label is characterised by a preoccupation with the body and constant fears of disease and illness. Although not delusional they are persistent. Patients with

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real physical complaints may show somewhat elevated T scores on this scale (approximately 60). The elderly may also have elevated scores when compared to the general adult population possibly due to a deterioration in health.

High scores may be summarised as follows. Extremely high scores, over 80, may be indicative of dramatic and sometimes bizarre somatic concerns. If scale 3 is also elevated the possibility of a conversion disorder may be considered. If scale 8 is also elevated with scale 1 then somatic delusions may be present.

Moderate elevations (T=60-80) tend to present vague, nonspecific complaints. If complaints are specific they may be epigastric in nature, also, chronic weakness, lack of energy, and sleep disturbance tend to be common in this range of scores. When medical patients present with scores over 60 there may be a strong psychological component to the illness.

High scale 1 scorers in both psychiatric and non- psychiatric samples tend to have rather specific personality attributes. They tend to be selfish, self- centred, and narcissistic. Their outlook on life tends to be pessimistic, defeatist and cynical. They are generally dissatisfied and unhappy and are likely to make those around them miserable. They may be demanding and critical. Extremely high and moderate scorers tend to see themselves as physically ill and seeking medical explanations and treatment for their symptoms. They tend to lack insight into the causes of their complaints and deny any psychological interpretations. This and their cynical outlook tend to make them generally poor candidates for psychotherapy.

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4.10.5.7.2 Scale 2: Depression

This scale was developed to assess symptomatic depression which is primarily characterised by poor morale, lack of hope for the future, and general dissatisfaction with one's life situation. Scale 2 appears to be a good indicator of testee's dissatisfaction and discomfort with their life situations. While elevated scores may be indicative of clinical depression, moderate scores tend to be indicative of a general attitude/ lifestyle characterised by poor morale and lack of involvement.

High scores on scale 2 can be summarised as follows. People with scores exceeding 70 often display depressive symptoms. They tend to be pessimistic about the future and about the possibility of overcoming problems, they may talk about suicide and self- deprecation and guilt feelings are common. Such scorers often receive a diagnoses of a depressive nature. They show a marked lack of self- confidence. Their lifestyle may be characterised by withdrawal and lack of intimate involvement with other people, they may be introverted or aloof to maintain psychological distance from others. Because high scale 2 scores are suggestive of great personal distress, they may indicate a good prognosis for psychotherapy (Graham, 1993).

4.10.5.7.3 Scale 3: Conversion hysteria

This scale was constructed on patients who exhibited some form of sensory or motor disorder for which no organic basis could be established. 60 items comprise this scale reflecting physical specific complaints or troubling disorders, but some items involve a denial of problems or lack of social anxiety often seen in individuals with these defences (Butcher et al, 1989). This scale would help to identify patients who were having hysterical reactions to stress situations. Scale 3 scores are related to intellectual ability, with brighter persons scoring higher. As with scale 1,

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patients with bona fide medical problems for whom there are no psychological components tend to obtain scores in the region of 60 on this scale (Graham, 1993).

Generally high scores indicate someone who reacts to stress and avoid responsibility by developing physical symptoms. These symptoms do not fit the picture of any known organic disorder. The symptoms may include: headaches, stomach discomfort, chest pain, weakness and tachycardia. These people may be symptom- free most of the time but symptoms may appear when under stress and disappear when the stress subsides. The most frequent diagnoses for such patients are conversion disorder and psychogenic pain disorder. These individuals often posses little insight and may be infantile in manner (Graham, 1993).

4.10.5.7.4 Scale 4: Psychopathic deviate

This scale was developed on individuals who were referred for psychiatric assessment for clarification of why they continued to have conflict with the law even though they suffered no cultural deprivation and despite possessing normal intelligence and the absence of any serious neurotic or psychotic disorders (Butcher et al., 1989). Subjects included in the original sample were characterised by lying, stealing, sexual promiscuity, excessive drinking and the like but no major criminal types were included. There are 50 items comprising this scale (Graham, 1993).

Extremely high T- scores, over 75, tend to be associated with individuals who have difficulty incorporating the values and standards of society. These individuals may engage in asocial, antisocial and criminal activities. High scorers tend to be rebellious towards authority figures, have stormy relations with family members, underachieve at school, have poor work histories, and marital problems. They strive for immediate gratification of needs and therefore act

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impulsively having a low frustration tolerance. Their relationships tend to be superficial. They may tend to be aggressive with women being more expressing their aggression in more passive, indirect ways. They are generally unable to accept responsibility for their actions and may be problematic in psychotherapy (Graham, 1993).

4.10.5.7.5 Scale 5: Masculinity- femininity

This scale was comprised on men who sought psychiatric help in their efforts to control homoerotic feelings and cope with the painful confusion surrounding their gender role. Scale 5 is essentially reverse for the two sexes, since the T-score tabulations for females run in the opposite direction from those for males (Butcher et al., 1989). The result is that high T- scores for both genders indicates deviation from one's own gender role. Most of the items are non-sexual in nature covering topics like work and recreational interests, worries and fears, excessive sensitivity and family relationships. Education level does have an influence on this scale. More educated men tend to obtain slightly *higher* T scores on scale 5 than less educated men. More educated women tend to obtain slightly *lower* T scores on scale 5 than less educated women.

Very high scores, T- score over 65, for both men and women suggests the possibility of sexual concerns and problems. These may be associated with homoerotic trends or homosexual behaviour, but may also centre around sexual problems and behaviours of other kinds.

In men high scores, over 60, are indicative of a lack of stereotypical masculine interests. These individuals tend to have aesthetic and artistic interests, are likely to participate in housekeeping and child- rearing activities to a greater extent than do most men. Men with low scores present themselves in a stereo typically masculine light, this reflects in their masculine preferences in

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choice of work, hobbies and other activities.

In women high scores are more uncommon. When encountered they usually reflect a rejection of traditional female roles (Graham, 1993).

4.10.5.7.6 Scale 6: Paranoia

This scale was developed on patients showing primarily some form of paranoid condition or state. All forty of the original items were retained (Butcher et al., 1989). The paranoid symptoms include ideas of reference, feelings of persecution, grandiose self- concepts, suspiciousness, excessive sensitivity, and rigid opinions and attitudes. It is possible to obtain high T-scores, greater than 65, without endorsing any of the psychotic items (Graham, 1993).

Extremely high elevations, greater than 70, indicate people who may exhibit psychotic behaviour, disturbed thinking, delusions of persecution or grandeur, ideas of reference, feel angry or resentful, utilize projection as a defence mechanism. In a psychiatric setting may receive diagnoses of schizophrenia or a paranoid disorder. Moderate elevations, between 60 and 70, can indicate people who have a paranoid predisposition, overly sensitive and responsive to others, rationalize and blame others for their misfortunes, appear moralistic and rigid in their opinions, have poor prognosis for therapy, in therapy reveal hostility and resentment toward family members (Graham, 1993).

4.10.5.7.7 Scale 7: Psychasthenia

This scale was constructed primarily on patients displaying obsessive worries, compulsive rituals, or exaggerated fears of the neurotic group described at the time as suffering from psychasthenia (a weakening of one's mental control over thoughts and actions) but which

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corresponds to the current diagnostic category of obsessive- compulsive disorder. No subscales have been developed for this scale (Butcher et al., 1989). Common symptoms include thinking characterised by excessive doubts, compulsions, obsessions, and unreasonable fears. This symptom cluster is more commonly found in out- patients instead of hospitalised patients.

High scores indicate someone who is experiencing psychological discomfort, is feeling anxious, tense and agitated, is very worryful, have obsessive thinking, compulsive and ritualistic behaviour, ruminations, plagued by self- doubts, are perfectionistic, overreact to stressful situations, are described as dependent, unassertive, immature, may have physical complaints centering around the heart, genitourinary system, gastrointestinal system, fatigue, exhaustion, insomnia, and bad dreams. These people may be motivated for psychotherapy due to the inner turmoil, and may make slow but steady progress in therapy (Graham, 1993).

4.10.5.7.8 Scale 8: Schizophrenia

This scale was developed using patients who were manifesting various forms of schizophrenia. Initial attempts to construct separate measures of the various forms of schizophrenia were unsuccessful therefore the item content covers a wide range of strange beliefs, unusual experiences, social alienation, impulse control, fears, worries and dissatisfaction. Scores are influenced by age and race. University students commonly obtain scores in a range of 50 to 60, perhaps reflecting the turmoil associated with that period of life. African- American, Native-American, and Hispanic subjects scored higher than Caucasian subjects. This may purely as a result of alienation and social estrangement experienced by minority members. Some elevations can be attributed to the use of prescription and non- prescription medication. Also Epileptics and stroke sufferers may endorse some of the items that could cause an elevated scale score (Graham,

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1993).

T- scores in the range of 75- 90 may indicate a psychotic disorder. High scores may also reflect a schizoid lifestyle. They also have a great deal of apprehension and general anxiety, often reporting bad dreams. High scorers may have self- doubt, feel inferior and incompetent (Graham, 1993).

4.10.5.7.9 Scale 9: Hypomania

This scale was developed to reflect patients displaying hypomanic symptoms which are characterised by elevated mood, accelerated speech and motor activity, irritability, flight of ideas, and brief periods of depression. Scores on scale 9 are related to age and race. Younger subjects typically obtain scores in a T- score range of 50- 60 while older subjects often score below 50. African- American, Native- American, and Hispanic subjects in the normative samples scored slightly higher, 5- 10 T- score points, than Caucasian subjects. Overall, this scale can be viewed as a measure of psychological and physical energy. If the scale score is high then one would expect that characteristics of other elevated scales on the profile will be acted out. In other words, if high scores on scale 4, Psychopathic Deviate, are seen in conjunction with high scores on scale 9, Hypomanic, then it is likely that the antisocial behaviour would be overtly expressed.

Extremely high scores, T- score over 80, may be suggestive of a manic episode. Subjects with more moderate scores are not likely to exhibit psychotic symptoms, but there is a definite tendency toward overactivity and unrealistic self- appraisal. These individuals tend to be talkative, energetic, prefer action over thought, but do not utilize energy wisely and often do not complete tasks they begin. They may display periodic episodes of irritability, hostility, and

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aggressive outbursts. They often have grandiose aspirations, with an exaggerated feeling of self-worth and self- importance. They also have a greater than average likelihood of using non-prescription medications and contact with the legal system. Therapeutically these individuals are resistant to interpretations, are irregular in attendance of sessions, likely to terminate therapy prematurely, and engage in intellectualisation. They do not become dependent on the therapist, and may target the therapist for hostility and aggression (Graham, 1993).

4.10.5.7.10 Scale 0: Social introversion

This scale was designed to assess a subject's tendency to withdraw from social contact and responsibility. Female subjects comprised the sample group, but this scale is also used on males. The items are of two general types: one group deals with social participation, whereas the other group deals with general neurotic maladjustment and self- deprecation. Scores on this scale are quite stable over time.

High scorers are most obviously characterised by social introversion. They tend to be very insecure and uncomfortable in social situations, feeling more comfortable when alone or with a few close friends. They may be especially uncomfortable around members of the opposite sex. High scorers tend to lack self- confidence and be self- effacing. Others describe them as being cold and distant and difficult to get to know. They tend to be very sensitive about what others say and think. Their lack of involvement with others tends to bother them. In interpersonal relationships they tend to be submissive and compliant and overly accepting of authority. They approach problems in a cautious, conventional and unoriginal manner and may give up easily. Guilt feelings and periods of depression may occur.

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Low scorers tend to be social and extroverted, being outgoing, gregarious, friendly and talkative. They have a strong need to be around other people and mix well with others. Others see them as verbally fluent and expressive. They are active, energetic and vigorous. They may be interested in power, status and recognition and seek out competitive situations (Graham, 1993).

4.11 The 16 Personality Factor Questionnaire

The 16PF is one of the most widely used and researched personality inventories. If all the primary and second- order factors are made use of, it can evaluate many aspects of the personality regardless of the field of application. Norms for males and females were established after research indicated gender differences on the profiles. Separate formulae for the second- order factors were based on factor analyses computed separately for males and females (Eeden & Prinsloo, 1997).

4.12 Conclusion

This research intends on using a qualitative approach to understanding the behaviour of persons who committed serial murder. This approach is intended to explore and discover that which was previously unknown, and many of the goals are uncovered as the research develops. This approach hopes to uncover one of many 'truths' regarding serial murder, a 'truth' that will hopefully allow people to see the person involved in this phenomenon in a new light and therefore develop new approaches to the phenomenon of serial murder.

While different psychometric tests are derived from varied backgrounds and are based on what at times may seem as opposing theories, they all have certain elements in common. Ultimately they have to communicate their results. This is done using language. What the researcher does

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is group 'language' together that is similar. Common to most tests is that they describe behavioural or interpersonal aspects of the individual, diagnostic aspects and language regarding the testee's approach to the test itself. These seem, at least amongst the tests used in this research, to be the common denominators. With qualitative research its data are the words and actions people use, a convergence of major themes or patterns lends strong credibility to the findings. With each test, words are sought that fit under the headings mentioned above; profile considerations, interpersonal considerations and diagnostic considerations. Once this is done the tests and interactional analysis are compared to each other to see if there are common words under each of the three headings. This reflects a macro to micro process. Looking at each test individually to see what themes/ headings arise, then seeing which themes/ headings are common in each of the research tools, then grouping words under each heading for each test. Finally, seeing if the words under the headings in each test are similar or dissimilar.