

The relationship between coping behaviour, personality characteristics and psychological distress in South African police trainees

Dissertation submitted in partial fulfilment of the requirements for the degree

MA Research Psychology

in the Department of Psychology at the

**UNIVERSITY OF PRETORIA
FACULTY OF HUMANITIES**

By

Anneli Möller

**SUPERVISOR: Dr. N. Cassimjee
CO-SUPERVISOR: Dr. E. du Preez**

February 2008

ACKNOWLEDGEMENTS

In the completion of this dissertation, I would like to express my gratitude to the following individuals:

- My supervisor, Dr. Nafisa Cassimjee for her patience and guidance;
- Mrs. Rina Owen for the analyses of the results;
- My mother (Joey Hayes) and father (Gert Möller) for their continued emotional and financial support, and unfailing confidence in me throughout my academic career;
- My fiancé, Victor Retief, for his unconditional love and encouragement, especially towards the end when I needed it most;
- My family and friends for always being there for me;
- My colleagues at Ask Afrika for their encouragement.

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ABSTRACT

The purpose of the study is to explore the psychological profile of South African police trainees. A literature study highlighted three important pretrauma variables that can influence an individual's resilience when stressful circumstances occur. These variables include coping behaviour, personality characteristics and psychological distress. The primary goal of the research was to explore whether a relationship exists between these pretrauma variables and if demographic differences occur. Police officers in South Africa are exposed to violent circumstances, which can have a negative impact on their psychological functioning; it is therefore important to explore which psychological profiles are more likely to result in resilience. Studies such as this one can be used to facilitate the selection of resilient police officers in South Africa.

A quantitative research investigation was conducted using three instruments namely, the Ways of Coping Questionnaire (WOC), Temperament and Character Inventory (TCI) and the Symptom Checklist-90-R (SCL-90-R). As a secondary aim, the psychometric properties of these instruments were briefly explored. A sample of 150 police trainees was selected to take part in the research study during their first six months in training, before entering the field. The selected sample size yielded a total of 142 completed tests. The participants were selected using a method of stratified random sampling, which resulted in an equal distribution of male and female trainees.

The results confirm that the trainees are more likely to use adaptive coping mechanisms, and are generally psychologically healthy. As expected, significant relationships exist between the three pretrauma variables under investigation.

KEY TERMS

Psychological profile; Coping behaviour; Personality characteristics; Psychological distress; Temperament; Character; Resilience; Pretrauma variables; Psychometric properties.

CHAPTER 1

INTRODUCTION

“In South Africa, various potential stressors, such as a high crime rate, organisation transformation and a lack of resources challenge members of the police.” (Van der Merwe, Rothman & Pienaar, 2004, p. 29)

1.1 OVERVIEW

As set out in the vision and mission statement of the South African Police Services, each member undertakes to uphold a code of conduct in order to bring about a “safe and secure environment for all people of South Africa” (<http://www.saps.gov.za>). It is clear that each police officer has a vital role to play in sustaining a safe and democratic way of life in South Africa. It is also unfortunate that the police suffer such a grave personal risk in their daily encounters with crime, especially in light of the South African crime rate which can be considered dangerously high (Nevin, 2007). As a result of the challenges they face, police officers have a very high prevalence of psychological disturbance (Collins & Gibbs, 2003; Woody, 2005). This phenomenon necessitates research endeavours that focus on the psychological functioning of police trainees to encourage resilience.

The introduction chapter provides an overview of the topic under investigation. The research problem, questions and goals are introduced and the research need is described in the form of a brief justification. A broad overview of the structure and flow of the thesis is also provided.

1.2 RESEARCH PROBLEM

To investigate the high prevalence of psychological disturbances (Collins & Gibbs, 2003; Woody, 2005) experienced by the police, a longitudinal study will be conducted in collaboration with Umea University in Sweden to compare the functioning of police trainees in South Africa with Sweden. To facilitate the research, several pilot studies were conducted to explore the relationship

between certain variables as measured by carefully selected psychometric tests. The current research dissertation forms part of the pilot investigation.

A thorough literature review indicated that most of the literature available focuses on the psychological well-being of police officers in South Africa (Collins & Gibbs, 2003; Woody, 2005), with little research available on the well-being and psychological functioning of police trainees. The current research investigation explores the functioning of police trainees before they enter the field to establish a psychological profile. The research problem in this study is twofold. Firstly, which pretrauma psychological variables interact in the profile of police trainees in South Africa, and do they differ depending on demographic factors? Secondly, what does a brief inspection of the psychometric properties of the selected instruments reveal when administered on a South African police population?

1.2.1 Psychological profile of police trainees

As set out in the literature chapter to follow, police officers serving in South Africa are exposed to a violent context (Van der Merwe et al., 2004) which leads to a high prevalence of psychological disturbances among police officers (Collins & Gibbs, 2003; Van der Merwe et al., 2004; Woody, 2005). However, not all police officers suffer equally from these debilitating disorders, which begs the question why some individuals are clearly more psychologically resilient than others. Research suggests that certain pretrauma variables can mediate the negative consequences of a traumatic experience (Richter, Polak & Eisemann, 2003).

Against this background, three pretrauma variables were identified as being important in affecting the resilience of police officers, namely, coping behaviour, personality characteristics, and psychological distress. Coping behaviour can be defined as efforts (cognitive and behavioural) that are made by an individual to master or tolerate external and internal challenges (Folkman & Lazarus, 1980). These authors further add that a “comprehensive definition of coping needs to include both emotion regulating and problem-

solving functions” (p. 221). Secondly, personality is related to the self and to individual differences (Matsumoto, 2000). Personality traits are “characteristics of a person that are consistent over time and across situations, and through which they distinguish themselves from others” (Berry, Poortinga, Segall & Dasen, 2002, p. 481). According to Cloninger’s biosocial theory, personality consists of certain temperament and character dimensions (Kimura, Sato, Takahashi, Narita, Hiano & Goto, 2000). Lastly, psychological distress of police officers was also investigated. This refers to the “unique discomforting, emotional state experienced by an individual in response to a specific stressor or demand,” which can lead to temporary or permanent harm (Ridner, 2004, p. 539). The relevance of investigating this construct is highlighted in its definition since a population of police trainees is expected to be exposed to a variety of stressors in their future career.

1.2.2 The psychometric properties of the research instruments

Psychological assessment is an activity in the field of psychology that is process-orientated and uses a wide array of information in the form of assessment measures (tests) and information from other sources (Foxcroft & Roodt, 2001). The secondary aim of this research was to explore some of the psychometric properties and challenges associated with the administration of three psychometric tests on a South African population. These instruments were carefully selected in order to include a wide range of functioning.

The selected instruments included the Temperament and Character Inventory (TCI), which is a measure based on Cloninger’s biosocial theory that measures personality, and which consists of certain temperament and character dimensions (Kimura et al., 2000). The Ways of Coping Checklist (WOC) was also utilised, which measures a broad range of behavioural and cognitive coping strategies commonly employed under stressful circumstances (Folkman & Lazarus, 1980). The final psychometric measure is the Symptom Checklist-90-Revised (SCL-90-R), which measures symptom distress in the last seven days prior to measurement through a method of self-reporting (Pedersen & Karterud, 2004).

1.3 JUSTIFICATION

Studies of this nature can result in a better understanding of factors that make police officers more resilient, which in turn could encourage more effective selection processes in the SAPS. The results may also enable researchers and police training centres to evaluate and eventually improve already existing elements of training modules related to character traits, communication skills, self-perception and self-awareness. Coping behaviours may also be identified and encouraged to improve and stabilise resilience and mental health in general. The results may also provide support to the national police service in implementing training programmes that support resilience training and coping with stressful experiences for senior police officers.

The psychological functioning of students and police trainees has been the focus of multiple research studies in many countries (Collins & Gibbs, 2003; Van der Merwe et al., 2004; Woody, 2005). Such research provides insightful information that can be used to understand the behavioural practices of police officers and the difficulties they confront. However, it is seldom appropriate to apply the results of these studies to a South African context and it is necessary to conduct this research from a culturally sensitive perspective. Police officers in South Africa encounter different stressors within a different political climate than police in other countries. They also live in circumstances where crime is more prevalent and this can ultimately influence psychological functioning. In light of the differences between countries it is therefore essential that the uniqueness of South African police trainees be considered.

1.4 RESEARCH QUESTIONS

The study set out to address the following research questions:

- What are the coping behaviour, personality characteristics, and psychological distress symptoms included in the profile of police trainees in South Africa?

- Are there any demographic differences among police trainees with regard to their coping behaviour, personality characteristics, and psychological distress symptoms?
- Does a relationship exist between these pretrauma variables (coping behaviour, personality characteristics, and psychological distress) among South African police trainees?
- What are some of the challenges and considerations associated with the administration of the Ways of Coping Checklist (WOC), Temperament and Character Inventory (TCI) and the Symptom Checklist-90-Revised (SCL-90-R) on a population of South African police trainees?

1.5 RESEARCH GOALS

The primary goal of the research investigation was to develop a psychological profile of South African police trainees through the discovery of relationships and demographic differences between certain pretrauma variables. The secondary aim was to examine the psychometric properties of the three instruments used to collect the data.

1.6 THESIS STRUCTURE

The literature chapter includes a comprehensive summary of research conducted on the psychological well-being of police; pretrauma variables that are known buffers against psychological distress; and theories that support the research. This is followed by the methodology chapter that outlines the aim of the research; sampling; instruments; and the research design and process. The results chapter gives a thorough description of the sample included in the study and the statistical analyses that were performed. Then each test is described separately in terms of its descriptive statistics, mean scores, demographic differences and psychometric properties, followed by the results that report on the relationship between variables. The discussion of findings chapter serves as a final integration of the theory, literature and results, and contains the final conclusions and recommendations.

1.7 CONCLUSION

South African police officers suffer from various psychological difficulties, which may probably be mitigated to some extent if certain pretrauma variables are addressed in treatment and prevention. Most studies focus on the functioning of police officers once they are in the field and have been exposed to certain stressors. The current research may prove a useful addition to the literature since the focus is on police trainees before they enter the field. In this way a psychological profile can be developed that will inform multiple stakeholders and may have future implications for the psychological well-being of one of South Africa's most important resources.

CHAPTER 2

LITERATURE REVIEW

2.1 OVERVIEW

The following literature review serves to contextualise and motivate the research investigation into the psychological profile of police trainees in South Africa. This profile considers specific pretrauma variables and the relationship between them, as well as demographic information. The literature examines the daily working environment of police officers in the field, and for this reason the current crime situation in South Africa is described. The consistent exposure of police officers to these work stressors seems to have psychological and emotional consequences that are sometimes severely debilitating. Some of these consequences include posttraumatic stress disorder, depression, burnout and substance abuse (Van der Merwe et al., 2004).

Marmar et al. (2006), Monk (2004) and Storm and Rothmann (2003) respectively identified coping, personality and psychological distress as pretrauma variables that act as important buffers against negative psychological consequences. Some studies even refer to the possibility that a relationship among these pretrauma variables exists (Edwards, 2006; Eksi, 2004; Storm & Rothmann, 2003). Two widely accepted psychological theories were used to guide the investigation and define certain concepts, namely, Cloninger's biosocial theory of personality, and Lazarus's theory of stress and coping. These theories are described in the way that they contribute to the understanding of the subject matter and the complexity of personality and coping as psychological concepts.

The literature described in this chapter therefore suggests the need to explore the psychological profile of police trainees as defined by the abovementioned pretrauma variables. An investigation into the possible relationships between these pretrauma variables as well as insight into the demographic differences could prove a relevant addition to the current literature.

2.2 THE POLICE CONTEXT: A CLIMATE OF VIOLENCE IN SOUTH AFRICA

Reports on crime in South Africa state that an increase in corruption, crime and xenophobia is affecting confidence in the country's economy by threatening post-apartheid democracy (Africa Research Bulletin: Economic, Financial and Technical Series, 2007). The South African Police Service statistics released in 2006 report that in the period April 2005 to March 2006, 18 545 murders, 54 926 rapes, 20 553 attempted murders, 226 942 assaults with the intent to inflict grievous bodily harm, and 119 726 robberies with aggravating circumstances took place in South Africa (www.saps.co.za).

The escalation in crime rates results in a national loss of confidence in the abilities of the police. According to Nevin (2007, p. 46), vigilante groups and kangaroo courts are slowly taking over in South Africa as the "hapless, outnumbered and outgunned, and reportedly demoralised police force" struggle to deal with the country's out-of-control crime situation. This report demonstrates the loss of confidence in the ability of the police to protect the public that many South Africans experience. This is further demonstrated by a report on a group of South Africans who are actively trying to dissuade tourists from visiting the country because they feel their country is unsafe (Africa Research Bulletin: Political, Social and Cultural Series, 2006). Despite the contribution that the police make and the price that they pay in terms of their safety and psychological health, many members of the public believe that they are not in control of the crime situation.

2.3 THE CONSEQUENCES OF CRIME TO THE POLICE

The review of the literature below emphasises the importance of the research investigation by describing the physical and psychological consequences that the police endure. Peltzer's (2001) research on the South African Police indicates that the events that show the highest correlation with emotional intensity include (a) violent injury while on duty such as shooting, (b) chasing

an armed suspect, (c) responding to a scene where a child has died, and (d) being involved in a motor vehicle accident with a departmental car. Not surprisingly, Peltzer states that these incidents are related to highly stressed and emotional responses by the police.

A brief description of the physical consequences of crime to the police is provided below so that the stress associated with their working environment can be better understood. This is followed by a focus on psychological consequences of such events to highlight the relevance of investigating possible pretrauma variables.

2.3.1 Physical consequences of crime to the police

The physical consequences of the high crime rate in South Africa on the police can be considered severe. The South African police are at the frontline of the high prevalence of violent crimes in South Africa. A research study conducted by Plani, Bowley and Goosen (2003) investigated the circumstances and nature of the injuries commonly sustained by the police. It is reported that almost 70% of injuries to the police force are sustained by gunshot. Other prominent injuries include stab wounds, motor vehicle and motorbike accidents. It is clear from this report that policing in South Africa is physically dangerous.

During the 2003 summit on police killings held at the SAPS academy in Pretoria, a number of factors that set police at risk were discussed (Legget, 2003). One discussion focused on the finding that the majority of police killings occur while the police officers are off-duty. The reason for this finding appears to be that officers often respond to crime situations while they are off duty and put themselves at risk in this way. Other reasons that were considered include that police officers are targeted by robbers for their guns, resulting in confusion and surprise which delays their reaction to the attack. Whatever the reasons may be, there is no denying that the police are at a constant risk of being victimised, injured or killed, both on and off duty. This

high personal risk presumably leads to a variety of psychological consequences.

2.3.2 Psychological consequences of crime to the police

Numerous studies report a high prevalence of psychological disturbances among police officers (Collins & Gibbs, 2003; Woody, 2005; Van der Merwe et al., 2004). Crime and the perception of personal safety are important determinants of psychological well-being.

According to Van der Merwe et al. (2004, p. 29), “increased rates of work stress, post-traumatic stress, burnout, alcohol abuse and suicides, as well as a decreased level of job satisfaction and job performance as compared to norms for the general population are found in research with police members”. Many authors report the same findings specifically related to posttraumatic stress disorder, burnout, increased illness, medical boarding, alcohol abuse, suicides and decreased level of job satisfaction (Nel, 1994; Nel & Burgers, 1998; Pienaar, 2002; Rothman & Agathagelou, 2000; Rothman & Strijdom, 2002).

One of the many reasons for these findings may be the high degree of personal risk that is associated with their daily encounters, such as witnessing the criminal use of weapons and its consequences, suicides, murder investigations, severe car accidents and the daily involvement in other traumatic incidents more frequently than other individuals. Another reason may be that the organisational culture of the police services is not designed to support an employee who suffers psychologically from traumatic experiences (Karlsson & Christianson, 2003).

Victims of crime reportedly score lower on subjective well-being scores than non-victims (Powdthavee, 2005). It has further been found that individuals may interpret the perceived crime experienced by others as heightening the probability of personal victimisation, which increases fear and anxiety. Plani et al. (2003) stress that police officers who have been injured often demonstrate

elevated anxiety levels about returning to work. In many cases they are completely unable to return because of psychological distress. In a study conducted by Peltzer (2001), police were asked to link the degree to which they experienced certain emotions during stressful life events. The emotions that were most frequently reported were “threat, anxiety and helplessness” (Peltzer, 2001, p. 53).

Posttraumatic stress disorder, depression and suicide, occupational stress, anxiety and burnout, and substance abuse are briefly discussed below as they are some of the psychological responses most frequently experienced by the police (Anderson, Litzenberger & Plecas, 2002; Michinov, 2005; Peltzer, 2001; Pienaar & Rothman, 2005; Richmond, Wodak, Kehoe & Heather, 1998).

2.3.2.1 Posttraumatic stress disorder

The stressful and often traumatic situations that police officers encounter make them vulnerable to the development of posttraumatic stress disorder (PTSD) (Peltzer, 2001). PTSD is a debilitating anxiety disorder that follows a traumatic event and is characterised by persistent thoughts of the ordeal and some degree of emotional numbing (Maryland Institute for Individual and Family Therapy, n.d.)

PTSD broadly includes the following characteristics: (a) exposure to a traumatic situation; (b) a re-experiencing of the traumatic event; (c) the avoidance of certain stimuli associated with the traumatic event; and (d) symptoms of increased arousal. These symptoms must endure for longer than a month in order for it to be classified as PTSD (DSM-IV criterion for PTSD; American Psychiatric Association, 2000). It is not surprising that this debilitating psychological reaction is very prevalent among police officers as a result of their high exposure to extreme stressors (Jones, 2006).

Not all police officers are equally likely to develop PTSD, which makes it an extremely complex disorder. There are many mitigating factors that can protect a police officer against the development of PTSD, including support

from family or the community, and personal factors such as personality (Marais & Stuart, 2005). Police officers also have different emotional reactions to occupational stress, and the degree and frequency of exposure also differs (Marais & Stuart, 2005).

2.3.2.2 Depression and suicide

The main symptoms of a major depressive episode are usually a depressed mood and a loss of interest or pleasure, but can also include other symptoms such as weight loss or gain, insomnia or hypersomnia, psychomotor agitation or retardation, fatigue, feelings of worthlessness, impaired concentration and recurrent thoughts of death, suicidal ideation or plans to commit suicide (American Psychiatric Association, 2000). Suicide rates are alarmingly high among South African police officers (Swanepoel & Pienaar, 2004), although Pienaar and Rothman (2005) report a decrease in suicide rates per 100 000 members from 200 in 1995 to 110 in 1999. The same report showed an increase to 130 in 2000.

Pienaar and Rothman (2005) conducted a research study on suicidal ideation, which is one aspect of suicide, among South African police officers. They specifically focused their attention on the demographic attributes of police officers who measured high on suicidal ideation. The results indicate that alcohol consumption, which is one of the maladaptive coping strategies employed by police officers, is a good predictor of suicidal ideation.

A World Health Organisation (2000) report on the mental health of prison officers asserts that isolation (either social or physical) as well as lack of resources increase their risk of committing suicide. This finding is supported by Van der Merwe et al. (2004). High levels of suicidal ideation in the police could also be due to the “conflict prone environment” to which they are exposed daily, organisational restructuring, as well as community distrust (Pienaar & Rothman, 2005, p. 67).

Coping styles are highly correlated with suicidal ideation, specifically passive- and problem-focused coping styles as measured by the COPE questionnaire (Van der Merwe et al., 2004). Similar results were found by Swanepoel and Pienaar (2004) who compared coping, stress and suicidal ideation within the SAPS in Gauteng. The authors further report that being charged under a disciplinary code, previous suicide attempts and gender are good predictors of suicidal ideation in the police.

2.3.2.3 Occupational stress, anxiety and burnout

Work is a central part of the lives of many people and contributes to an individual's overall level of personal satisfaction. According to Michinov (2005), the central role that work plays in the lives of individuals has the potential to contribute greatly to frustration, stress, and other psychological consequences. The work environment contains certain objective stressors; in the case of police, these include the dangerous exposure to crime, as well as other more subjective stressors such as uncertainty about the future (Michinov, 2005). A study conducted by Marmar et al. (2006) indicated clearly that occupational stressors are a good predictor of psychological distress.

Occupational stress occurs when occupational demands exceed an individual's adaptive resources (Folkman & Lazarus, 1984). It is reportedly one of the most frequent reactions that people report (Michinov, 2005). One specific category of stress is called occupational burnout, which is correlated to job demands and resources (Mostert & Joubert, 2005). These authors further found that police officers are known to show high levels of work stress and burnout. He, Zhao and Archbold (2002) contend that occupational stress that the police experience is mostly a result of the negative exposure that they experience in their work environment; a lack of peer support and trust; familial and social pressures; and the coping mechanisms utilised by police officers. It is important to consider the diverse experiences of men and women as they differ in their experiences and stressors at work. He et al. (2002) address the often unique experiences of women in the police force, especially the added strain of the domestic roles that women often have to fulfil. Women report

struggling with language harassment, racial and ethnic bias and overestimates of physical disabilities whereas men experience lack of influence and being ridiculed or set up for failure by their colleagues (Morash, Kwak & Haarr, 2006).

Anderson et al. (2002) found that police officers suffer physical and psychosocial stress on a daily basis, and suffer anticipatory stress on their way to work. The highest level of stress is experienced right before a critical event and police typically do not experience relief from the stress until they leave their shift (Anderson et al., 2002). Long-term exposure to occupational stress often results in burnout (Caverley, 2005).

As a more future-orientated stress response, anxiety is another unfortunate consequence of policing. According to the American Psychiatric Association (2000), anxiety is described as a negative mood state that causes certain physical symptoms such as tension and worrying about the future. Anxiety has many physiological and psychological consequences and is often linked to depression (Beekman, De Beurs, Van Balkom, Deeg, Van Dyck & Van Tilburg, 2000). It has further been found that vulnerability to anxiety disorders, as well as depression and fatigue, are increased by stressful circumstances at work (Kawakami & Haratani, 1999).

The stressful events that form part of a police officer's work, as well as the frequent injuries that occur, make police officers common victims of the negative consequences of occupational stress, anxiety and burnout. Anderson et al. (2002) encourage the improvement of coping strategies among police officers, since it has been proven to buffer individuals against these negative consequences. However, it seems that some individuals have a naturally robust take on life and a strong belief in the future and their own abilities, which makes them naturally more resilient (Caverley, 2005).

2.3.2.4 Substance abuse

Al-Kandari, Yacoub and Omu (2001, p. 78) describe substance abuse as “the unhealthy and excessive use of any material apart from food or therapeutic dose of medications which, when taken into the body, has the ability to modify its functions, or adversely affect the mind and the body”. It is a widely held public belief that alcohol eases pain, mitigates fear and provides relief for anxiety and even pain (Ragland & Ames, 1996; Olivier & Venter, 2003). The authors further state that it is the most influential and accepted psychological notion in the research community that alcoholism is largely determined by stress and the reduction of tension. It is therefore not surprising that alcohol is often used (and misused) as a coping strategy for police officers who clearly find themselves in highly stressful situations on a daily basis. Occupational stress and crime exposure are not the only two accepted explanations for alcoholism within the police. The police force can be described as a traditionally male-dominated industry, which is more often associated with excessive drinking than a mostly female workforce (Richmond et al., 1998; Roberg, Novak & Cordner, 2005). In addition, female police officers often feel under pressure to drink with their male colleagues. Some significant contributors to alcoholism in the police force include “shift work, conflict with management, limited job commitment, occupational stress and an hierarchical police culture emphasising conformity” (Richmond et al., 1998, p. 1734). He et al. (2002) add that alcohol use is related to physical and psychological stress. Efrat, Hueco and Nunes (2001) set out to test the self-medication hypothesis, which states that drug abuse is highly correlated with psychological distress. Different personality variables were included in the study and the results showed that hostile personality traits are related to drug abuse and therefore high levels of psychological distress.

2.4 PROFILE OF PRETRAUMA VARIABLES: COPING, PERSONALITY AND PSYCHOLOGICAL DISTRESS

It seems clear that police officers are psychologically vulnerable as a result of their occupation. However, not all police officers suffer from posttraumatic stress, burnout, depression or any other psychological disorders. The important question then arises: why are some individuals clearly more resilient

to negative psychological reactions than others? It seems that some individuals have a certain psychological profile that guards them against the negative consequences of their environment. Since the police services are considered by many to be one of the most dangerous and stressful occupations (Marmar et al., 2006), being routinely involved in traumatic situations, all possible measures need to be explored in order to improve resilience.

It is suggested that the negative psychological consequences that police officers experience may to some extent be the result of multiple pretrauma variables, which is primarily why individuals seem to differ so widely in their psychological response to trauma. For example, important pretrauma variables that have been identified for PTSD include genetic and demographic characteristics as well as prior traumatic history, ability to adjust, intelligence and coping strategies employed (Marmar et al., 2006). Each individual differs in terms of all these characteristics, resulting in different responses. The literature suggests that negative psychological consequences may be mitigated to some extent by three pretrauma variables, namely, coping (Marmar et al., 2006), personality (Storm & Rothmann, 2003), and psychological health (Monk, 2004).

2.4.1 Coping behaviour

Coping behaviour can be defined as efforts (cognitive and behavioural) that are made by an individual to master or tolerate external and internal challenges (Folkman & Lazarus, 1980). These authors state that a “comprehensive definition of coping needs to include both emotion regulating and problem-solving functions” (p. 221). Suls, David and Harvey (1999, p. 686) describe coping as attempts to control a “troubled person-environment relationship”.

According to the theory of stress and coping, each individual employs a broad range of behavioural and cognitive coping strategies in a specific stressful episode (Folkman & Lazarus, 1980). Each individual’s appraisal of the

demands and nature of a given situation determine the coping strategy used; it is therefore not based on an objective assessment of a given event. The theory further states that coping behaviour is influenced by coping resources, including internal control beliefs, self-esteem, low neuroticism, low denial, and social support; and variables that reflect the person's appraisal of a given situation, including level of associated stress, situational control beliefs, self-efficacy, and event importance (Terry, 1991). Because each individual differs in terms of personality, social status, family support, exposure to external events and many other factors, it is inevitable that different combinations of coping strategies will be employed to deal with the stress of the external environment. Depending on the combination of strategies used, coping style can be classified as either emotion-focused or problem-focused.

2.4.1.1 Emotion-focused coping styles

According to Folkman and Lazarus (1984), the main focus of this coping style is to regulate emotional reactions. Some examples of emotion-focused coping include wishful thinking, avoidance, positive re-evaluation, idealism and community support. Some of these strategies are adaptive and others are not. For example, if a police officer is faced with a traumatic event and avoids dealing with the emotions experienced, it can lead to psychological distress. On the other hand, getting support from friends and the community may be a more adaptive emotion-focused coping strategy.

2.4.1.2 Problem-focused coping styles

A problem-focused coping style aims to alter the external person-environment relationship that is causing the stress (Folkman & Lazarus, 1984). Some examples of problem-focused coping styles include active coping, planning, and suppression of competitive activities. This can once again be either positive or negative. An individual who plans ahead and prepares for a stressful event as a coping mechanism is probably coping in a more adaptive way.

2.4.1.3 Coping as a pretrauma variable

An individual's style of coping is important in predicting resilience as well as the development of PTSD, among other things (Marmar et al., 2006). According to He et al. (2002), coping strategies can be categorised into positive and negative coping strategies. Positive coping strategies include spending time with family and friends, sharing stressful experiences with others as well as religious beliefs and practices. Negative coping strategies include self-destructive behaviours such as smoking and avoiding contact with family and friends.

Different coping styles seem to affect the lives of individuals differently. Some coping styles may act as a mitigating factor between stressors and depressive symptoms by regulating negative emotions that are associated with them. It seems to be a difficult task to decide in which situations a particular coping style will prove to be more effective. Murberg and Bru (2005) state that these coping styles involve finding solutions to problems and stressors. The authors add that in contrast to this, other coping styles may worsen the effects that stress has on an individual and may compromise future adjustment. Peltzer (2001) examined the effects of religious coping styles on personal distress. The results of the study show that some forms of religious coping are related to a lower likelihood of depression during stressful events, are negatively associated with suicidal behaviour and attitudes, and may buffer an individual against anxiety. However, Peltzer (2001) reported contradictory findings in this regard. Religious coping styles and variables were positively associated with mental health while others were inversely associated or not related at all.

Overall, Monk (2004) found that active coping styles correlated negatively with distress. However, he did find in his sample of students that their coping resources were poor and at the first testing in his study, half the sample measured having psychiatric 'caseness', as tested by the General Health Questionnaire 30. A literature study conducted by Dunkley and Blankstein (2000) revealed that self-criticism and self-blame may stem from the

perceived inability to meet or control standards that are imposed and therefore seem to be directly associated with the coping style of a certain person.

2.4.2 Personality profile

Personality is related to the self and to individual differences (Matsumoto, 2000). Personality traits are “characteristics of a person that are consistent over time and across situations, and through which they distinguish themselves from others” (Berry et al., 2002, p. 481). According to Cloninger’s biosocial theory, personality consists of certain temperament and character dimensions (Kimura et al., 2000). The Temperament and Character Inventory is a widely accepted personality test that was developed based on the principles of the biosocial theory of personality. As the name implies, this theory encompasses both genetic and social factors, which makes it a comprehensive, multidimensional theory.

2.4.2.1 Cloninger’s biosocial theory of personality

According to Richter, Eisemann and Richter (2000), the biosocial theory of personality entails four genetically predetermined temperament dimensions and three character dimensions. The assumptions of the biosocial theory of personality draws on a variety of different fields such as “genetics, psychiatry, psychophysiology, psychology, anthropology, and sociology” (Brändstrom, Richter & Nylander, 2003, p. 995). The temperament dimensions of this theory enable one to consider how certain individuals might react in different situations because of the way they are genetically predetermined to react. The biosocial theory of personality has made great contributions to the understanding of different psychological conditions and reactions.

2.4.2.1.1 Temperament dimensions

The developers differentiate between four temperament dimensions, namely, novelty-seeking, harm avoidance, reward dependence and persistence (Cloninger, Sigvardsson & Bohman, 1988).

Novelty-seeking is a tendency toward regular activities of an exploratory nature as well as extreme exhilaration in response to appetitive stimuli (Cloninger et al., 1988). Individuals who measure highly on novelty-seeking behaviour are described as “impulsive, exploratory, curious, fickle, excitable, quick-tempered, extravagant, disorderly, and distractible” (p. 495).

Harm avoidance is related to the tendency to experience an intense reaction when faced with aversive stimuli (Cloninger et al., 1988). Individuals who typically measure high on harm avoidance and average on the other two, are described as “cautious, fearful, inhibited, shy, pessimistic, easily fatigable, and apprehensive worriers” in contrast to those low on harm avoidance who are “uninhibited, confident, carefree, relaxed and energetic” (p. 496). Individuals who score high on harm avoidance are also known to be tense in unfamiliar situations (Richter et al. 2000).

Reward dependence is related to the attainment of “signals of reward or relief from punishment” (Cloninger et al., 1988, p. 495). It is further said to encourage behaviour that is previously rewarded by these signals. People who measure highly on the reward dependence characteristic are said to be “sentimental, sensitive to social cues, eager to help and please others, warmly sympathetic, industrious, and persistent” (p. 497). They are described as socially dependent on others (Kimura et al., 2000). The authors add that those who score lower on this attribute are more socially detached and emotionally aloof, self-willed and tough-minded.

Lastly, Kimura et al. (2000) describe individuals high on persistence as ambitious, overachieving, productive and determined. They further add that these individuals tend to persevere in behaviours that are associated with reward or relief from punishment.

Each individual has a unique combination of these different temperament dimensions which makes them biologically vulnerable to social circumstances to different degrees.

2.4.2.1.2 Character dimensions

As personality develops, changes in cognition and the self-concept take place that are related to, and determined by, factors that are unique to each individual's environment. This includes "personal, social, spiritual and moral development" that each individual undergoes during their lifetime (Richter et al., 2000, p. 41). The development of this dimension of the personality is related to how each individual differs in their response to the socialisation process. The three character dimensions include self-directedness, cooperativeness and self-transcendence. These dimensions relate to the development of the self-concept as an autonomous individual, a fundamental part of humanity and the entire universe (Kimura et al., 2000). Each of these dimensions is defined in the way that individuals identify themselves as part of society as a whole.

Self-directedness is related to an individual's ability to manage or control, regulate and adjust behaviour (Kimura et al., 2000). Those who measure low on this character dimension are described as being "irresponsible, aimless, undisciplined in behaviour and poor impulse control in general" (Richter et al., 2000, p. 41). Cooperativeness is an individual's social tolerance, together with the ability to be helpful, compassionate and empathic towards others (Kimura et al., 2000). People who measure low on cooperativeness typically reflect the tendency to be uncooperative individuals, characterised as "hostile, aggressive, hateful and revengeful opportunists" (Richter et al., 2000, p. 41).

Self-transcendence is related to a person's identification with the universe as a whole. It relates to the acceptance of ambiguity and uncertain situations as well as spiritual acceptance. A low rating signifies negative personality attributes in that individuals are described as showing "conventional and materialistically originated behaviour, with little or no concern for absolute ideas, such as goodness and universal harmony" (Richter et al., 2000, p. 41).

2.4.2.2 Personality as a pretrauma variable

One of the many contributions of the biosocial theory to the field of psychology is that some temperament and character dimensions can be used to predict psychological distress to a certain degree. Richter et al. (2003) describe the relationship between certain personality characteristics and mood states. According to these authors, premorbid characteristics have been found in unipolar depressive individuals. Research into these correlations indicates a consistent correlation between the temperament dimension 'harm-avoidance' and low scores on the character dimension 'self-directedness' and depression or a depressive mood (Richter & Eisemann, 2001; Richter et al., 2003).

Research conducted by Kimura and colleagues (2000) also shows that some of these personality factors are associated with maladaptive psychological features. From the literature it is clear that personality, including temperament and character, affects an individual's propensity to develop a psychological disorder (Efrat et al., 2001; Marais & Stuart, 2005; Monk, 2004; Richter et al., 2003). One hypothesis is that introverted personality types are more emotionally competent than extroverted types (Coetzee, Martins, Basson & Muller, 2006). This may be a result of the characteristics of introspection and a quiet nature, which contributes to the perception that these personality types are in control of their emotions.

Monk (2004) conducted extensive research into the mental health of university students using a variety of measures. The results obtained on the General Health Questionnaire (GHQ30) indicate that the coping resources of students are generally poor. Monk encourages the consideration that neuroticism as a personality trait can be associated with psychological symptoms. Marais and Stuart (2005) found similar results in their study of posttraumatic stress and the contributions of personality. Their results indicate that neuroticism as a temperament trait plays an important role in the development of posttraumatic stress symptoms. This trait, as well as an individual's anger control, has the ability to prolong the recovery from posttraumatic stress disorder.

2.4.3 Psychological distress

Psychological distress refers to the “unique discomforting, emotional state experienced by an individual in response to a specific stressor or demand,” which can lead to temporary or permanent harm (Ridner, 2004, p. 539). The relevance of the investigation of this construct is highlighted through the definition since a population of police trainees is expected to be exposed to a variety of stressors in their future career.

In a study conducted by Liberman, Best, Metzler, Fagan, Weiss and Marmar (2002) that investigated the psychological functioning of police officers, it was established that routine occupational stress predicts psychological distress in police officers as measured by the SCL-90-R. McLeod, Budd and McClelland (1997) also report that patients often present to primary care with chronic stress-related symptoms. However, with the administration of effective treatment to these patients they present significantly lower levels of somatisation, anxiety and depression as measured by the SCL-90-R.

A research study conducted by Compton and Kaslow (2005) investigated the relationship between impulsivity, as measured by the Barratt Impulsiveness Scale (BIS-11), and positive psychotic experiences, as measured by the SCL-90. The sample included 100 African-American men and women who were divided into those who had psychotic symptoms and those who did not. The findings indicate a positive link between psychotic symptoms and impulsive behaviour.

2.4.4 Interaction of pretrauma variables

The literature on personality, coping and psychological distress provides some indication that these variables may be related. This encourages the consideration that a pretrauma profile of police officers can be constructed before they enter the field.

An important aspect of healthy coping seems to be the individual’s level of optimism. According to Eksi (2004), optimism is important for a healthy

personality and is related to coping because optimists seem to believe that they can handle stress. Harju and Bolen (1998) agree about the importance of optimism. From their study on 204 college students, they divide optimism into three levels and add that high optimists have the highest overall quality of life. Midlevel optimists also report a quality of life satisfaction but report using more alcohol as a coping style than the high optimists. In the case of individuals with a low level of optimism, they noted the use of more alcohol and disengagement as a coping style. These findings suggest the possibility of a relationship between optimism and healthy coping mechanisms.

Another coping style that is often believed to be healthy is exercising. In a study that investigated the psychological well-being of individuals who exercise, results indicate that exercising increases psychological well-being (Edwards, 2006). In this study, psychological well-being was measured by a Well-being Profile, consisting of aspects such as “mood, lifestyle, satisfaction with life, sense of coherence, fortitude, stress management, coping and total well-being scores” (Edwards, 2006, p. 357). The interrelatedness of coping and psychological health is once again considered. Individuals who employ active and healthy coping styles such as exercising may be psychologically more resilient.

Storm and Rothmann (2003) conducted research that investigated the relationship between burnout, personality and coping factors. The authors concluded that active coping strategies are more often employed by individuals with extrovert personality characteristics and emotional stability. On the other hand, passive coping styles are more related to neuroticism and low agreeableness. It seems that certain personality characteristics are associated with certain coping styles. This is an important consideration in need of further investigation as insight into these personality characteristics may further the development of a pretrauma profile to be used for screening purposes in the police force.

He et al. (2002, p. 687) investigated the effects of “work environment, work-family conflict and coping mechanisms on physical and psychological stresses

of police officers”. Their research indicates that female officers generally use more constructive coping mechanisms than male officers. Female officers are much more likely to rely on their faith and talking to their spouse than are male officers. A consideration of demographic differences is therefore also worth exploring further.

2.5 CONCLUSION

It seems clear from the literature that South African police officers operate daily in a crime situation that is considered to be severe, and enjoy little trust and support from the community. It therefore comes as no surprise that they are vulnerable to the development of a variety of debilitating psychological disorders. The literature suggests that certain pretrauma variables within each individual can mitigate the negative consequences of a stressful work environment. The cultural and economic uniqueness of the SAPS make research into their situation vital since international research findings cannot be applied with absolute certainty.

The literature study described three important pretrauma variables that may protect police officers against negative psychological consequences. Some indication was also given that a relationship may exist between them. The literature review strongly suggests that further investigation into the psychological profile of police trainees would prove a valuable addition to the field.

CHAPTER 3

METHODOLOGY

3.1 OVERVIEW

The aim of the methodology chapter is to discuss the methods and processes that were used to conduct the research so as to enable possible replication of the research process in future studies. The chapter firstly outlines the research aims and questions, followed by the sampling procedures and a description of the instruments. Lastly, a model developed by Graziano and Raulin (2000) in their book entitled *Research: A process of inquiry*, was utilised to describe the research design and process.

3.2 SAMPLING

Police trainees attend police colleges nationally, where students are residents of the college and allowed to leave only on specified weekends. The July 2007 intake consisted of 1797 trainees (1237 males and 560 females) who were divided into 50 platoons, separating males and females. The initial basic training occurs over a period of six months, and is followed by a six-month training period at a specified police station. Thereafter, each trainee undergoes another 12-month probation period.

A sample consisting of 150 participants was selected to take part in the research study during their first six months training, before they entered the field. The selected sample size yielded a total of 142 completed tests. The participants were selected using a method of stratified random sampling, which resulted in an equal distribution of male and female trainees. This sampling method allows the researcher to arrange the sampling frame to represent the variables required (Whitley, 2001), in this case gender.

3.3 INSTRUMENTS

Participants were required to provide information on age, race, home language, English reading proficiency and educational qualifications. In addition, they completed three psychometric tests. The research instruments were carefully selected to investigate the relationship between personality, coping and psychological distress.

3.3.1 Ways of Coping Checklist (WOC)

The WOC Checklist consists of 66 items and describes a broad range of behavioural and cognitive coping strategies that an individual might use in a specific stressful episode (Folkman & Lazarus, 1980).

When administering this measure, respondents are asked to focus their attention on an occupationally relevant critical event which occurred recently. With this focal encounter in mind the respondent answers 67 questions that are classified according to problem-focused or emotion-focused ways of coping (Chung, Werrett, Easthope, & Farmer, 2004). The participants are asked to imagine having witnessed a violent hijacking taking place, and then to rate the different statements on a three-point scale ranging from “will not use” to “will use a great deal”. The WOC can generally be completed in about ten minutes, but this can vary depending on the respondent.

The problem-focused scales include items that describe a method that employs cognition and behavioural efforts to alter or manage a certain problem. On the other hand, the emotion-focused scales describe a method that employs cognition and behavioural efforts to reduce or manage emotional distress (Folkman & Lazarus, 1980). Examples of problem-focused coping include active coping, planning and suppression of competing activities. Examples of emotion-focused coping include wishful thinking, avoidance, positive re-evaluation, idealism and community support. According to Folkman and Lazarus (1980, p. 224), the items cover the domains of “defensive coping (e.g. avoidance, intellectualization, isolation, suppression), information-

seeking, problem-solving, palliation, inhibition of action, direct action, and magical thinking”.

The WOC includes the following scales (Folkman & Lazarus, 1988):

1. Confrontive coping: This category measures aggressive efforts to change a certain situation and involves a certain amount of risk taking or hostility.
2. Distancing: The distancing scale measures the cognitive efforts to detach oneself from the situation in order to reduce the significance.
3. Self-controlling: This scale measures an individual's ability to regulate feelings and behaviour.
4. Seeking social support: It measures efforts to seek informational, tangible, and emotional support. This is an adaptive coping mechanism since individuals who seek support generally cope more positively than those who do not.
5. Accepting responsibility: Accepting responsibility measures the extent to which individuals are prepared to accept their own role in a stressful situation.
6. Escape avoidance: It measures the extent to which an individual uses wishful thinking and other behavioural efforts to avoid or escape a problem.
7. Planful problem solving: This coping mechanism considers an individual's efforts to change a situation using problem-focused strategies and is associated with an analytic approach. This is an adaptive coping strategy that involves taking positive action towards changing a stressful situation.
8. Positive reappraisal: It describes efforts that focus on personal growth and the creation of positive meaning; a religious dimension is also included.

Folkman and Lazarus (1988) state that the internal consistency of coping scales generally fall within the low ranges; however, they state that the alpha

coefficients of the WOC are generally higher than that of other coping scales. A study conducted by Edwards and O'Neill (1998) generated alpha scores ranging from 0.56 to 0.85. Govender and Killian (2001) found that the WOC has been successfully administered in many South African research studies and found the internal consistency to be between 0.59 and 0.83, which is generally acceptable. This finding is also supported by Clark, Bormann, Cropanzano and James (1995) who conducted a validation study for three coping measures, the Coping Strategy Indicator, the Ways of Coping Revised, and the COPE. They also report adequate convergent and discriminant validity for the three measures.

3.3.2 Temperament and Character Inventory (TCI)

The TCI is used to assess personality according to Cloninger's biosocial model of personality as described in the literature chapter. It is a 240-item true-false self-rating personality inventory that measures four independent, largely genetically determined dimensions of temperament, as well as three character dimensions, which are supposedly largely determined by socialisation processes during the lifespan (Kimura et al., 2000).

According to Kimura et al. (2000), the four temperament dimensions are described by the biosocial theory as independently heritable and largely related to neurotransmitter functions. They include the following:

1. Novelty seeking: Exploratory activity as reaction to novelty, impulsive decision-making, and frustration avoidance.
2. Harm avoidance: Pessimistic worry about expectation of future problems, passive-aggressiveness, and shyness towards strangers.
3. Reward dependence: Sentimentality, social attachment, and approval dependence.
4. Persistence: Ambitious overachieving, productiveness, and determination.

Kimura et al. (2000) further describe the following character dimensions, which are based on three aspects of the development of self-concepts. These aspects are related to identification of the self as an autonomous individual, who is a part of humanity and of the universe as a whole:

1. Self-directedness: Determination, drive and ability to regulate and adapt behaviour.
2. Cooperativeness: Social leniency, empathy, helpfulness and compassion.
3. Self-transcendence: Acceptance of ambiguity and uncertainty, spirituality, and identification with the world.

Miettunen et al. (2004) conducted an investigation in which they tested the psychometric properties of the TCI on a sample of 4349 individuals selected from the 1966 North Finland birth cohort. According to the authors, the TCI shows good psychometric properties in the English version. Factor analytic studies indicate that reward dependence is psychometrically weaker than the other dimensions (Miettunen et al., 2004). Predictive validity was also established in another Finnish sample of 2 109 men and women who participated in the study (Keltikangas-Järvinen, Ravaja & Viikari, 1999). The alpha coefficients for the novelty seeking, harm avoidance, reward dependence and persistence scales measured at 0.85, 0.92, 0.79 and 0.64 respectively.

3.3.3 Symptom Checklist-90-Revised (SCL-90-R)

This measure is a popular way of operationally defining psychological distress or health (Derogatis, 1983). Pedersen and Karterud (2004) describe the SCL-90-R as consisting of 90 items that rate a person's symptom distress in the last seven days. Each item is rated on a five-point Likert scale, ranging from "not at all" to "extremely", indicating how much a particular symptom has bothered them over the past week (Wallis, Lord, Barnsley & Bogduk, 1998). Through a process of self-reporting, the person indicates a certain level of psychological distress, indicated in nine primary symptom dimensions. It is

further stated that the SCL-90-R is often used as an outcome measure in psychotherapy research and in primary care settings. It is used to reflect the general symptom level or Global Severity Index (GSI) of the individual, including the more differentiated subscale profile.

The SCL-90-R yields an individual profile on each of the nine subscales as described by Knudsen-Martin (2000, p. 320):

1. Somatisation: Reflects the measure of distress resulting from bodily dysfunctions.
2. Obsessive-compulsive: Reflects thoughts, impulses and behaviour that the individual finds irresistible.
3. Interpersonal sensitivity: Reflects individuals' feelings of personal inadequacy as well as their difficulty interacting with others.
4. Depression: Reflects the typical symptoms of clinical depression, for example, suicidal ideations.
5. Anxiety: Reflects symptoms such as tension, panic attacks and other anxiety-related symptoms.
6. Hostility: Reflects on the occurrence of thoughts and feelings related to anger such as rage.
7. Phobic anxiety: Reflects the irrational persistent fear of a specific person, place or object.
8. Paranoid ideation: Reflects an individual's thoughts such as "projecting blame on others, hostility, suspiciousness, grandiosity, and fear of losing autonomy" (p. 320).
9. Psychoticism: Reflects on symptoms such as hallucinations were contact with reality is distorted.
10. Additional items: Several additional items are included in the total score such as "poor appetite, trouble sleeping, feelings of guilt, and thoughts of death" (p. 320).

According to Derogatis (1983), the SCL-90-R has been used in more than 940 research studies that demonstrate its reliability and validity. He adds that high test-retest and internal consistency has also been demonstrated. In a

study that compares the reliability of the paper-and-pencil SCL-90-R and the internet version, acceptable alpha scores were obtained by Vallejo, Jordán, Diaz, Comeche and Ortega (2007). Scores obtained were all 0.72 or higher, except for phobic anxiety which obtained a score of 0.62. The alpha scores obtained by Chang, Tu and Wang (2004) on a clinical sample ranged between 0.77 and 0.90. A study that administered the abbreviated version of the SCL, the Brief Symptom Inventory (BSI), on a sample of 540 South African adolescents, also obtained acceptable alpha scores ranging from 0.65 to 0.77. Previous research therefore supports the reliability of the SCL-90-R as a measure of psychological distress.

3.4 RESEARCH DESIGN AND PROCESS

The research methodology is quantitative, consisting of numerical information in the form of scores that were obtained from different tests. The research strategy used can be described as correlational, since relationships between different variables were investigated.

The research process was designed following the guidelines of a model contained in *Research: A process of inquiry* by Graziano and Raulin (2000). The different phases of the research process were used for discussion purposes, and are outlined below.

3.4.1 Idea generating phase

As mentioned earlier, a longitudinal study will be conducted with Umea University in Sweden to compare the functioning of police trainees in South Africa with Sweden. As a measure to ensure reliability of the research, a pilot investigation was necessary to investigate the prevalence of pretrauma variables as well as the psychometric properties of the instruments when administered in South Africa. The current study emerged out of the necessity to gain information to assist the longitudinal research project.

3.4.2 Problem definition phase

In order to develop the research questions, a comprehensive literature review was conducted. The research parameters were clearly defined by:

1. investigating the psychological well-being of police in South Africa;
2. identifying and defining the pretrauma variables (coping, personality and psychological distress);
3. identifying relevant instruments that would be suitable to measure the pretrauma variables.

The literature investigation indicated the necessity for the development of a psychological profile for police trainees in South Africa prior to their exposure to the violence and stress associated with police work.

3.4.3 Procedures design phase

This phase includes the decision of which observations to include under which circumstances. The instruments are widely used and well-known psychometric tests that were carefully selected to measure the identified pretrauma variables. Since the study is intended to be a pilot study, a sample of 150 police trainees was deemed sufficient.

3.4.4 Observation phase

This observation phase involves carrying out the procedures that were selected in the previous phase. It therefore describes the process that was followed to administer the tests and capture the data.

3.4.4.1 Administering the tests

Permission was obtained from the training college to commence with the research study. A suitable time for test administration was chosen in conjunction with the supervisors at the police college, and data collection took place in July 2007 at the police college. The researcher was assisted by facilitators on the day of test administration, who were available to hand out

and take in questionnaires, explain the test instructions and answer any questions from the trainees. All the participants were tested simultaneously, and were informed of the confidentiality of the results and the purpose of the research study before the administration of the measures.

3.4.4.2 Ethical procedures

The chosen instruments are standardised psychological measures that are not of a sensitive nature and did not cause harm to any participant. On commencement of the administration of the tests, the participants were informed of the purpose of the research study and the confidentiality of the research results. Participants were also informed that their participation is completely voluntary and that they may leave at any time when they feel the need to, without providing a reason to do so. The test administrator was well informed on the correct and accurate administration of the instruments.

Before the commencement of the test, the participants completed a question asking whether they are proficient in English, which provided an indication whether language may have confounded the results, even though this was not expected since they had undergone a series of tests in the recruitment phase and matriculation was a prerequisite for admission to the police training college. All the participants completed a demographical questionnaire as well as a consent form. Ethical approval was obtained from the Ethics Committee of the Faculty of Humanities, University of Pretoria, as well as the relevant SAP research and training authorities.

3.4.5 Data capturing phase

The researcher and an assistant in the Psychology department captured all the information on an Excel spreadsheet, after which the results were analysed using SPSS (Statistical Package for Social Science).

3.4.6 Interpretation phase

A variety of statistical analyses were used to interpret the research results, including mean scores, standard deviations and percentages. In order to determine if there are differences in the psychological functioning of police trainees based on gender and age, as well as to measure the correlation between the different scales, a Pearson correlation was done. The statistical analysis known as Analysis of Variance or ANOVA is a method that tests hypotheses concerning means when there are several populations (Croarkin & Tobias, n.d.). ANOVAs were used to describe the samples and the relationships between the investigated variables.

Some of the psychometric properties were also measured, such as the internal consistency (Cronbach's alpha) and the item-total correlation. Reliability is an important psychometric construct to consider since a measure can be reliable without being valid, but it cannot be valid without being reliable (Graziano & Raulin, 2000). The reliability of a test is the extent to which it measures what it is supposed to measure. It is described by Eriksson, Jaworska, Worth, Cronin and McDowell (2003) as the correlation of a variable with itself. The Cronbach's alpha is the most commonly utilised measure of reliability according to Aron, Aron and Coups (2007). It measures the internal consistency of a scale, which is an estimation based on the correlation among the variables comprising the set.

Furthermore, the item-total correlation also provides some information on the reliability of the scale. If an item does not correlate highly with the rest of the scale or test, it affects the reliability of the scale since it does not measure what it is supposed to.

The Statistical Department at the University of Pretoria supervised the data analysis. A full description of the statistical analyses and data interpretation is provided in the following chapter.

3.5 CONCLUSION

The methodology was designed to support the research objectives described in the introduction chapter. The instruments were carefully selected and their reliability is supported by various literature sources (Chang et al., 2004; Govender & Killian, 2001; Keltikangas-Järvinen et al., 1999). The research process, as described by the phases of Graziano and Raulin (2000), provides an indication of how the research problem was formulated and how the research process was executed to ensure reliable and valid data collection and interpretation.

CHAPTER 4

RESULTS

4.1 OVERVIEW

A discussion of the sample is provided in this chapter, followed by the results of the statistical analyses. As mentioned in the methodology chapter, each participant was asked to complete a questionnaire consisting of demographic questions, followed by each of the different psychometric measures.

Each of the test results are described separately, and each includes a table outlining the descriptive statistics of the specific test. The main findings of each test are outlined and the demographic differences that were obtained are described. The psychometric properties of each category are also attended to, specifically focusing on the reliability of the measures.

4.2 SAMPLE DESCRIPTION

As described in the methodology chapter, the sample consisted of 150 police trainees, from whom 75 were male and 75 female. In total, 142 completed questionnaires were obtained on each instrument, with a relatively equal distribution of male (49%) and female (51%) participants. The majority of participants were black (98%), between the ages of 22 to 29 (87%) and still lived with their parents (68%). They were mostly single (90%) and without children (54%).

4.2.1 Age and demographic distribution

Most participants (87%) fell within the age group of 22-29. Participants that represent the police trainees are therefore relatively young and most (68%) still live with their parents. Those who do not live with their parents mostly stay with other relatives (11%), with a husband or wife (8%), on their own (7%), or with a partner (6%). The age distribution is provided in figure 1. The youngest trainee was 18 and the oldest 36 years.

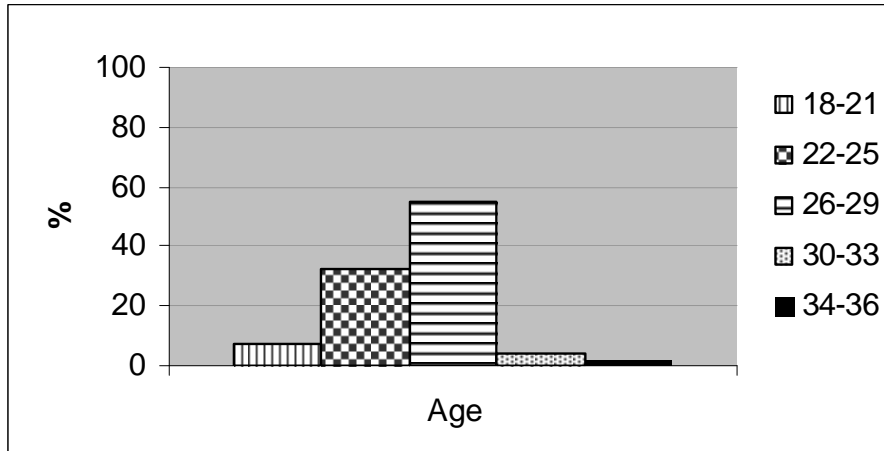


Figure 4.1: Age distribution

4.2.2 Marital status and dependents

Most of the participants were single (90%) with only 10% indicating that they were married or in a partnership. One female respondent reported being divorced. Just over half (54%) of the participants indicated that they do not have children. Those who do have dependents mostly have only one child (35%); followed by two children (8%); three children (1%); and four children (1%).

4.2.3 Level of education

All participants had at least a grade 12 qualification, since this is the minimum requirement for admission to the police training college. Those who have received some additional form of training constitute 20% of the sample, with 13% indicating trade/skills training; 5% a university degree; and 1% a diploma.

4.3 STATISTICAL ANALYSES

The main objective of the statistical analyses was to provide a description of the coping style, personality characteristics and psychological distress levels of the sample of police trainees, as well as to establish whether there are

statistically significant correlations between the scales of the three tests. The analyses also tested whether there are demographic differences in the responses to the different questions, focusing specifically on gender and age. Lastly, the psychometric properties of the measures were investigated, specifically with regard to the reliability of the tests when administered on a South African population of police trainees.

An item analysis done on each test provided the descriptive statistics. This included item means, item variance and item-scale correlations. An overall analysis was also conducted on each of the different scales providing the mean of the scale, as well as the standard deviation, minimum and maximum scores, median, Cronbach's alpha and the standard error of the mean.

A correlation between different scales was done using Pearson's correlation. In order to determine the statistical differences in scores based on gender and age, an analysis of variance (ANOVA) was done.

No further inferential statistics were carried out. This was due to the limitations of the sample size, low correlations and skewed distribution of scores.

4.4 RESULTS

The results of the police trainees' test scores are discussed next. Each test is described separately in terms of its descriptive statistics, mean scores, demographic differences and psychometric properties.

4.4.1 Ways of Coping Questionnaire (WOC)

4.4.1.1 Summary of findings

Table 4.1 provides the descriptive statistics of each of the different scales measured by the Ways of Coping Questionnaire, and the number of items used to measure each of the scales.

Table 4.1: Descriptive statistics for the Ways of Coping Questionnaire

Number	Scales	N Items	M	SD	Minimum	Maximum	Alpha
1	Confrontive coping	6	1.51	0.60	0.00	3.00	0.48
2	Distancing	6	1.26	0.59	0.00	2.67	0.49
3	Self-controlling	7	1.68	0.56	0.29	3.00	0.59
4	Seeking social support	6	2.24	0.60	0.00	3.00	0.65
5	Accepting responsibility	4	1.34	0.67	0.00	3.00	0.48
6	Escape avoidance	8	0.81	0.47	0.00	1.88	0.53
7	Planful problem solving	6	2.30	0.54	0.50	3.00	0.62
8	Positive reappraisal	7	2.26	0.60	0.14	3.00	0.72

Note. N=142

When comparing the means of the different scales that were measured, results indicate that South African police trainees are more inclined to use positive and adaptive coping mechanisms when faced with a stressful life event. As illustrated in the graph that follows (figure 2), the coping strategy used most frequently is planful problem solving ($\mu=2.30$), followed by positive reappraisal ($\mu=2.26$), seeking social support ($\mu=2.24$) and self-controlling ($\mu=1.68$). The coping mechanisms used less frequently includes escape avoidance ($\mu=0.81$), distancing ($\mu=1.26$) and accepting responsibility ($\mu=1.34$).

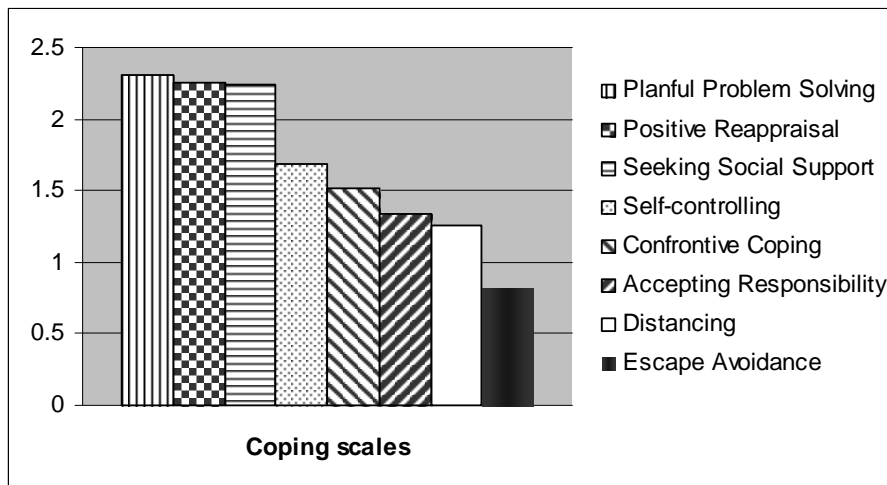


Figure 4.2: Ways of Coping Questionnaire: Mean scores

4.4.1.2 Demographic differences

According to the literature, individuals of different age groups generally cope in similar ways (McCrae, 1982). However, this is not supported by the findings in this study. Results indicate that some differences exist in the coping mechanisms utilised, depending on an individual's age group and gender. The results analyses were conducted on two age divisions, namely 18 to 28 years and 29 to 39 years. A more sensitive division might have been useful; however, small base sizes did not allow for such testing. The results indicate that older trainees are more prone than the younger group to distancing ($F=9.58$, $p<.05$), accepting responsibility ($F=6.27$, $p<.05$), escape avoidance ($F=6.88$, $p<.05$) and planful problem solving ($F=4.52$, $p<.05$) as a coping mechanism.

Furthermore, with regard to gender, it was found that male participants are more likely than female participants to use planful problem solving ($F=17.49$, $p<.05$) as a coping mechanism.

4.4.1.3 Psychometric properties

In order to determine an acceptable cut-off score to compare each item-total correlation, a formula was applied to each scale ($\frac{1}{n}$). The comparison indicated that all the items of the WOC checklist correlate sufficiently with their respective scale total, except for one item with a low correlation of 0.21. This item is one of eight items that measures escape avoidance as a coping mechanism. The item stated: 'I tried to make myself feel better by eating, drinking, smoking, using drugs or medication'. One can hypothesise that this low correlation is the result of the fear that they would be expelled from the training programme because of some form of addiction. Other reasons could be that the item might not work on a South African population; or it did not fit the focal encounter that they had to keep in mind while answering the questions (witnessing a violent hijacking situation).

The internal consistency of the instruments was indicated by Cronbach's alpha score. Nunnally (1978) indicates 0.7 to be an acceptable reliability coefficient although lower thresholds are sometimes used in the literature. The literature indicates that the internal consistency estimates of coping measures generally fall in the low ranges (Folkman & Lazarus, 1988; Parker & Endler, 1991). Consistent with these findings, the alpha coefficients obtained in this research investigation were also generally in the lower ranges. The alpha coefficient for each of the scales ranged from 0.48 for confrontive coping and accepting responsibility, to 0.72 for the positive reappraisal scale. The scales: seeking social support (alpha=0.65), planful problem solving (alpha=0.62), and positive reappraisal (alpha=0.72) fall within the generally more acceptable ranges. When considering the known reliability problems associated with coping measures as mentioned earlier, the specificity of the population under investigation, as well as the fact that all answers were related to one specific focal encounter, the reliability of the results can be seen as satisfactory.

4.4.2 Symptom Checklist-90-R (SCL-90-R)

4.4.2.1 Summary of findings

The descriptive statistics for the Symptom Checklist is provided in table 4.2. Scores on all the scales are relatively low, with none of the mean scores exceeding 0.54. These low scores are consistent with findings in other research investigations (Board, 2004; Wallis et al., 1998). The low mean scores also makes sense considering the sample consisted of a non-clinical group of participants. In total, 142 participants completed the questionnaire.

Table 4.2: Descriptive statistics for the Symptom Checklist-90-R

Number	Categories	N Items	M	SD	Minimum	Maximum	Alpha
1	Somatisation	12	0.32	0.30	0.00	1.83	0.71
2	Obsessive- compulsive	9	0.54	0.44	0.00	1.78	0.68
3	Interpersonal sensitivity	9	0.34	0.42	0.00	2.44	0.77
4	Depression	13	0.36	0.34	0.00	1.38	0.70
5	Anxiety	10	0.24	0.29	0.00	1.40	0.68
6	Hostility	6	0.18	0.26	0.00	1.67	0.62
7	Phobic anxiety	7	0.21	0.31	0.00	1.71	0.54
8	Paranoid ideation	7	0.35	0.35	0.00	1.50	0.56
9	Psychoticism	9	0.32	0.34	0.00	1.44	0.64
10	Additional items	8	0.46	0.48	0.00	1.88	0.70

Note. N=142

The mean scores obtained by the SCL-90-R indicate that police trainees scored highest on obsessive-compulsive (0.54) and the additional items (0.46). All other mean scores fall below 0.40 as illustrated in figure 3.

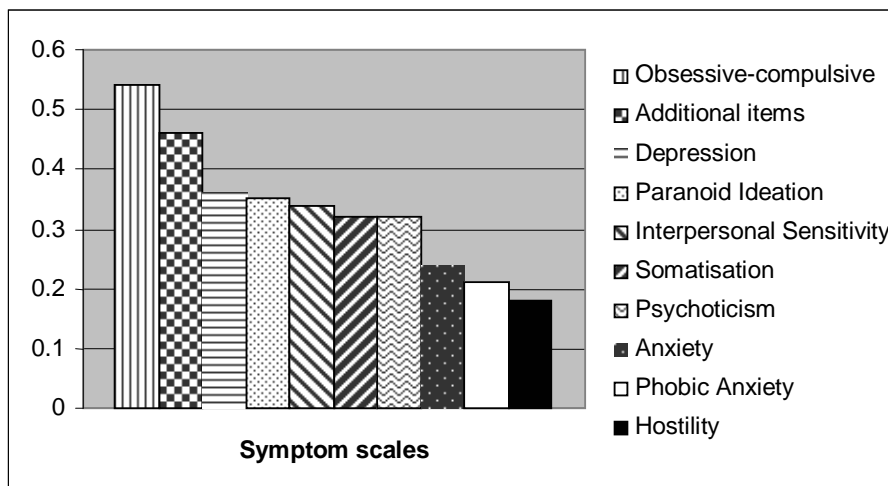


Figure 4.3: Symptom Checklist- 90-R: Mean scores

4.4.2.2 Demographic differences

An analysis of the differences in scores obtained within the two age groups did not yield any significant differences. However, significant gender differences in psychological health did occur. The results indicate that male participants scored significantly higher than females on the following symptom dimensions: hostility ($F=5.32$, $p<.05$), paranoid ideation ($F=0.49$, $p<.05$), psychoticism ($F=16.20$, $p<.05$) and the additional items ($F=4.74$, $p<.05$).

4.4.2.3 Psychometric properties

When considering the item-total correlations, most of the items correlate sufficiently with their respective scales (as calculated by the formula provided previously) with only a few scores within each of the scales scoring slightly below their acceptable cut-off. These were: hostility, phobic anxiety, paranoid ideation and psychoticism.

The reliability of the various symptom scales in terms of Cronbach's alpha ranged from 0.54 for phobic anxiety to 0.77 for interpersonal sensitivity. Most of the scales are above the acceptable level of 0.70. Only two dimensions scored in the lower ranges, namely, phobic anxiety (alpha =0.54) and paranoid ideation (alpha=0.56), which is in line with what would generally be

expected from a group of non-clinical participants. The internal consistency is satisfying when compared to results (0.77-0.90) obtained from a clinical sample (Chang et al., 2004).

4.4.3 Temperament and Character Inventory (TCI)

4.4.3.1 Summary of findings

The descriptive statistics for the Temperament and Character Inventory are described in table 4.3. The results distinguish between temperament and character dimensions, included in the personality profile.

Table 4.3: Descriptive statistics for the Temperament and Character Inventory

Number	Categories	N Items	M	SD	Minimum	Maximum	Alpha
<u>Temperament dimensions</u>							
1	Novelty seeking	40	15.37	3.82	8.00	34.00	0.60
2	Harm avoidance	35	8.72	5.06	0.00	23.00	0.80
3	Reward						
	Dependence	24	16.00	3.06	8.00	22.00	0.55
4	Persistence	8	5.75	1.39	2.00	8.00	0.35
<u>Character dimensions</u>							
5	Self-directedness	44	30.90	5.42	11.00	43.00	0.79
6	Cooperativeness	42	31.81	4.38	17.00	41.00	0.73
7	Self-transcendence	32	21.14	3.79	8.00	30.00	0.64

Note. N=142

Figure 4 provides an illustration of the mean percentage correct scores, in other words, the percentage of participants that gave a correct answer on each of the personality dimensions. A correct score in this context can be seen as a positive score, indicating that an individual demonstrates a certain personality characteristic. As illustrated by this graph, the police trainees do not score highly on two of the temperament dimensions, namely, harm

avoidance (25%) and novelty seeking (38%). Cooperativeness (76%), persistence (72%) and self-directedness (70%) scores were the highest.

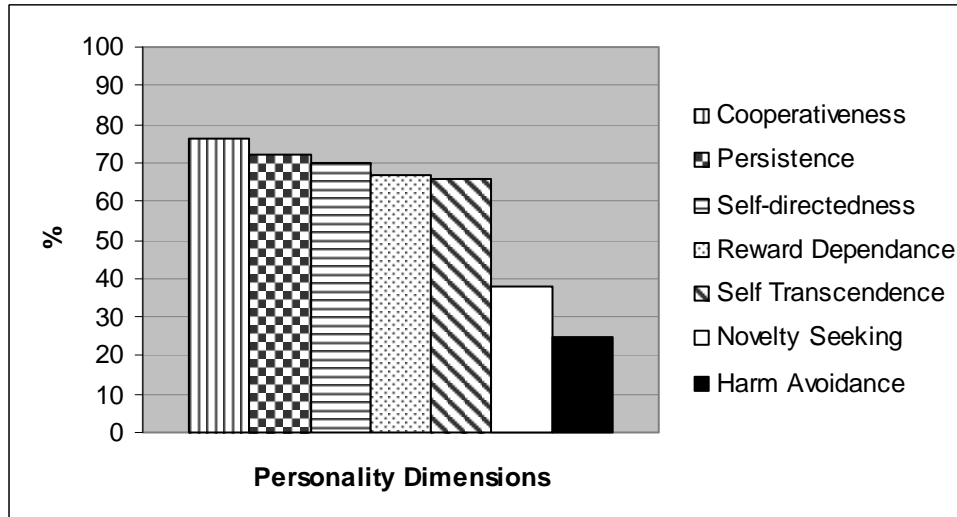


Figure 4.4: Temperament and Character Inventory: Mean percentage correct

4.4.3.2 Demographic differences

A significant difference in persistence exists on a gender level with ($F=5$, $p<.05$) with the female group scoring higher on persistence than the male group of trainees. No age differences were found on either the temperament or character dimensions.

4.4.3.3 Psychometric properties

Because of the large number of items included in each of the scales, the generally acceptable cutoff of 0.2 (Abramson, 1990) was used to assess the item-total correlation on the TCI. In total, 114 of the items scored above this acceptable cutoff, an acceptable range considering the number of items included in each scale.

Folkman and Lazarus (1988) report alpha levels of between 0.61 and 0.71. The alpha coefficient for the police trainees ranged between 0.35 for

persistence, and 0.80 for harm avoidance (table 4.3). Almost all scales have an acceptable internal consistency score, with only one low score, which was for persistence as a temperament dimension ($\alpha=0.35$). Another scale that also scored below the cutoff is reward dependence ($\alpha=0.55$). The internal consistency of the instrument can therefore be seen as satisfactory.

4.4.4 The relationship between variables

One of the main objectives of the research investigation was to determine whether there is a relationship between the three identified pretrauma variables, namely coping, psychological distress and personality. A “correlation is the measurement of the degree to which changes in one variable are associated with changes in another” (McDaniel & Gates, 2001, p. 448). The Pearson’s product moment correlation is a useful statistical analysis that provides an indication of whether variables correlate significantly. The tables that follow summarise the coefficients of correlation (r), which provide an indication of the degree of correlation between the variables.

4.4.4.1 Correlation between personality dimensions and coping scales

The results for the correlation between the personality dimensions and coping scales are summarised in table 4.4. In total, seven significant correlations were obtained, of which only one was negative, and that was between persistence and planful problem solving ($r=-0.21$, $p<.05$). Self-transcendence, as a personality dimension, correlated significantly with three of the coping scales, namely, self-controlling ($r=0.25$, $p<.05$), seeking social support ($r=0.24$, $p<.05$) and positive reappraisal ($r=0.26$, $p<.05$). This indicates that police trainees who are high on self-transcendence as a personality characteristic are more likely to use these coping strategies.

4.4.4.2 Correlation between personality dimensions and psychological distress scales

The correlations between personality dimensions and symptom scales are summarised in table 4.5. In total, 16 significant correlations were obtained, of which half are positive and half are negative correlations. Harm avoidance, as a personality dimension, correlates significantly with six of the symptom scales, namely, obsessive-compulsive ($r=0.36$, $p<.05$), interpersonal sensitivity ($r=0.31$, $p<.05$), phobic anxiety ($r=0.24$, $p<.05$), paranoid ideation ($r=0.28$, $p<.05$), psychoticism ($r=0.27$, $p<.05$) and additional items ($r=0.31$, $p<.05$). These indicate that individuals prone to harm avoidance are likely to show specific psychological distress symptoms. In contrast, self-directedness as a personality dimension shows a significant negative correlation with the following psychological distress symptoms: obsessive-compulsive ($r=-0.28$, $p<.05$), interpersonal sensitivity ($r=-0.29$, $p<.05$), phobic anxiety ($r=-0.30$, $p<.05$) and additional items ($r=-0.36$, $p<.05$). Self-directedness thus lends itself to more positive psychological health.

4.4.4.3 Correlation between coping scales and symptom scales

Table 4.6 provides a summary of the correlations between coping scales and symptom scales. In total, 15 correlations were obtained, of which all were positive. The results indicate that a significant correlation exists between the confrontive coping scale and the following symptom scales: depression ($r=0.19$, $p<.05$), anxiety ($r=0.29$, $p<.05$), phobic anxiety ($r=0.5$, $p<.05$), paranoid ideation ($r=0.26$, $p<.05$) and psychoticism ($r=0.24$, $p<.05$). The other coping scale that generated a number of significant correlations is escape avoidance. This coping scale is significantly correlated with the following symptom scales: obsessive-compulsive ($r=0.27$, $p<.05$), interpersonal sensitivity ($r=0.28$, $p<.05$), depression ($r=0.27$, $p<.05$), anxiety ($r=0.24$, $p<.05$), phobic anxiety ($r=0.28$, $p<.05$) and paranoid ideation ($r=0.31$, $p<.05$).

Table 4.4: Correlation between personality dimensions and coping scales

	Personality Dimensions						
	<u>Novelty seeking</u>	<u>Harm avoidance</u>	<u>Reward dependence</u>	<u>Persistence</u>	<u>Self-directedness</u>	<u>Cooperativeness</u>	<u>Self-transcendence</u>
Coping Scales							
Confrontive coping	0.08	0.08	0.22*	0.01	-0.06	0.15	0.21
Distancing	0.13	0.06	0.17	-0.04	0.04	0.12	0.19
Self-controlling	0.04	0.03	0.11	0.04	0.08	0.12	0.25*
Seeking social support	-0.03	0.18	0.20	0.12	0.02	0.16	0.24*
Accepting responsibility	0.02	0.13	0.12	0.02	0.03	0.01	0.18
Escape avoidance	0.06	0.30*	0.05	0.04	-0.15	-0.07	0.16
Planful problem solving	0.12	-0.01	0.26	-0.21*	-0.05	0.12	0.12
Positive reappraisal	0.06	0.19	0.12	-0.00	-0.03	0.23*	0.26*

* $p < .05$.

Table 4.5: Correlation between personality dimensions and symptom scales

	Personality Dimensions						
	<u>Novelty seeking</u>	<u>Harm avoidance</u>	<u>Reward dependence</u>	<u>Persistence</u>	<u>Self-directedness</u>	<u>Cooperativeness</u>	<u>Self-transcendence</u>
Symptom Scales							
Somatisation	0.04	0.19	-0.17	-0.21	-0.09	-0.02	-0.06
Obsessive-compulsive	-0.16	0.36*	-0.13	-0.17	-0.28*	-0.01	0.10
Interpersonal sensitivity	-0.14	0.31*	-0.22*	-0.11	-0.29*	-0.01	0.11
Depression	-0.15	0.15	-0.08	-0.02	-0.17	-0.05	0.18
Anxiety	-0.15	0.24	-0.26*	-0.22	-0.29	-0.04	0.08
Hostility	0.04	0.09	-0.03	-0.03	0.12	0.03	0.29*
Phobic anxiety	-0.06	0.24*	-0.15	-0.01	-0.30*	0.12	0.10
Paranoid ideation	-0.04	0.28*	-0.10	-0.13	-0.20	-0.02	0.24*
Psychoticism	-0.09	0.27*	0.09	-0.26*	-0.13	-0.02	0.15
Additional items	-0.02	0.31*	-0.16	-0.28*	-0.36*	-0.02	-0.12

* $p < .05$.

Table 4.6: Correlation between coping scales and symptom scales

	Coping Scales							
	<u>Confrontive coping</u>	<u>Distancing</u>	<u>Self-controlling</u>	<u>Seeking social support</u>	<u>Accepting responsibility</u>	<u>Escape avoidance</u>	<u>Planful problem solving</u>	<u>Positive reappraisal</u>
Symptom Scales								
Somatisation	0.13	0.01	-0.12	-0.09	-0.06	0.05	0.05	-0.03
Obsessive-compulsive	0.18	0.03	0.12	0.05	0.09	0.27*	0.16	0.13
Interpersonal sensitivity	0.14	-0.01	0.07	0.00	0.10	0.28*	0.06	0.14
Depression	0.19*	0.01	0.01	-0.05	0.01	0.27*	0.11	0.11
Anxiety	0.29*	0.06	0.01	-0.08	0.02	0.24*	0.08	0.07
Hostility	0.19	-0.04	0.14	-0.10	-0.03	0.14	0.00	0.07
Phobic anxiety	0.25*	0.09	0.03	0.06	0.08	0.28*	0.03	0.09
Paranoid ideation	0.26*	0.08	0.20*	0.17	0.17	0.31*	0.18	0.30*
Psychoticism	0.24*	-0.00	0.10	-0.06	-0.03	0.16	0.21*	0.21*
Additional items	0.11	-0.07	-0.08	-0.12	-0.05	0.19	0.01	0.04

*p<.05.

4.5 CONCLUSION

The overall findings indicate that the trainees are more likely to use adaptive coping mechanisms, and are generally psychologically healthy. Most importantly, the results indicate that as expected, significant relationships exist between the three pretrauma variables under investigation. These correlations are discussed in more detail in the chapter that follows.

CHAPTER 5

DISCUSSION OF FINDINGS

5.1 OVERVIEW

At the outset of this research project, four key research questions were stipulated. This chapter sets out to answer each of the research questions. The psychological profile of police trainees, and its possible impact on future resilience, is discussed first. Also considered are the implications of the finding of demographic differences in terms of age and gender. As indicated in the title of this mini-dissertation, the main objective was to determine whether a relationship exists between coping behaviour, personality characteristics, and psychological distress. The results chapter demonstrated that these relationships do exist, and a description of the nature of the relationships is therefore incorporated in the discussion of the psychological profile of police trainees.

This chapter provides a critical evaluation of the research results and contextualises the results within the current literature of pretrauma variables. The purpose of the different subdivisions is to address the research questions and to ensure that each of the research goals is met. The chapter concludes the mini-dissertation by providing a summary of the research limitations, future recommendations and a final conclusion.

5.2 PROFILE OF SOUTH AFRICAN POLICE TRAINEES

The psychological profile of South African police trainees refers to their coping behaviour, personality characteristics, and psychological distress as measured by the instruments in this study. These results are described and integrated with the literature to determine whether or not their psychological profile is associated with resilience. Resilience is a term that denotes a process whereby an individual is able to adapt in a positive manner despite significant adversity (Luthar, Cicchetti & Becker, 2000). The term therefore singles out those who are exposed to a significant environmental stressor. As

the literature indicates, not all individuals adapt positively after such a challenge. Some develop a psychological disorder while others do not. The factors that influence each individual's ability to adapt, both internal or external, are very important here as they may influence screening criteria at the police college as well as intervention strategies.

In a study of resilience by Mampane and Bouwer (2006, p. 444), the authors communicate that resilient individuals are considered to have "hardy personalities" because they are more likely to use adaptive coping strategies, as opposed to maladaptive responses such as denial or avoidance. Their study of resilient adolescents identified certain characteristics such as an internal locus of control, a nature that is proactive and achievement orientated, emotional stability, competence and a stable and caring environment. It is clear from these characteristics that personality style factors, psychological health and coping variables are all encapsulated in the profile of resilient individuals.

Among the multiple factors that influence resilience, the internal factors include cognitive, emotional, physical, behavioural and spiritual variables; while the person-environmental variables entail active coping, manipulating the environment and perceptions (Mampane & Bouwer, 2006). The pretrauma variables measured interact with each other and the results indicate that some combinations are associated with more psychologically resilient individuals than others.

5.2.1 Healthy coping strategies: Emotion-focused vs. problem-focus coping

"It is not what happens to you that matters, but how you take it" (Selye, 1936, p. 32)

The literature clearly illustrates that police trainees are more at risk for developing psychological disorders than the general population (Van der Merwe et al., 2004), and that positive coping styles act as an important

resilience factor (Marmar et al., 2006). The coping style that an individual uses can therefore play an important role in future resilience; however, there is a discrepancy in the literature regarding whether emotion-focused or problem-focused coping is the more psychologically adaptive coping strategy (Jones & Kagee, 2005).

According to Folkman and Lazarus (1984), the context of the situation will determine to a great degree if a coping strategy is adaptive or not; therefore both emotion-focused and problem-focused coping can be adaptive depending on the circumstances. MacArthur and MacArthur (n.d.) add that an individual's dominance in either of these depends largely on personality and circumstances. For example, a family problem can encourage more active coping styles whereas a terminal illness could lead to more emotional coping mechanisms.

The discussion that follows illustrates that the current psychological profile of police trainees includes mostly healthy coping behaviour that is commonly associated with resilience and positive adjustment. This is in contrast to the results obtained by Monk (2004) who found that the coping resources of students are generally poor. The discrepancy in findings may be a result of the careful recruitment and screening process that police trainees undergo before they are selected for the training programme.

5.2.1.1 Problem-focused coping, psychological distress symptoms and personality

Multiple studies that investigated the psychological symptoms of police officers in South Africa indicate that problem-focused coping is positively associated with PTSD (Jones & Kagee, 2005; Patterson, 2003). The results obtained in this study found that especially one of the problem-focused coping strategies, confrontive coping, is associated with psychological distress symptoms. This coping style correlates significantly with depression, anxiety, phobic anxiety, paranoid ideation and psychoticism. It is therefore positive to note that the psychological profile of police trainees was not found to include

high levels of confrontive coping, as indicated by a low mean score ($\mu=1.51$). Participants scored in the lower ranges on most of the confrontive coping items, except for items that measured doing something that they did not think would work; trying to get the responsible individual to change his or her mind; standing one's ground; and fighting for what one wants.

In a study conducted by Lambert, Lambert, Petrini and Zhang (2007), it was found that personality (psychological hardiness) and seeking social support were the best predictors of how well nurses cope with stress. This finding is supported by Harrison, Loiselle, Duquette and Semenic (2002). Other research findings also highlight the importance of problem solving and seeking social support as adaptive coping strategies (Bouchard, 2003; Glidden, Billings & Jobe, 2006; He et al., 2002; Judge, 1998). Since planful problem solving is the coping mechanism used most by police trainees ($\mu=2.3$) and seeking social support obtained the third highest mean score ($\mu=2.24$), it seems that the profile of police trainees incorporates adaptive coping strategies. Persistence, as a personality characteristic, was found to be negatively correlated with planful problem solving; therefore low scores on persistence could support adaptive coping. Male participants are more likely than females to use planful problem solving as a coping mechanism, whereas persistence was found to be higher in female trainees. He *et al.* (2002) found that female officers used more constructive coping than male participants; however, his findings were not supported by this research. Older police trainees (29 to 39 years) were also found to be more prone to using planful problem solving than the younger trainees (18 to 28 years).

Another personality characteristic, self-transcendence, should also be considered since it was found to correlate significantly with three beneficial coping scales, namely, self-controlling, seeking social support and positive reappraisal. These are described further in this chapter.

5.2.1.2 Emotion-focused coping, psychological distress symptoms and personality

Jones and Kagee (2005) conclude that emotion-focused coping, combined with perceived social support, are important variables that are associated with reduced posttraumatic symptom severity. Results indicate that positive reappraisal is the second most frequently used coping mechanism among police trainees ($\mu=2.26$). According to Mérelle et al. (2003), this is considered an adaptive coping mechanism.

Self-controlling is also considered an important coping mechanism for police officers since they are expected to regulate their feelings and behaviour in difficult situations. A relatively high mean score of $\mu=1.68$ indicates that police trainees are likely to use self-controlling as a coping mechanism when faced with adversity. However, a certain amount of impulsiveness in behaviour was demonstrated since more than half (53%) of participants measured low on the item 'tried not to act too hastily or follow my first hunch'. Ideally one would expect an individual in an authority position to think actions through in a rational way. It is also quite interesting to note that almost half (49%) of all participants scored low on the item 'tried not to burn my bridges, but leave things open somewhat', also indicating a certain amount of impulsiveness in their behaviour. Impulsive behaviour is commonly associated with various addictions (Blaszczynski, Steel & McConaghy, 1997; Field, Christiansen, Cole & Goudie, 2007), aggressive responses (Meloy, 2006) and other negative outcomes such as suicide (Beautrais, Fergusson & Horwood, 2006). The strong link between impulsivity and various psychological distress symptoms implies that it is not commonly associated with resilience.

Accepting responsibility is a coping mechanism that one would expect someone in an authority position to use. The overall mean score is relatively low at $\mu=1.34$, and participants scored especially low on items that involve criticising and lecturing themselves ($\mu=0.72$) and realising they brought the problem on themselves ($\mu=0.69$). However, the low rating obtained could be a result of the focal encounter described at the beginning of the test administration. As stated by Folkman and Lazarus (1984), the context of a situation has a great influence on the coping strategy used by an individual. Considering the nature of the questions asked to measure this category,

individuals are not typically expected to accept responsibility when they witness a hijacking.

A general assumption exists that emergency workers have a hardier disposition and can suppress their feelings, helping them to cope more effectively. However, Moran and Britton (1994) did not find this to be a superior coping strategy. Other studies also indicate that denial, escape and avoidance are associated with less positive adjustment outcomes (Bouchard, 2003; Glidden et al., 2006; He et al., 2002; Judge, 1998), and that distancing and avoidance is associated with neuroticism in both men and women (Bouchard, 2003; Terry, 1994). Escape avoidance was also found to correlate significantly with a range of psychological distress symptoms, namely obsessive-compulsive symptoms, interpersonal sensitivity, depression, anxiety, phobic anxiety and paranoid ideation. It is therefore positive to note that the profile of police trainees does not include a high probability that these less adaptive coping styles would be utilised. The police trainees are least likely to use escape avoidance, which obtained a mean score of $\mu=0.81$. There were three items that elicited higher mean scores and more varied responses. These include having fantasies or wishes about how things might turn out ($\mu=1.59$); wishing the situation would go away or somehow be over with ($\mu=1.42$); and hoping for a miracle ($\mu=1.08$). Other items that are less adaptive, such as escaping through substances or sleeping, scored very low. According to the results, the trainees are also not prone to distancing as a coping mechanism ($\mu=1.26$). Most trainees (74%) indicated that they would look for a silver lining in a stressful event, which indicates a certain degree of positive coping when faced with adversity. The results indicate that older (29-39 years) trainees are more prone to distancing, accepting responsibility, and escape avoidance.

He et al. (2002) found that religious coping strategies can be seen as adaptive. A strong religious component is incorporated in the profile of police trainees, since the item "I will pray" generated a mean score of $\mu=2.58$, and only 4% of all the participants indicated that they would not use prayer as a coping mechanism.

5.2.2 Personality characteristics

The profile of personality characteristics includes both temperament and character dimensions as stipulated by Cloninger's biosocial theory of personality. Scores are described as being "correct" when an individual possesses that specific temperament or character dimension as part of their psychological profile. Some of the personality characteristics are associated with a higher risk of developing certain psychological distress symptoms. It is therefore positive to note that the current profile of police trainees consist of both temperament and character dimensions that are commonly associated with psychological resilience, for example, cooperativeness, persistence and self-directedness.

5.2.2.1 Temperament dimensions of police trainees

Four of the seven scales measure an individual's temperament, namely, novelty seeking, harms avoidance, reward dependence and persistence. The temperament dimension that most accurately describes the police trainee profile is persistence, with 72% of the items scored correctly. Individuals who score high on persistence are considered "industrious and diligent; hard-working; ambitious and over-achiever; perseverant and perfectionist" (Cloninger, Przybeck, Svrakic & Wetzel, 1994, p. 19). Reward dependence also scored relatively high with a mean of 67% scored correctly, indicating that the police trainees can mostly be described as "sentimental and warm; dedicated and attached; and dependent" (Cloninger et al., 1994, p. 19).

A positive correlation was found between harm avoidance and six of the psychological distress symptoms, namely, obsessive-compulsive symptoms, interpersonal sensitivity, phobic anxiety and additional items. Since harm avoidance is associated with the tendency to show an intense reaction when faced with aversive stimuli, and as a result react in a fearful and cautious manner (Cloninger et al., 1988), it would not be an ideal personality characteristic for a police officer, who is more likely to be exposed to traumatic events than the general population. Harm avoidance was also found by

Richter et al. (2003) to be a personality characteristic that is associated with depression. It is thus positive to note that the profile of police trainees includes low levels of harm avoidance (25%), which indicates that they are “relaxed and optimistic; bold and confident; outgoing and vigorous” (Cloninger et al., 1994, p. 19).

Novelty seeking also scored relatively low at 38% scored correctly. This demonstrates the tendency to be “indifferent; reflective; frugal and detached; orderly and regimented,” which seems to fit with the police environment that can also be described as orderly and structured. According to Cloninger et al. (1994), individuals who are low on both harm avoidance and novelty seeking, the pattern displayed by the police trainees, are more likely to be resistant to negative emotions such as “anxiety, depression and anger” (p. 30). The authors add that such individuals are not so negatively affected by threat of punishment and do not need a lot of novelty or promise of reward in order to avoid boredom. Therefore, the current temperament profile of police trainees is characterised as being adaptive and resilient.

Richter, Brändstrom and Przybeck (1999) compared three countries in their cross-cultural study, namely, Germany, Sweden, and the USA. Results for all three countries are higher on novelty seeking and harm avoidance than for the police trainees that participated in this research. Another more recent research study compared the TCI scores across twenty different countries (Miettunen, Kantojärvi, Veijola, Järvelin & Joukamaa, 2006). Once again the results for the police trainees are much lower on these two personality dimensions. Police trainees are similar to the other countries on reward dependence and higher than all the countries on persistence.

5.2.2.2 Character dimensions of police trainees

The three character dimensions include self-directedness, cooperativeness and self-transcendence. The character dimension that most commonly describes the police trainees is cooperativeness, with an average of 76% correctly answered scores. This demonstrates that they are “socially tolerant;

empathic; helpful; compassionate and constructive; ethical and principled” (Cloninger et al., 1994, p. 19). Given the degree of authority and responsibility associated with police work, it is therefore a positive character dimension for a police officer to display.

Self-directedness also obtained a high score of 70% correctly answered scores. Such individuals are described as “mature and strong; responsible and reliable; purposeful; resourceful and effective; self-accepted; habits congruent with long term goals”. This is also a positive finding since low scores on this character dimension are associated with depressive symptoms (Richter & Eisemann, 2001; Richter et al., 2003). The correlation results also indicate that self-directedness correlates negatively with other psychological distress symptoms, namely, obsessive compulsive symptoms, interpersonal sensitivity, phobic anxiety and additional items. Therefore, the higher individuals score on this character dimension, the more resilient they are likely to be.

Lastly, the majority of respondents (66%) gave a correct answer on the self-transcendence scale, which indicates that they are mostly “wise and patient; creative and self-forgetful; united with universe” (Cloninger et al., 1994, p. 19). As mentioned previously, the results indicate that this character dimension correlates significantly with positive coping behaviour (self-controlling, seeking social support and positive reappraisal). The results for self-transcendence of police trainees are much higher than the findings in Germany, Sweden, and the USA as found by Richter et al. (1999).

5.2.3 Profile of psychological distress symptoms

A resilient psychological profile is important since psychological distress symptoms such as “anxiety, depression, and anger can compromise officers’ ability to form productive relationships with peers, administrators, and spouses, and to deal effectively with the public” (Kelley, 2005, p. 24). Kelley (2005) further states that psychological distress symptoms are predictive of decreased job performance for many and can have a negative effect on the

ability to make sound judgements. It is also suggested that feelings of boredom, stress and resentment can lead to dysfunctional coping habits such as drinking or gambling.

The psychological profile of police trainees included no psychological distress symptoms, which makes sense considering the rigorous screening process that the police trainees undergo in order to be selected for the training programme. On almost all individual items, scores are mainly in the low ranges, where the majority scored either 0 or 1 (mean scores range from 0.18 to 0.54), on a scale that ranges from 0 to 4. This is consistent with the findings of Aroian and Patsdaughter (1989), who found low mean scores ranging from 0.15 to 0.35 for a non-clinical sample of participants.

The highest score obtained, for the obsessive-compulsive symptom dimension ($\mu=0.54$), is mainly attributed to the mean scores of two items. The one item indicates that the police trainees often check and double check what they do ($\mu=1.39$), have to do things very slowly in order to ensure correctness ($\mu=0.92$), and repeat the same actions such as touching, counting or washing ($\mu=0.68$). The trainees are by no means showing symptoms of the severely debilitating obsessive-compulsive disorder, but rather a normal amount of ritualistic behaviour that is often demonstrated by healthy individuals (Smay, n.d.).

The additional items dimension scored the second highest mean score ($\mu=0.46$). This is mainly due to reports of difficulty sleeping. Many report sometimes awakening in the early morning ($\mu=1.34$), disturbed restless sleep ($\mu=0.60$) and trouble falling asleep ($\mu=.47$). However, it is not entirely clear whether this is a result of the stress associated with the training programme. Another score that may have been rated higher than the others as a result of the training programme is the soreness of muscles ($\mu=0.74$), which was measured under the somatisation dimension.

Results also indicated that male trainees are more likely to present with psychological distress symptoms, namely, hostility, paranoid ideation,

psychoticism and additional items. This is in contrast to He et al.'s (2002) findings. They conducted research on a sample 1000 police officers. The Brief Symptom Inventory, a brief version of the Symptom Checklist-90-R, was administered on the sample and they found that female officers scored significantly higher on somatisation and depression than male police officers.

5.3 LIMITATIONS OF THE RESEARCH PROJECT

The main limitation of the research was that the police trainees were studied during a period directly after they were intensively evaluated for selection for the training programme. Therefore, participants could possibly have been wary of reporting any psychological difficulties. Because of the authoritarian structure of the police force, some participants may have felt that they did not have a choice in their participation, even though they were assured at the outset that they were free to decide whether they wanted to participate. This could also have a negative effect on the honesty of their responses.

The measurement instruments were not developed for use on a South African population. Therefore, results should be interpreted with caution. In addition, the results are based on a small sample size that is relatively homogenous with regard to ethnicity.

5.4 RECOMMENDATIONS FOR FUTURE RESEARCH

1. The primary aim of the research investigation was not to provide a full investigation into the validity and reliability of the research instruments. However, a springboard for future research was provided and it is suggested that future studies include larger samples, so that the instruments can be adapted so that they are more appropriate for South African use.
2. A gap was also identified in terms of research focusing on police officers before they enter the field. Such research findings could be a valuable addition to the literature and may help support the police college in their

recruitment practices. The identification of additional pretrauma variables (such as self-esteem, anger and locus of control), their relationships and impact on resilience could be used to optimise the recruitment process.

3. A study with similar objectives that includes a more diverse sample and wider age range is also recommended.

5.5 CONCLUSION

Factors that are known to influence an individual's resilience include (a) individual factors (such as personality, coping and psychological health); (b) familial factors (the functioning and support of a family); and (c) extrafamilial factors (support from the community) (Marais & Stuart, 2005). The research results in this study address the individual factors; and it is suggested that individuals be recruited based on individual factors that will promote a psychologically resilient police force. It is argued that each individual possesses a unique set of personality characteristics and employs certain individual coping strategies. As the literature indicates, these individual characteristics can make such individuals more resilient than others.

The primary aim of the research investigation was to develop a psychological profile of South African police trainees, and also to investigate whether certain relationships and demographic differences exist between the pretrauma variables of coping behaviour, personality characteristics, and psychological distress. The results demonstrated five relationships that could be considered in the screening process of police trainees. The personality characteristic self-transcendence is associated with positive coping behaviour; harm avoidance has a relationship with psychological distress; and self-directedness is associated with a decrease in psychological distress. Confrontive coping and escape avoidance are associated with an increase in psychological distress. Overall, it is positive to note that the profile of police trainees includes mostly adaptive coping behaviour, and that they show no symptoms of psychological distress. The personality characteristics that they scored high on are associated with adaptive coping strategies and low psychological distress.

With the support of future research projects that have a similar aim, but include a larger sample size, this profile may be explored in more depth. This may provide the South African Police Services with the necessary information to support the recruitment of psychologically resilient police officers.

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