

**COPING, STRESS AND SUICIDE IDEATION IN THE SOUTH
AFRICAN POLICE SERVICES IN MPUMALANGA**

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Mini-dissertation submitted in partial fulfilment of the requirements for the Magister
Commercii in Industrial Psychology at the Potchefstroom University for Christian Higher
Education

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Date: November 2002

REMARKS

The reader is reminded of the following:

- The references as well as the editorial style as prescribed by the *Publication Manual (4th edition)* of the American Psychological Association (APA) were followed in this mini-dissertation. This practice is in line with the policy of the Programme in Industrial Psychology of the PU for CHE to use APA style in all scientific documents as from January 1999.
- The mini-dissertation is submitted in the form of a research article. The editorial style specified by the *South African Journal of Industrial Psychology* (which agrees largely with the APA style) is used, but the APA guidelines were followed in constructing tables.

ACKNOWLEDGEMENTS

To God, thanks for giving me the talents, the opportunity and the strength to complete this research.

In writing this mini-dissertation, I was fortunate to have the advice and assistance of many people, but I want to express my sincere thanks to the following individuals and institutions in particular:

- Prof. Ian Rothmann, my supervisor and mentor, for his continued and competent leadership, enthusiasm, interest and assistance in carrying out this research.
- Prof. Ian Rothmann for the care he took in preparing my statistical processing.
- Prof. Annette Combrink for the language editing of this article.
- The South African Police Services and Psychological Services in Mpumalanga for making this research study possible.
- My parents, Wikus and Annie, for their prayers, encouragement, financial support and love.
- My family, Willie, Sarien, Piet and Lizl for their encouragement and love.
- All my special friends, Marlize, Maretha, René and Theresa for their inspiration, love and support.

The financial assistance of the National Research Foundation (NRF) towards this research is hereby acknowledged. Opinions expressed and conclusions arrived at, are those of the author and are not necessarily to be attributed to the National Research Foundation.

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ABSTRACT

Subject: Coping, stress and suicide ideation in the South African Police Services in Mpumalanga.

Key terms: Suicide, suicide ideation, police, stress, coping.

Relatively high numbers of suicides occur in the South African Police Services. However, little is known about suicide ideation within the SAPS. The objective of this research was to determine the relationship between coping and stress on the one hand and suicide ideation among police members on the other hand.

A cross-sectional design was used. The study population ($N = 176$) consisted of uniformed police members in Mpumalanga. The Adult Suicide Ideation Questionnaire, Police Stress Inventory and COPE Questionnaire were used as measuring instruments. Descriptive statistics (e.g. means, standard deviations, skewness and kurtosis) and inferential statistics were used to analyse the data. Cronbach Alpha Coefficients, inter-item correlation coefficients and confirmatory factor analysis were used to assess the reliability and validity of the measuring instruments. A discriminant analysis was conducted to determine which variables discriminate the bet between police members with a high and those with a low level of suicide ideation.

The results showed that 12 (7,32%) of the uniformed police members had significant suicide ideation levels. The discriminant analysis showed that medical status, rank, previous suicide attempts, coping-passive and gender correctly classified 75% of the participants who scored high on suicide ideation. A relationship was found between the frequency of suicide ideation and the likelihood of suicide attempts. An association was also found between gender and suicide ideation. Problems like paper-work, staff shortages and poor equipment can be identified as situational factors contributing to the stress levels of police members in Mpumalanga. A relationship was found between coping and stress on the one hand and suicide ideation on the other hand.

The results obtained in this study could help to identify the intensity and frequency of specific stressors (especially police stressors).

Recommendations for future research are made.

OPSOMMING

Onderwerp: Coping, stres en selfmoord-denkbeeldvorming in die Suid-Afrikaanse Polisie in Mpumalanga

Sleuteltermes: Selfmoord, selfmoord-denkbeeldvorming, polisie, stres, coping.

'n Relatiewe hoë getal selfmoorde kom in die Suid-Afrikaanse Polisie voor. Min inligting oor die selfmoord-denkbeeldvorming van lede van die SAPS is egter bekend. Die doelstelling van hierdie navorsing was om die verband tussen coping en stres enersyds en selfmoord-denkbeeldvorming andersyds te bepaal.

'n Dwarssnee-ontwerp is gebruik. Die studiepopulasie ($N = 176$) het bestaan uit funksionele polisielede in die Mpumalanga Provinsie. Die Volwasse Selfmoord-denkbeeld-vormingsvraelys, die COPE en die Poliestresvraelys is as meetinstrumente gebruik. Beskrywende statistiek (bv. gemiddeldes, standaardafwykings, skeefheid en kurtose) is gebruik om die data te ontleed. Cronbach-alfakoëffisiënte, inter-itemkorrelasiekoëffisiënte en bevestigende faktoranalises is gebruik om die betroubaarheid en geldigheid van die meetinstrumente te bepaal. 'n Diskriminant-analise is gebruik om te bepaal watter veranderlikes tref die beste onderskeid tussen polisielede met hoë of diegene met lae vlakke van selfmoord-denkbeeldvorming.

Die resultate het getoon dat 12 (7,32%) van die funksionele polisielede betekenisvolle vlakke van selfmoord-denkbeeldvorming toon. 'n Diskriminant-analise het aangetoon dat mediese toestand, rang, vorige selfmoordpogings, passiewe coping-strategieë en geslag 75% van die deelnemers met hoë tellings ten opsigte van selfmoord-denkbeeldvorming korrek geklassifiseer het. 'n Verhouding is gevind tussen die frekwensie van selfmoord-denkbeeldvorming en die waarskynlikheid van poging tot selfmoord. 'n Verband is ook gevind tussen geslag en selfmoord-denkbeeldvorming. Probleme soos byvoorbeeld administratiewe take, personeeltekorte en swak toerusting, kan beskou word as faktore wat bydra tot verhoogde stresvlakke van polisielede in Mpumalanga. 'n Verband is gevind tussen coping en stres enersyds en selfmoord-denkbeeldvorming andersyds.

Die resultate wat verkry is in die studie kan daartoe bydra om die intensiteit en frekwensie van sekere stressore (meer spesifiek die stressore in polisiëring) te identifiseer.

Aanbevelings vir toekomstige navorsing word aan die hand gedoen.

CHAPTER 1

INTRODUCTION

This mini-dissertation focuses on the relationships between coping, stress and suicide ideation within the SAPS in Mpumalanga.

In this chapter the problem statement and the research objectives (including the general and the specific objectives) are discussed. Following this, the research method is discussed.

1.1 PROBLEM STATEMENT

The effectiveness of the police service is an important contributor to the stability and resulting economic growth and development of countries. In South Africa members of the South African Police Services (SAPS) are faced by various potential stressors, such as a high crime level, organisational transformation and a lack of resources (Anshel, 2002).

Anshel (2002) states that law enforcement is one of the most stressful occupations world-wide. Suicide among members of the SAPS has also been a growing public health problem over the last several years, due to a dramatic increase in incidence. In 1995 SAPS officials were eleven times more likely to take their own lives than members of the general population (<http://www.iss.co.za/Pubs/Crime%20Index/00Vol4No5/forbidden.html>). The average suicide rate among police members overseas is approximately 18 per 100 000 members. Last year the suicide rate in South Africa was 130 per 100 000 members of the SAPS (Olivier, 2001).

Suicidal behaviour may be considered a domain of psychological disturbance and is associated with potentially severe mental and/or physical health outcomes. According to Reynolds (1991a), suicidal behaviour may be categorised as including suicide completion, overt intention, suicide attempt, and suicide ideation. Suicidal behaviour can be plotted on a continuum varying in severity from ideation through intent and attempt to completion. Suicide ideation therefore constitutes but one aspect of suicidal behaviour (Reynolds, 1991a). Research about suicide ideation may be viewed as an important and critical component in

evaluating and promoting adult mental health. A strong association exists between suicide ideation and suicide (Jin & Zhang, 1998). Reynolds (1991a) states that all suicide attempts, as well as threats, should be considered indications of significant psychological distress.

Suicide ideation, which refers to the thoughts and cognitions about suicidal behaviour and intent, may be considered an early marker of more serious suicidal behaviour (Bonner & Rich, 1987; Reynolds, 1991a; Shea, 1998). Suicide ideation can be characterised as ranging from relatively mild, general thoughts and wishes that one were dead to serious ideation about specific plans and means of taking one's life. Reynolds (1991a) defines suicide ideation as the domain of thoughts and ideas about death, suicide and serious self-injurious behaviour, and includes thoughts related to the planning, conduct and outcome of suicidal behaviour, particularly as the last relates to thoughts about the response of others. Individuals measuring high on suicide ideation wish they had never been born, feel life is not worth living, wish they were dead, and think that others would realise their worth when they are dead. They have thoughts of killing themselves, as well as thoughts on specific methods they can use and times or places at which to kill themselves. Schotte and Clum (1982) as well as Bonner and Rich (1987) have found a relationship between the frequency of suicide ideation and the likelihood of attempts at suicide. Suicide ideation is consistent with a cognitive-behavioural focus and may be viewed as a domain of self-statements.

In a pre-study in the SAPS in the North West Province, Rothmann and Van Rensburg (2001) found that 10,58% of the uniformed police members showed significant suicide ideation levels. It was also found that suicide ideation was higher in the case of police members who were working in police stations than in the case of those who were in training.

When compared with police services elsewhere in the world, the suicide rates in the SAPS are almost five times higher (C. Swanepoel, personal communication, March 26, 2001). The risk areas seem to be the Northern Cape, Mpumalanga, the North West Province and Gauteng. This research will focus on suicide in the SAPS in the Mpumalanga area.

The levels of police suicide vary substantially between provinces. In 1998 a total of 127 SAPS officials committed suicide in the country as a whole. In 1999 there was a small drop from 1998 suicide levels. However, in Mpumalanga there was an increase in police suicides by about 46% (<http://www.iss.co.za/Pubs/Crime%20Index/00Vol4No5/forbidden.html>).

The SAPS needs to intervene to increase and/or maintain the psychological health and decrease the suicidal behaviour of police members. However, little information is available about the reasons for the high suicide rate in the SAPS. Only one study was done regarding suicide ideation of members of the SAPS in the North West Province (see Rothmann & Strijdom, 2002; Rothmann & Van Rensburg, 2002). Therefore, it is necessary to study suicide ideation of police members and possible correlates thereof.

Many factors may contribute to suicidal behaviour of police members, including demands of the work situation, factors outside the work situation and personal characteristics, as well as the interaction between these variables (Jacobs, 1998; Rossouw, 1998; Schmidtke, Fricke & Lester, 1999). According to McCafferty (1992), suicide of police members could largely be ascribed to stressors at work. Factors that may cause distress include authoritarian structures, lack of participation in decision-making, poor interpersonal relationships with supervisors, lack of administrative support, unfair discipline, unfair promotion and the nature of police work. Irregular working hours, poor working conditions, constant fear and trauma make police members more susceptible to suicide (Maynard, Maynard, Mccubin & Shao, 1980; Rothmann & Strijdom, 2002). Shift work, the dangers involved in police work and low salaries seem to be related to stress and suicidal tendencies (Kruger, 1996; Lott, 1995). Janik and Kravitz (1994) found that marital problems and job suspension were important contributing factors to a police officer's decision to attempt suicide. Supportive families can buffer and diminish the occupational stresses that police officers experience (Graf, 1986). Alcohol abuse accelerates their isolation from both family and administrative relationships.

One of the basic issues in the suicidal behaviour domain concerns coping, or ways in which an individual can attempt to deal with job stressors to ward off aversive strains (Beehr, Johnson & Nieva, 1995). Kohn (1996) contends that "the most important thing about how a person copes with everyday hassles ... is its circumstantial appropriateness, how well it fits the specific demands of the situation" (p. 182). Anshel (2000) expresses concern about the tendency that alcohol is not only used but very much accepted as a way of coping with stress in the police service. Research by Hageman (1978) has shown that non-coping with stressors in the work environment may be related to suicide ideation.

Coping refers to perceptual, cognitive or behavioural responses that are used to manage, avoid or control situations that could be regarded as difficult (Folkman & Lazarus, 1984;

Moos, 1994; Zeidner & Endler, 1996). Beehr et al. (1995) showed that problem-focused coping strategies were negatively related to strains (somatic complaints, emotional exhaustion, depersonalisation and thoughts of suicide) among police officers. Emotion-focused coping strategies were related to every police strain except the abuse of alcohol. One maladaptive coping strategy in police work is the excessive intake of alcohol to help reduce stress and improve psychological well-being. Anshel (2000) states that alcohol or drug intake might serve as a means of coping with stress, but that it is not effective. Evens and Coman (1992) have found a tendency towards ineffective coping among police officers who reported being unsentimental and emotionally detached and refusing to share their emotional reactions to job stressors with others (such as their partners or families). Burke (1993) found high use of alcohol, drugs, cigarettes and physical isolation from others to be methods of coping with job-related stress among police officers.

The objective of this research was to determine the relationship between coping, stress and suicide ideation of police members in Mpumalanga. The results obtained in this study could help to identify the intensity and frequency of certain stressors (more specifically the stressors in policing) as well as make recommendations on constructive coping strategies in order to reduce suicide ideation in the police services in Mpumalanga.

The research problem can be summarised as follows: When compared with police services elsewhere in the world, it emerges that the suicide rates in the SAPS are almost five times higher. This indicates a serious problem regarding suicide ideation within a South African context. Currently the SAPS has already implemented certain interventions but these do not seem to work effectively. There is also a lack of research regarding the dispositional and situational factors in stress and suicide ideation in the SAPS in Mpumalanga.

From the problem statement the following research questions emerge:

- How are suicide and suicide ideation conceptualised in the literature?
- How are coping and its relationship with stress and suicide ideation conceptualised in the literature?
- What is stress and which situational factors contribute to stress and suicide ideation in the South African Police Services?

- What are the levels of stress, coping and suicide ideation in the SAPS in Mpumalanga?
- What is the relationship between stress, coping and suicide ideation in the SAPS in Mpumalanga?
- Can stress and coping strategies be used to predict suicide ideation in the SAPS in Mpumalanga?
- What recommendations can be made to prevent and manage suicide ideation in the SAPS in Mpumalanga?

1.2 RESEARCH OBJECTIVES

The research objectives can be divided into a general objective and specific objectives.

1.2.1 General objective

The general aim of this research is to critically investigate relationships between coping, stress and suicide within the SAPS in Mpumalanga.

1.2.2 Specific objectives

The specific objectives of this research are to:

- conceptualise suicide and suicide ideation from the literature;
- conceptualise coping and its relationship with stress and suicide ideation from the literature;
- conceptualise stress and to evaluate the situational factors that contribute to stress and suicide ideation in the SAPS in Mpumalanga;
- determine the level of stress, coping and suicide ideation in the SAPS in Mpumalanga;
- determine whether stress and coping could be used to predict suicide ideation in the SAPS;
- make recommendations to prevent and manage suicide ideation in the SAPS.

1.3 RESEARCH METHOD

The research method consists of a literature review and an empirical study.

1.3.1 Literature review

The literature review focuses on suicide and suicide ideation in the police services as well as the role of coping and stress in suicide ideation. The results are used to determine the relationship between coping, stress and suicide ideation.

1.3.2 Empirical study

The empirical study entails that the specifically stated objectives can be achieved as follows:

1.3.2.1 Research design

A survey design is used to achieve the research objectives. The specific design is the cross-sectional design whereby a sample is drawn from a population at one time (Shaughnessy & Zechmeister, 1997). Information collected is used to describe the population at that time. This design is also used to assess interrelationships among variables within a population. According to Shaughnessy and Zechmeister (1997), this design is ideally suited to the descriptive and predictive functions associated with correlational research.

1.3.2.2 Study population

A stratified, random sample ($N = 176$) was taken from uniformed police members from the job level of constable to that of superintendent in Mpumalanga.

1.3.2.3 Measuring instruments

Four questionnaires were used in the empirical study, namely the Coping Orientation to Problems Experience Questionnaire (COPE) (Carver, Scheier & Weintraub, 1989), the Police Stress Inventory (PSI) (Pienaar, 2002), the Adult Suicide Ideation Questionnaire (ASIQ) (Reynolds, 1991a), and a questionnaire containing Biographical information.

- The *Coping Orientations to Problems Experience Questionnaire* (COPE) is generally used to measure participants' coping strategies. The COPE is a multidimensional 53-item coping questionnaire that indicates the different ways that people cope in different circumstances (Carver, Scheier & Weintraub, 1989). Although the original questionnaire measures 13 different coping strategies, Pienaar (2002) subjected the COPE to a principal components factor analysis with a varimax rotation. Three internally consistent factors were extracted, namely Problem-focused Coping (16 items), Passive Coping (13 items), and Seeking Emotional Support (7 items). The alpha coefficients of the three scales are 0,93, 0,86, and 0,87 respectively. All these values are acceptable ($\alpha > 0,70$, Nunnally & Bernstein, 1994), and thus indicate the internal consistency of the factors of the PSI. Test-retest reliability varies from 0,46 to 0,86 and from 0,42 tot 0,89 (applied after two weeks).
- The *Police Stress Inventory* (PSI) is used to measure participants' job stress. The PSI focuses on common work situations that often result in psychological strain. Each of the 44 items describes a job-related stressor event and assesses both the perceived severity and frequency incidence of that event. Participants first rated each of the 44 items regarding the intensity of stress on a 9-point scale. The frequency part of the questionnaire asked "how many times in the last six months" did you experience the source of stress. Pienaar (2002) subjected the PSI to a principal components factor analysis with a varimax rotation. Three internally consistent factors were extracted, namely Job Demands (17 items), Lack of Resources (14 items), and Police Stressors (8 items). The alpha coefficients of the three scales are 0,92; 0,92; and 0,89 respectively. All these values are acceptable ($\alpha > 0,70$, Nunnally & Bernstein, 1994), and thus indicate the internal consistency of the factors of the PSI.
- The *Adult Suicide Ideation Questionnaire* (ASIQ) (Reynolds, 1991a) is used to measure participants' current level of suicide ideation. Each of the items measures a specific suicidal behaviour or thought. Reynolds (1991a) reported that the internal consistency (coefficient alpha) of the ASIQ is 0,96, while Osman et al. (1999) found an alpha coefficient of 0,98. The test-retest reliability of the ASIQ varies between 0,86 and 0,95 (Reynolds, 1991b). Reynolds (1991a) provided evidence for the content, construct and criterion-related validity of the ASIQ. Osman et al. (1999) found that the ASIQ differentiated significantly between suicide attempt and psychiatric control groups.

Research done in South Africa by Rothmann and Van Rensburg (2002) reported that the ASIQ obtained an alpha coefficient of 0,96 that is acceptable according to Nunnally and Bernstein (1994).

- A *questionnaire* was developed to gather information about the demographic characteristics of the participants. This questionnaire gave participants the option of supplying their name and service number. Other information gathered included: province and station, age, gender, years of service, years in current position (to assess advancement), educational qualifications, marital status, satisfaction with relationship with significant other, language, history of disciplinary action, self-rated performance, self-rated job satisfaction, medical conditions, use of prescribed and over-the-counter medicine, reasons for medication, number of alcoholic drinks per week, smoking behaviour, amount of cigarettes per day, other drug use, exercise behaviour and previous attempt (Pienaar, 2002).

1.3.2.4 Statistical analysis

The statistical analysis was carried out with the help of the SAS-program (SAS Institute, 2000). Cronbach alpha coefficients, inter-item correlation coefficients and confirmatory factor analysis are used to assess the reliability and validity of the measuring instruments (Clark & Watson, 1995). Descriptive statistics (e.g. means, standard deviations, skewness and kurtosis) was used to analyse the data.

T-tests and analysis of variance were used to determine differences between the sub-groups in the sample. A cut-off point of 0,50 (medium effect, Cohen, 1988) was set for the practical significance of differences between means. Pearson product-moment correlation coefficients were used to specify the relationships between the variables. In the case where the distribution of scores was skew, Spearman correlation coefficients were computed. A cut-off point of 0,30 (medium effect, Cohen, 1988) was set for the practical significance of correlation coefficients.

A discriminant analysis was carried out to determine which combination of independent variables should be used to classify police members into groups who obtained low versus high suicide ideation scores. The resulting discriminant function separates the members of the

groups maximally. The assumption of discriminant analysis is that the independent variables are continuous but that the dependent variable is categorical (Kerlinger & Lee, 2000).

1.4 DIVISION OF CHAPTERS

The chapters are presented as follows in this mini-dissertation:

Chapter 1: Introduction

Chapter 2: Research article

Chapter 3: Conclusions, shortcomings and recommendations.

1.5 CHAPTER SUMMARY

This chapter sought to provide details of the motivation for this research as well as the methodology to be employed. In addition to the problem statement, the objectives of the research as well as the research method were outlined. Finally, the envisaged chapter arrangement was indicated.

Chapter 2 focuses on the research article.

CHAPTER 2

RESEARCH ARTICLE

COPING, STRESS AND SUICIDE IDEATION IN THE SOUTH AFRICAN POLICE SERVICES IN MPUMALANGA*

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ABSTRACT

Suicide within the South African Police Services (SAPS) has increased dramatically. Police members may be at higher risk for suicide than the general population. The objective of this research was to determine the relationship between coping and stress on the one hand and suicide ideation among police members on the other hand. The study population ($N=176$) consisted of uniformed police members in Mpumalanga. The Adult Suicide Ideation Questionnaire, Police Stress Inventory and COPE Questionnaire were used as measuring instruments. A discriminant analysis showed that medical status, rank, previous suicide attempts, coping-passive and gender correctly classified 75% of participants who scored high on suicide ideation.

OPSOMMING

Selfmoord binne die Suid-Afrikaanse Polisiediens het dramaties toegeneem. Polisielede kan moontlik 'n groter risiko loop om selfmoord te pleeg as die res van die bevolking. Die doelstelling van hierdie navorsing was om die verband tussen coping en stres andersyds en selfmoord-denkebeeldvorming van polisielede andersyds te bepaal. Die studiepopulasie ($N = 176$) het bestaan uit funksionele polisielede in Mpumalanga. Die Volwasse Selfmoord-denkebeeldvormingsvraelys, die Polisie-stresvraelys asook die COPE vraelys is as meetinstrumente gebruik. 'n Diskriminantontleding het aangetoon dat mediese toestand, rang, vorige selfmoordpogings, passiewe coping-strategieë en geslag 75% van die deelnemers met hoë tellings ten opsigte van selfmoord-denkebeeldvorming korrek geklassifiseer het.

There has been an increasing incidence of suicide among police members world-wide (Janik & Kravitz, 1994). Police officers appear to commit suicide at proportionally higher rates compared to the rates of the general population (Wagner & Brzezczek, 1983) and those of

* The financial assistance of the National Research Foundation (NRF) towards this research is hereby acknowledged. Opinions expressed and conclusions arrived at, are those of the author and are not necessarily to be attributed to the National Research Foundation.

other professions (Janik & Kravitz, 1994; Violanti, 1995). Anshel (2000) states that law enforcement is one of the most stressful occupations world-wide. This is also the case in the South African Police Services. In 1995 South African police members were eleven times more likely to take their own lives than members of the general population (<http://www.iss.co.za/Pubs/Crime%20Index/ooVol4No5/forbidden.html>).

When compared with police services elsewhere in the world, the suicide rates in the South African Police Services (SAPS) are almost five times higher (C. Swanepoel, personal communication, March 26, 2001). The levels of police suicide vary substantially between provinces. The risk areas seem to be the Northern Cape, Mpumalanga, the North West Province and Gauteng. However, while there was a slight general decrease in suicides in 1998, the number of police who committed suicide in Mpumalanga showed an increase of 46% (<http://www.iss.co.za/Pubs/Crime%20Index/00Vol4No5?forbidden.html>).

According to Nel and Burgers (1998), the changed political scenario and social order in South Africa could influence the current state of affairs. Rapid political and social transformation is accompanied by much anxiety and uncertainty. Gulle, Tredoux and Foster (1998) have found that the increasing distress of members of the SAPS who are at the 'coal face' of changing South Africa daily is evident in the alarming increase in suicide statistics, the dramatic increase of medical boardings particularly for psychological reasons, as well as divorce statistics and the incidence of both alcohol and drug abuse.

Based on previous research there is speculation as to the reason for high suicide rates among police members. Factors linked to post-traumatic stress disorder such as depression, hopelessness, substance abuse, moodiness and aggression are often cited as causes of police suicide (Yang & Clum, 1994). Also associated with police suicides are escalating crime statistics, corruption among police officials as well as the police culture which often denies the problem and views it as disgraceful to both the victim and the profession (<http://www.tearsofacop.com/police/articles/turvey.html>). Kop et al. (1999), Lowerstein (1999) as well as Nel and Burgers (1998) found that policemen are often reluctant to tell people in the chain of command that they are having problems because they fear that their careers will be destroyed. Therefore police officers rather choose to solve their problems quietly, which often leads to abuse or suicide. Several studies found that the easy access to firearms (a weapon strapped at the officer's waist most of the time) can be suggested as a

possible precursor to police suicide (Schmidtke, Fricke & Lester 1999; Hem, Berg & Ekeberg, 2001; Violanti, 1995). Violanti (1995) states that there are possible correlates to police suicide. The continuous exposure to death and injury, social strain resulting from shift work, inconsistencies within the criminal justice system as well as the negative public image of police officers have been cited as possible correlates to police suicide. According to Janik and Kravitz (1994) marital problems and job suspension are important contributing factors to a police officer's decision to attempt suicide.

The SAPS needs to intervene to increase and/or maintain the psychological health and decrease the suicidal behaviour of police members. In South Africa only two studies regarding suicide ideation have been conducted in the North West Province (Rothmann & Strijdom, 2002; Rothmann & Van Rensburg, 2002) and these studies indicated that a need exists for more research on suicide ideation of police members as well as possible correlates thereof.

The objective of this research is to determine the relationship between coping, stress and suicide ideation of police members. If it is found that coping, stress and suicide ideation are related, programmes such as recruitment, selection, induction, training and development and performance management could be implemented to facilitate the development of constructive coping strategies and to reduce stress and suicide ideation in the police service.

Suicide ideation

In their quest to prevent our citizens from becoming victims of crime many police officials become victims themselves; not only of the crime but also victims of depression and despair, which can then lead to suicide or attempted suicide (Kast & SAPA, 1999). According to Reynolds (1991a), suicide ideation can be conceptualised as the domain of thoughts and ideas about death, suicide and serious self-injurious behaviour and includes thoughts related to the planning, conduct and outcome of suicidal behaviour, particularly as the last relates to thoughts about the response of others. Suicidal behaviour may be categorised as including suicide completion, overt intention, suicide attempt and suicide ideation (Reynolds, 1991a). Suicide research has primarily focussed on completed suicides rather than the thoughts of own death or suicide planning. The importance of ideation and planning must be emphasised because they are important steps in a process of suicide,

characterised by a stepwise hierarchy of actions with an underlying gradient of severity (Vilhjalmsson, Kristjansdottir & Sveinbjarnardottir, 1998). According to Schmidtke et al. (1999), as well as Violanti (1995) a problem is found in the reliability and validity of death records. The suicide is often stated as an accident with the officer's service weapon, in order to protect victim officers and their families from the stigma of suicide. In order to prevent the validity of suicide rates being questioned, the focus should rather be on suicide ideation and planning.

Jin and Zhang (1998) found that a strong association exists between suicide ideation and suicide. According to Reynolds (1991a) all suicide attempts, as well as threats should be considered indications of significant psychological distress. Previous research found that there are a variety of risk factors on suicide behaviour and deaths. Suicide attempts are more likely among people who are depressed and hopeless, have drinking or drug problems, or suffer from persistent pain such as headache or abdominal pain (Vilhjalmsson et al., 1998; Yang & Clum, 1994). Hirsch and Ellis (1995) as well as Velting (1999) have found that the risk for completed suicides is much greater in males, whereas females are more likely to make nonfatal attempts. Males are more likely to use more lethal methods of suicide like firearms or hanging. A relationship was found between the frequency of suicide and the likelihood of attempts of suicide (Schotte & Clum, 1982; Bonner & Rich, 1987).

Coping

Coping can be conceptualised as a person's cognitive and behavioural efforts to manage environmental demands that have been appraised as threatening or exceeding personal capabilities (Bishop et al., 2001; Horeish et al., 1996; Folkman & Lazarus, 1984; Patterson, 2000; Violanti et al., 1985). Rothmann and Van Rensburg (2002) found that based on previous research the term coping could be used as strategies or results. As strategy, coping refers to the different methods that a person applies to manage his or her circumstances and as a result, coping refers to the eventual outcomes to this strategy for the individual. Non-coping can be defined as failed efforts to cope that may result in higher stress accompanied by various physical and psychosocial disturbances (Callan, 1993).

According to Patterson (1999), the use of effective coping strategies as well as a strong social support system can protect individuals from psychological distress by reducing or

eliminating distress. Various styles of coping are used in stressful situations, as previous research has indicated. Folkman and Lazarus (1984), Horesh et al. (1996) and Patterson (1999) distinguish between problem-focused and emotional-focused coping. Problem-focused coping is directed at managing and improving an unpleasant experience or reducing the effects thereof. Emotion-focused coping can be described as regulating the distress that arises as a result of experiencing the stressful event (Patterson, 1999).

The use of maladaptive coping such as officers who cope by using alcohol, drugs, anger and withdrawal is more likely among those who suffer from health problems than officers who use more adaptive coping strategies (Anshel, 2000). According to Burke (1993) the high use of alcohol, drugs, cigarettes and isolation from others, would be likely methods of coping with job-related stress by police officers. Patterson (1999) found that officers tend to use more problem-focused strategies rather than emotional-focused strategies in order to change stressful events. The police culture is found to limit the expression of personal feelings by officers, therefore it is evident that emotional-focused coping would be used less among officers than problem-focused coping (Kop et al., 1999; Nel & Burgers, 1998).

According to Burke (1994), police officers undertaking more physical exercise reported fewer psychosomatic symptoms and smoked fewer cigarettes than those who used drugs and alcohol as coping responses. Police members who were more likely to withdraw and isolate themselves also reported more psychosomatic symptoms, negative emotions as well as greater use of medicine. If sources of stress are ongoing and individuals do not cope with these effectively, it will result in burnout, reduced motivation, poor performance and eventually dropout from the police profession (Anshel, 2000).

Stress

Police work is usually pictured as highly stressful, with police officers showing high levels of work stress and burnout (Kop & Euwema, 2001). A great deal is heard about the supposedly high incidence of suicide, divorce and alcoholism as well as stress-related illnesses such as heart disease, ulcers and job dissatisfaction among policemen (Lester, 1986). Police officers are often victims not only of violence but other kinds of disaster and situations they present in, which can be described as critical incident stressors. According to Nel and Burgers (1998) continuous and excessive exposure to critical incident stressors

without counselling can eventually lead to post-traumatic stress disorder (PTSD). Within the South African context, the possibility of over-exposure to violence and trauma is great.

Police stress can be conceptualised as any condition which has adverse consequences for police officer's well being and it has been linked to negative emotional outcomes such as divorce rates, suicide, alcoholism, physical disorders as well as occupational performance and professional relationships within the department (Crank & Caldero, 1991). Considering the police stressors as well as the background of police work, Koortzen (1996) defines stress as any demand, either internal, external or a combination of both that cause a person mentally and physically to readjust in order to maintain his sense of balance. Gulle, Tredoux and Foster (1998) have found that literature on police stress makes the distinction between inherent stress caused by the nature of the police work itself (danger work) and organisational stress caused by the bureaucratic nature of organisations (like paperwork or the lack of resources). Conclusions found in the related police studies indicated that organisational stress more strongly affects police members than inherent stress (Crank & Caldero, 1991; Gulle et al., 1998; Kop & Euwema, 2001). The positive aspect of this observation is that organisational stressors are not necessarily entrenched in society and may more easily be addressed and changed than inherent ones (Gulle et al., 1998). Regarding ranks of police officers Biggam et al. (1997) argue that organisational stressors are more prominent in higher ranks while operational stressors are salient in lower ranks.

METHOD

Research design

A survey design was used. The specific design is a cross-sectional design, whereby a sample is drawn from a population at one time (Shaughnessy & Zechmeister, 1997).

Sample

The study population ($N=176$) includes samples of uniformed police personnel in three areas of Mpumalanga namely Nelspruit (Lowveld) area, Kwamhlanga (Highveld) area and the Eastern Highveld area. The following formula proposed by Kerlinger and Lee (2000) was used to determine the sample size for this study:

$$n' = \frac{n}{1 + \frac{n}{N}}$$

and

$$n = z^2 \times \frac{SD^2}{d^2}$$

where n' = estimated sample size; n = the estimated sample size using the formula; N = the size of the population; z = standard score corresponding to the specified probability of risk; SD = the standard deviation of the population, and d = the specified deviation.

The study population consisted mainly of sergeants ($n = 40$) and inspectors ($n = 102$). A total of 136 participants were males while 40 participants were females. Different language groups were included in the study namely Afrikaans ($n = 83$), English ($n = 6$), Sepedi ($n = 25$), isiSwati ($n = 20$), isiZulu ($n = 24$). The marital status of the participants included police members who were single ($n = 26$), married ($n = 104$) and divorced ($n = 43$). About 24% of the participants had been charged for previous offences. A total of 12% of the participants had medical conditions that affected their quality of work. Regarding the use of alcohol, 79% indicated that they took about four drinks per week, 12% indicated that they took about five to seven drinks per week, 3% indicated they took about eight to fourteen drinks per week and the other 6% of the participants took about fifteen or more drinks per week. A total of five of the participants had attempted suicide before.

Measuring instruments

Four questionnaires were used in the empirical study, namely the Coping Orientation to Problems Experience Questionnaire (COPE) (Carver, Scheier & Weintraub, 1989), the Police Stress Inventory (PSI) (Pienaar, 2002), the Adult Suicide Ideation Questionnaire (ASIQ) (Reynolds, 1991a), and a questionnaire for obtaining Biographical information.

- The *Coping Orientations to Problems Experience Questionnaire* (COPE) was used to measure participants' coping strategies. The COPE is a multidimensional 53-item coping

questionnaire that indicates the different ways that people cope in different circumstances (Carver, Scheier & Weintraub, 1989). Although the original questionnaire measures 13 different coping strategies, Pienaar (2002) subjected the COPE to a principal components factor analysis with a varimax rotation. Three internally consistent factors were extracted, namely Problem-focused Coping (16 items), Passive Coping (13 items), and Seeking Emotional Support (7 items). The alpha coefficients of the three scales are 0,93, 0,86, and 0,87 respectively. All these values are acceptable ($\alpha > 0,70$, Nunnally & Bernstein, 1994), and thus indicate the internal consistency of the factors of the PSI. Test-retest reliability varies from 0,46 to 0,86 and from 0,42 tot 0,89 (applied after two weeks).

- The *Police Stress Inventory* (PSI) was used to measure participants' job stress. The PSI focuses on common work situations that often result in psychological strain. Each of the 44 items describes a job-related stressor event and assesses both the perceived severity and frequency occurrence of that event. Firstly, participants rated each of the 44 items regarding the intensity of stress on a 9-point scale. The frequency part of the questionnaire asked "how many times in the last six months" did you experience the source of stress. Pienaar (2002) subjected the PSI to a principal components factor analysis with a varimax rotation. Three internally consistent factors were extracted, namely Job Demands (17 items), Lack of Resources (14 items), and Police Stressors (8 items). The alpha coefficients of the three scales are 0,92; 0,92; and 0,89 respectively. All these values are acceptable ($\alpha > 0,70$, Nunnally & Bernstein, 1994), and thus indicate the internal consistency of the factors of the PSI.
- The *Adult Suicide Ideation Questionnaire* (ASIQ) (Reynolds, 1991a) was used to measure participants' current level of suicide ideation. Each of the items measures a specific suicidal behaviour or thought. Reynolds (1991a) reported that the internal consistency (coefficient alpha) of the ASIQ is 0,96, while Osman et al. (1999) found an alpha coefficient of 0,98. The test-retest reliability of the ASIQ varies between 0,86 and 0,95 (Reynolds, 1991b). Reynolds (1991a) provided evidence for the content, construct and criterion-related validity of the ASIQ. Osman et al. (1999) found that the ASIQ differentiated significantly between suicide attempt and psychiatric control groups. Research done in South Africa by Rothmann and Van Rensburg (2002) reported that the

ASIQ obtained an alpha coefficient of 0,96, which is acceptable according to Nunnally and Bernstein (1994).

- A *questionnaire* was developed to gather information about the demographic characteristics of the participants. This questionnaire gave participants the option of supplying their name and service number. Other information that was gathered included: province and station, age, gender, years of service, years in current position (to assess advancement), educational qualifications, marital status, satisfaction with relationship with significant other, language, history of disciplinary action, self-rated performance, self-rated job satisfaction, medical conditions, use of prescribed and over-the-counter medicine, reasons for medication, number of alcoholic drinks per week, smoking behaviour, amount of cigarettes per day, other drug use, exercise behaviour and previous attempt. (Pienaar, 2002).

Statistical analysis

The statistical analysis was carried out with the help of the SAS-programme (SAS Institute, 2000). Cronbach alpha coefficients, inter-item correlation coefficients and confirmatory factor analysis were used to assess the reliability and validity of the measuring instruments (Clark & Watson, 1995). Descriptive statistics (e.g. means, standard deviations, skewness and kurtosis) were used to analyse the data.

T-tests and analysis of variance were used to determine differences between the sub-groups in the sample. The following formula was used to determine the practical significance of differences (d) when t-tests were used (Cohen, 1988; Steyn, 1999):

$$d = \frac{Mean_A - Mean_B}{SD_{MAX}}$$

where

$Mean_A$ = Mean of the first group

$Mean_B$ = Mean of the second group

SD_{MAX} = Highest standard deviation of the two groups

The following formula was used to determine the practical significance of means of more than two groups (Cohen, 1988; Steyn, 1999):

$$d = \frac{Mean_A - Mean_B}{\text{Root } MSE}$$

where

$Mean_A$ = Mean of the first group

$Mean_B$ = Mean of the second group

Root MSE = Root Mean Square Error

A cut-off point of 0,50 (medium effect, Cohen, 1998) was set for the practical significance of differences between means. Pearson product-moment correlation coefficients were used to specify the relationships between the variables. In the case where the distribution of scores is skew, Spearman correlation coefficients were computed. A cut-off point of 0,30 (medium effect, Cohen, 1998) was set for the practical significance of correlation coefficients.

A discriminant analysis was carried out to determine which combination of independent variables can be used to classify police members into groups who obtained low versus high suicide ideation scores. The resulting discriminant function separates the members of the groups maximally. The assumption of discriminant analysis is that the independent variables are continuous but that the dependent variable is categorical (Kerlinger & Lee, 2000).

RESULTS

Table 1 shows the descriptive statistics, Cronbach alpha coefficients and inter-item correlation coefficients of the COPE, PSI and ASIQ.

Table 1

Descriptive Statistics, Alpha Coefficients and Inter-item Correlation Coefficients of the Measuring Instruments (N=176)

Item	Mean	SD	Skewness	Kurtosis	Inter-item r	α
Problem-focused Coping	72,83	13,31	-0,68	0,75	0,32	0,92
Passive Coping	26,78	8,20	0,32	-0,41	0,35	0,87
Seeking Emotional Support	20,36	5,28	-0,55	-0,18	0,46	0,86
Job Demands	82,89	24,60	-0,02	0,06	0,30	0,88
Lack of Resources	80,88	23,35	-0,16	-0,54	0,39	0,90
Police Stressors	42,62	14,60	-0,33	-0,56	0,37	0,83
ASIQ	8,46	14,38	3,09*	14,40*	0,38	0,93

* High skewness and kurtosis

Table 1 shows that acceptable Cronbach alpha coefficients varying from 0,83 to 0,93 were obtained for most of the scales (see Nunally & Bernstein, 1994). The mean inter-item correlation of all the scores is also acceptable ($0,15 < r < 0,50$, Clark & Watson, 1995). It is evident from Table 1 that most of the scores on the various measuring instruments are relatively normally distributed, with low skewness and kurtosis. The only exception is the ASIQ, which shows relatively high skewness and kurtosis.

The intensity and frequency of stress as measured by the PSI are reported in Table 2.

Table 2

The Intensity and Frequency of Stressors as Indicated by the PSI

Item	Intensity	Frequency
Job Demands	-	-
Frequent changes	4,56	4,38
Meeting deadlines	4,77	4,55
Increased responsibility	5,04	4,76
On the spot decisions	4,76	4,31
Crisis situations	4,97	4,55
Insufficient free time	4,61	3,86
Unfamiliar duties	4,78	3,81
Shift work	4,66	4,08
Excessive paperwork	5,46	5,52
Domestic violence	4,96	4,23
Too much supervision	4,40	3,24
Cover other work	5,43	5,00
Working overtime	4,73	5,03
Interruptions	5,00	4,67
Task not in job description	5,20	5,92
Noisy work area	4,40	3,35
Transformation	5,19	3,94
Lack of Resources		
Insufficient personnel	5,91	5,71
Poor equipment	6,65	6,31
Lack of recognition	5,93	5,05
Lack of fellow support	6,41	6,02
Lack of supervisor support	5,62	4,11
Negative attitude	5,40	4,86
Lack of advancement	5,81	4,66
Poor motivation	5,73	5,47
Poor supervision	5,22	3,79
Inadequate salary	6,39	5,92
Staff shortages	6,90	6,54
Not part of decisions	4,93	4,11
Peer competition	5,24	4,66
Difficult supervisor	4,76	3,18
Police Stressors	-	-
Fellow officer killed	6,18	2,51
Killing someone on duty	5,13	2,01
Physically attacked	5,38	3,16
Handle large crowd	4,72	2,60
Racial conflict	5,81	3,49
Death message	4,92	2,87
Seeing a criminal go	6,72	5,16
Media	3,75	2,76

>1 but <3 (low intensity and frequency)

>4 but <6 (average intensity and frequency)

>7 but <9 (high intensity and frequency)

Table 2 shows that the highest scores obtained regarding the intensity and frequency of Job Demands were excessive paperwork, covering work for other police members as well as performing tasks not in the job description. Regarding the Lack of Resources, the items that show average intensity include a lack of fellow support, insufficient personnel and inadequate salaries. The highest scores were obtained regarding poor equipment and staff shortages. Table 2 shows that the highest scores regarding Police Stressors were obtained for seeing a fellow officer being killed and seeing a criminal go. Racial conflict shows average intensity and low frequency.

The product-moment correlation coefficients between the ASIQ, COPE and PSI are reported in Table 3. In the case of the correlation between the ASIQ and the other constructs, Spearman correlation coefficients were computed because of the skewed distribution of suicide ideation scores. Table 3 shows the Spearman correlation coefficients between the ASIQ and the other constructs.

Table 3

Correlation Coefficients between the Measuring Instruments

Item	Problem-focused Coping	Passive Coping	Seeking Emotional Support	Job Demands	Lack of Resources	Police Stressors
Problem-focused Coping	-	-	-	-	-	-
Passive Coping	0,38 ⁺	-	-	-	-	-
Seeking Emotional Support	0,70 ⁺⁺	0,41 ⁺⁺	-	-	-	-
Job Demands	0,19 ⁺	0,20 ⁺	0,10	-	-	-
Lack of Resources	0,23 ⁺	-0,01	0,06	0,68 ⁺⁺⁺	-	-
Police Stressors	0,24 ⁺	0,06	0,10	0,48 ⁺⁺	0,50 ⁺⁺⁺	-
ASIQ	0,09	0,29 ⁺⁺	0,13	0,12	0,16 ⁺	0,07

⁺ Statistically significant $p < 0,05$

[•] Correlation is practically significant $r > 0,30$ (medium effect)

^{..} Correlation is practically significant $r > 0,50$ (large effect)

Table 3 shows statistically significant correlations between Lack of Resources on the one hand and Job Demands and Police Stressors on the other hand. These correlations were also practically significant. Seeking Emotional Support correlates positively with Problem-focused Coping (practically significant, large effect). A statistically significant correlation exists between Seeking Emotional Support and Problem-Focused Coping.

Statistically and practically significant correlation coefficients (medium effect) exist between Passive Coping on the one hand and Problem-focused Coping, Seeking Emotional Support and the ASIQ on the other hand. Police Stressors correlates positively with Job Demands (practically significant, medium effect).

An inspection of Table 3 shows that statistically significant correlations exist between Problem-focused Coping on the one hand and Job Demands, Lack of Resources and Police Stressors on the other hand. A statistically significant correlation was also found between a Lack of Resources and the ASIQ. Passive coping is also statistically significant related to Job Demands.

The product correlation coefficients between the ASIQ, PSI, COPE and biographical items are shown in Table 4. In the case of the correlation between the ASIQ and the biographical items, Spearman correlation coefficients were computed because of the skew distribution of suicide ideation scores. The measuring instruments are normally distributed and Pearson correlation coefficients were computed for them.

Table 4

Correlation Coefficients between the Measuring Instruments and Biographical Items

Item	Job Demands	Lack of Resources	Police Stressors	Problem-focused Coping	Passive Coping	Social support	ASIQ
Age	-0,03	-0,19 ⁺	-0,17 ⁺	-0,06	0,19 ⁺	-0,11	0,07
Years in SAPS	-0,03	-0,03	-0,06	-0,06	-0,02	-0,20 ⁺	-0,16 ⁺
Years in Position	-0,05	0,00	-0,07	0,13	0,12	0,06	-0,10
Satisfied Relationship	-0,02	0,02	0,04	-0,07	-0,13	-0,10	-0,09
Performance	0,06	-0,01	0,04	0,05	-0,01	-0,05	-0,08
Satisfied Performance	-0,17 ⁺	-0,32 ^{**}	-0,13	-0,02	0,04	0,04	0,11
Amount support from:							
Public	-0,17 ⁺	-0,18 ⁺	-0,06	0,06	0,09	0,09	0,01
SAPS in general	-0,16 ⁺	-0,25 ⁺	-0,05	0,01	0,04	0,08	-0,04
Psychological services	-0,14	-0,23 ⁺	-0,08	0,01	0,05	0,05	-0,08
Management	-0,11	-0,22 ⁺	-0,01	0,07	0,16 ⁺	0,11	-0,02
Direct commander	-0,20 ⁺	-0,34 ^{**}	-0,04	-0,02	-0,04	0,10	0,08
Colleagues	-0,17 ⁺	-0,19 ⁺	0,00	0,04	0,06	0,02	-0,01
Family	-0,01	0,01	0,10	0,05	-0,14	0,02	0,00
Friends	-0,07	-0,08	0,04	0,14 ⁺	0,02	0,18 ⁺	0,02
Religion	-0,04	-0,01	0,05	0,07	-0,02	0,09	-0,03
Adequacy of support							
Public	-0,18 ⁺	-0,21 ⁺	-0,04	-0,01	0,06	0,07	-0,11
SAPS in general	-0,20 ⁺	-0,33 ^{**}	-0,13	-0,07	0,03	0,09	-0,16 ⁺
Psychological services	-0,09	-0,19 ⁺	-0,03	0,03	0,09	0,14	-0,11
Management	-0,12	-0,12 ⁺	-0,04	0,00	0,11	0,10	-0,11
Direct commander	-0,25 ⁺	-0,39 ^{**}	-0,02	-0,02	-0,07	0,08	0,05
Colleagues	-0,15 ⁺	-0,15 ⁺	0,01	-0,07	-0,09	0,00	-0,02
Family	-0,09	-0,02	0,08	-0,05	-0,18	0,00	-0,01
Friends	-0,14	-0,12	0,07	0,01	-0,09	0,06	-0,01
Religion	-0,04	-0,01	0,09	0,04	-0,14 ⁺	0,04	-0,06
Accessibility of support							
Public	0,01	0,01	0,11	-0,02	0,00	0,00	0,04
SAPS in general	0,04	0,11	0,01	0,04	-0,05	-0,06	0,02
Psychological services	0,21	0,14	0,11	-0,06	-0,03	-0,08	0,02
Management	0,13	0,20	0,16	0,04	-0,13	-0,08	0,01
Direct commander	0,01	0,00	-0,02	-0,07	0,11	-0,04	0,03
Colleagues	0,00	-0,08	-0,09	-0,11	0,07	0,01	-0,04
Family	-0,19	-0,19	-0,10	-0,10	0,13	0,01	-0,05
Friends	-0,11	-0,11	-0,03	-0,122	0,11	-0,06	0,06
Religion	-0,01	-0,13	0,04	-0,05	0,12	-0,01	0,03

+ Statistically significant $p < 0,05$ * Correlation is practically significant: $r > 0,30$ (medium effect)** Correlation is practically significant: $r > 0,50$ (large effect)

Table 4 shows practically significant (negative) correlation coefficients of a medium effect between Lack of Resources on the one hand and Satisfaction with Performance, Amount of Support from the direct commander and Adequacy of the Support from the direct commander on the other hand.

The differences between the experiences of male and female police members are reported in Table 5.

Table 5

Differences between the Experiences of Males and Females

Item	Male		Female		<i>p</i>	<i>d</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>		
ASIQ	9,20	15,66	5,95	8,40	0,00	0,21
Problem-focused Coping	72,84	13,34	72,80	13,37	1,00	0,00
Passive Coping	27,07	8,70	25,78	6,16	0,29	0,15
Seeking Emotional Support	20,09	5,51	21,30	4,31	0,15	-0,22
Job Demands	81,79	25,01	86,63	23,05	0,26	-0,19
Lack of Resources	80,32	23,47	82,78	23,13	0,56	-0,10
Police Stressors	40,88	14,89	48,55	11,95	0,00	-0,52*

* Practically significant difference: $d > 0,50$ (medium effect)

Table 5 shows that males obtained a higher score on suicide ideation than females. However, this difference had a small effect. On the other hand females (compared to males) obtained a practically significantly higher score on Police Stressors (medium effect).

The differences between the suicide ideation of police members who attempted suicide previously and those who did not attempt is are shown in Table 6.

Table 6

Differences between Police Members based on Previous Suicide Attempts

Item	Attempt		No Attempt		<i>p</i>	<i>d</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>		
ASIQ	21,00	19,05	8,09	14,12	0,21	0,68*

* Practically significant difference: $d > 0,50$ (medium effect)

Table 6 shows that police members who have attempted suicide in the past (compared with those who did not report suicide attempts) obtained a practically significant higher score on the ASIQ (medium effect).

The differences between the scores of different ranks in the SAPS are shown in Table 7.

Table 7

Differences between Police Members based on their Ranks in the SAPS

Item	Constable	Sergeant	Inspector	Captain	Supt	Root MSE	P
Problem-focused Coping	78,40	71,25	72,20	75,84	80,67	13,31	0,34
Passive Coping	36,60	26,88	25,44	28,26	28,33	7,90	0,00
Seeking Emotional Support	23,50	20,93	19,92	20,11	20,33	5,30	0,32
Job Demands	86,40 ^a	71,60 ^{bc}	85,60 ^a	91,47 ^a	71,00 ^{bc}	24,08	0,01 [*]
Lack of Resources	75,40	72,55 ^b	83,05 ^b	86,16 ^{ab}	100,67 ^a	23,01	0,05 [*]
Police Stressors	39,90	39,08	44,05	42,31	49,00	14,59	0,37
ASIQ	12,50	12,15	6,52	8,05	13,00	14,39	0,24

a practically significant difference from rank (in row) where b (medium effect, $d > 0,5$) or c (large effect, $d > 0,8$) is indicated

Table 7 shows the following differences between the different ranks: Compared with superintendents and sergeants, the captains show practically significantly higher scores on Job Demands (practically significant, large effect). Constables as well as inspectors on the one hand obtained higher scores on Job Demands (practically significant, medium effect) compared to superintendents and sergeants on the other hand. Superintendents compared to captains and inspectors show higher scores on Lack of Resources (practically significant, medium effect). Captains compared to sergeants show practically significantly higher scores on Lack of Resources (practically significant, medium effect).

The differences between police members based on their marital status are shown in Table 8.

Table 8

Differences between Police Members based on their Marital Status

Item	Single	Married	Divorced	Separated	Remarried	Root MSE	p
Problem-focused Coping	75,62	72,89	71,84	50,50	81,00	13,17	0,12
Passive Coping	29,46	25,94	27,51	22,00	22,00	8,17	0,27
Seeking Emotional Support	22,62	19,84 ^c	20,53 ^b	13,00	24,00 ^a	5,18	0,04 [*]
Job Demands	81,38	81,68	83,56	121,00 ^c	143,00 ^a	24,08	0,02 [*]
Lack of Resources	76,58	82,00	78,65	103,50	126,00	23,13	0,13
Police Stressors	45,50 ^a	44,03	38,30 ^c	40,00	12,00	14,33	0,04 [*]
ASIQ	11,65	8,80	5,77	0,00	23,00	14,35	0,34

a Practically significant difference from rank (in row) where b (medium effect, $d > 0,5$ or c (large effect, $d > 0,8$) is indicated

Table 8 shows that the following differences exist between single, married, divorced, separated and remarried police members. Police members who are remarried show practically significantly higher scores on Job Demands (large effect) than police members who are separated. Police members who are single show higher scores on Police Stressors (practically significant, medium effect) than police members who are divorced. Remarried police members show practically significantly higher scores on Seeking Emotional Support than members who are divorced (medium effect) or married (large effect).

Next a stepwise discriminant analysis was performed in order to determine which variables discriminate between police members with a high and those with a low level of suicide ideation. The resulting linear discriminating function for police members with low and high suicide ideation is given in Table 9.

Table 9

The Linear Discriminant Function for Police Members with Low and High Suicide Ideation

Variable	High Suicide Ideation	Low Suicide Ideation
Constant	-186,51	-198,43
Race	4,88	4,49
Rank	-0,61	0,34
Size of station	10,37	10,01
Years in SAPS	0,64	0,69
Years in position	-0,69	-0,68
Sex	7,76	8,65
Marital status	8,70	9,22
Charges	10,51	10,71
Satisfied with Performance	6,46	6,03
Medical	15,39	19,00
Alcohol	8,95	8,55
Attempt	91,51	95,23
Job Demands	-0,04	-0,04
Lack of Resources	0,23	0,21
Police Stressors	0,08	0,10
Problem-focused Coping	0,38	0,35
Passive Coping	0,49	0,40
Seeking Emotional Support	0,07	0,18

Table 9 shows the resulting linear discrimination function for police members with low and high suicide ideation. All the above-mentioned variables were included in the discriminant analysis which was performed in order to determine which variables discriminate best between police members with a high and those with a low level of suicide ideation.

By applying the stepwise discriminant analysis, it was found that five variables should be retained for the discriminant analysis. These variables include Medical, Rank, Attempt, Passive Coping and Sex. These variables are shown in Table 10 and are indicated as the best predictors of suicide ideation after completion of the discriminant analysis.

Table 10

The Linear Discrimination Function of Retained Variables for Police Members with Low and High Suicide Ideation

Variable	Partial R-Square	F
Medical	0,06	11,42
Rank	0,05	9,27
Attempt	0,03	5,66
Coping-passive	0,02	3,26
Sex	0,01	2,28

Table 10 shows the percentage variance indicated by each of the retained variables after completion of the discriminant analysis. The percentage variances indicated by each of the retained variables are as follows: medical conditions predicts 6%, rank predicts 5%, previous suicide attempts predicts 3%, coping passive predicts 2% and the gender of police members predicts 1%.

The frequencies and percentages of police members that can be classified to the high or low suicide ideation groups (based on the variables indicated in Table 10) are shown in Table 11.

Table 11

Classification of Membership of High/Low Suicide Ideation Groups

Group	High Suicide Ideation	Low Suicide Ideation	Total
High Suicide Ideation	9 (75%)	3 (25%)	12 (100%)
Low Suicide Ideation	22 (13,41%)	142 (86,59%)	164 (100%)

Table 11 shows that the combination of medical conditions, rank, previous suicide attempts, passive coping strategies and gender of the police members classify 75% of the high suicide ideation cases and 86,59% of the low suicide ideation cases correctly. A total of 25% of the high and 13,41% of the low suicide ideation cases are classified incorrectly when using these variables.

DISCUSSION

Compared with a cut-off raw score of 31 (the 97th percentile on a norm table for community adults in the United States of America) (Reynolds, 1991a), 12 (7,32%) of the uniformed police members have significant suicide ideation levels. Reynolds (1991a) states that the ASIQ cut-off score is not meant to predict future suicidal behaviour or to suggest that an individual is at definite risk of suicide. The possibility exists that this cut-off score may result in an over-identification of cases, but it is more desirable to make a false positive decision than a false negative decision when evaluating suicidal behaviour. Police officers have higher suicide rates in comparison to the rates of the general population (Schmidtke et al., 1999).

The discriminant analysis resulted in an acceptable classification of police members who measure low and high suicide ideation. The linear discriminant function for police members with low or high suicide ideation includes medical conditions, ranks in the SAPS, previous suicide attempts, passive coping and gender. These variables classified almost 75% of police members who measure high on suicide ideation correctly while they classified almost 87% of the police members who measure low on suicide ideation correctly.

The results indicate that police members who have attempted suicide in the past (compared with those with no suicide attempt) would be more likely to ideate suicide because of higher suicide ideation scores obtained by them. According to Reynolds (1991a), all suicide attempts as well as threats should be considered indications of significant psychological distress. Schotte and Clum (1982) as well as Bonner and Rich (1987) a relationship was found between the frequency of suicide ideation and the likelihood of attempts of suicide. The results obtained in this research indicate that previous suicide attempts predict about 3% of the variance in suicide ideation.

The results also indicate that males are more likely to commit suicide than females. The gender of a police officer predicts about 1% of a member's suicide level. Previous research found that females make more non-fatal suicide attempts than men do, but men are more likely to actually take their own lives. This reason for this is that males are more likely to use more lethal methods of suicide like firearms or hanging (Velting, 1999).

McCafferty (1992) states that suicide of police members could largely be ascribed to stressors at work. Regarding the intensity and frequency of job demands, the results show that police members experience excessive paperwork as both an intense and frequent stressor. The fact that excessive paperwork is experienced as an intense and frequent stressor is understandable. During the data collection of this research the negative attitude towards paperwork as both an intense and frequent stressor was reflected by the negative attitude of some of the members towards the questionnaire booklet they had to complete. Police members also experience both frequent and intense stress when covering other peoples work and doing tasks not in the job description.

Regarding a lack of resources the results showed that poor or inadequate equipment and staff shortages could be regarded as the most severe stressors. Staff shortages can be considered a problem in the SAPS. This was also found during the data collection, where police officers in a station often could not take part in the research because of members on leave or ill. Even though there are shortages of staff due to several factors the amount of work increases constantly. Police members also experience the lack of or inadequate equipment as an intense and frequent stressor that prevents them from serving the public and doing their job effectively.

The results show that a police stressor, such as seeing a criminal go free, is experienced as both a high-intensity and a high-frequency stressor. Violanti (1995) states that inconsistencies in the criminal justice system have been cited as possible correlates of police suicide. Research done by Crank and Caldero (1991) also found that seeing a criminal go free can be a severe stressor. It is understandable for police members to experience stress when seeing a person whom they know is guilty of an offence released because of the liberal court system.

Regarding ranks in the police, Biggam et al. (1997) argue that organisational stressors (e.g. job demands and lack of resources) are more prominent in higher ranks while operational stressors (e.g. police stressors) are more salient in lower ranks. The results also indicated that captains experience more stress regarding job demands than sergeants and superintendents (probably because of role conflict). The results may seem to be conflicting but the sample of the research consisted of mainly small and medium-sized stations (where lower ranks like captains rather than superintendents act as station commanders). Only a

few superintendents were included because the sample consisted of only one large station. The results also showed that captains experience more stress than the lower ranks regarding lack of resources.

The results show that suicide ideation is related to stress (and specifically a lack of resources) and coping. Furthermore, the discriminant analysis showed that passive coping strategies predicted suicide ideation. The results also show that remarried police members have more social support (as a coping strategy) than members who are divorced.

A limitation of this research is that the research design does not allow one to determine the direction of the relationship between variables (see Kerlinger & Lee, 2000). Another limitation is that a non-probability sample has been used, which implies that the findings cannot be generalised to other settings.

RECOMMENDATIONS

The SAPS needs to intervene to increase and/or maintain the psychological health and decrease the suicidal behaviour of police members. There are, however, assumptions that explain the reasons for police suicide as dealing less with variables caused by the profession itself but more with personal and individual variables such as personality traits. Furthermore, there is a lack of research regarding the casual (dispositional and situational) factors in stress and suicide in the SAPS. These problems contribute to the ineffectiveness of the SAPS.

Additional research must focus on the relationship between suicide and personality dimensions, including the three constructs sense of coherence, generalised self-efficacy and locus of control. If it is found that stress and suicide ideation are related to these variables, programmes such as recruitment, selection, induction, training and development and performance management could be implemented to facilitate the development of psychological strengths and constructive coping strategies in order to reduce stress and suicide ideation in the SAPS. More research is also needed regarding the relationship between coping, stress and suicide ideation.

Psychological Services within the SAPS should train members in identifying individuals who tend towards suicide ideation. Support groups should be provided for uniformed police members to provide support for members who are stressed or were victims of attempted suicides. Staff shortages are a significant problem within the SAPS. The increased workload of members on duty because of a fellow officer who is absent increases stress levels. Programmes should be implemented to reduce absenteeism and further research should focus on factors causing absenteeism within the SAPS. The needs of stations as well as station commanders regarding equipment like vehicles should be attended to with more seriousness because the lack of resources can prevent members from doing their jobs effectively and also have an influence on job satisfaction.

REFERENCES

- Anshel, M.H. (2000). A conceptual model and implications for coping with stressful events in police work. *Criminal Justice and Behaviour*, 27, 375-400.
- Biggam, F.H., Power, K.G., MacDonald, R.R., Carcary, W.B. & Moodie, E. (1997). Self-perceived occupational stress and distress in a Scottish police force. *Work and Stress*, 11, 118-133.
- Bishop, G.D., Tong, E.M.W., Diong, S.M., Enkelmann, H.C., Why, Y.P., Khader, M. (1996). The relationship between coping and personality among police officers in Singapore. *Journal of Research in Personality*, 35, 353-374.
- Bonner, R.L. & Rich, A.R. (1987). Toward a predictive model of suicide ideation and behavior: Some preliminary data in college students. *Suicide and Life-Threatening Behavior*, 17, 50-63.
- Burke, R.J. (1993). Work-family stress, conflict, coping and burnout in police officers. *Stress Medicine*, 9, 181-180.
- Burke, R.J. (1994). Stressful events, work-family conflict, coping, psychological burnout, and well-being among police officers. *Psychological Reports*, 75, 787-800.
- Callan, V.J. (1993). Individual and organizational strategies for coping with organizational change. *Work and Stress*, 7, 63-75.
- Carver, C.S., Scheier, M.F. & Weintraub, J.K. (1989). Assessing coping strategies: A theoretical based approach. *Journal of Personality and Social Psychology*, 56, 267-283.
- Clark, L.A. & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, 7, 309-319.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Revised ed. Orlando, FL: Academic Press.
- Crank, J.P. & Caldero, M. (1991). The production of occupational stress in medium-sized police agencies: a survey of line officers in eight municipal departments. *Journal of Criminal Justice*, 19, 339-349.
- Folkman, S. & Lazarus, R.S. (1984). *Stress, appraisal and coping*. New York: Springer.
- Graf, F. (1986). The relationship between social support and occupational stress among police officers. *Journal of Police Science and Administration*, 14, 178-184.
- Gulle, G., Tredoux, C. & Foster, D. (1998). Inherent and organisational stress in the SAPS: an empirical survey in the Western Cape. *South African Journal of Psychology*, 28, 129-136.

- Hem, E., Berg, A. & Ekeberg, Q. (2001). Suicide in police – A critical review. *Suicide and Life-Threatening Behavior*, 31, 224-233.
- Hirsh, J. & Ellis, J.B. (1995). Family support and other social factors predicting suicidal ideation. *International Journal of Social Psychiatry*, 41, 26-30.
- Horesh, N., Rolnick, T., Iancu, I., Dannon, P., Lepkifker, E., Apter, A. & Kotler, M. (1996). Coping styles and suicide risk. *Acta Psychiatrica Scandinavica*, 93, 489-493.
- Janik, J. & Kravitz, H.M. (1994). Linking work and domestic problems with police suicide. *Suicide and Life-Threatening Behavior*, 24, 267-274.
- Jin, S. & Zhang, J. (1998). The effects of physical and psychological well-being on suicide ideation. *Journal of Clinical Psychology*, 54, 401-413.
- Kast, G. (1999, Julie). Police suicide figures dropping. *The Star*, 2.
- Kerlinger, F.N. & Lee, H.B. (2000). Foundations of behavioral research (4th ed.). Orlando, FL: Harcourt
- Koortzen, P. Die dimensionaliteit van polisie-stressore. *Acta Criminologica*, 9(2), 55-63.
- Kop, N. & Euwema, M. (2001). Occupational stress and the use of force by Dutch police officers. *Criminal Justice and Behaviour*, 28, 631-652.
- Kop, N., Euwema, M. & Schaufeli, W. (1999). Burnout, job stress and violent behaviour among Dutch police officers. *Work and Stress*, 13, 326-340.
- Lester, D. (1986). Stress in police officers – An American perspective. *Servamus*, November.
- Lowenstein, L.F. (1999). Treating stress in the police force. *The Police Journal*, 72, 65-74.
- McCafferty, F.L. (1992). Stress and suicide in police officers: Paradigm of occupational stress. *Southern Medical Journal*, 85, 233-243.
- Nel, J. & Burgers, T. (1998). Stress and trauma in the work environment. *Unisa Psychologia*, 25, 17-24.
- Nunnally, J.C. & Bernstein, I.H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.
- Olivier, A. (2001, September). Selfmoord in SAPD hoogste ter wereld. *SA Media: Rapport*, 12.
- Osman, A., Kopper, B.A., Linehan, M.M., Barrios, F.X., Gutierrez, P.M. & Bagge, C.L. (1999). Validation of the Suicide ideation Questionnaire and the Response for Living Inventory in an adult psychiatric inpatient sample. *Psychological Assessment*, 11, 115-123.
- Patterson, G.T. (1999). Coping effectiveness and occupational stress in police officers. *Police Trauma*.

- Patterson, G.T. (2000). Demographic factors as predictors of coping strategies among police officers. *Psychological Reports*, 87, 275-283.
- Pienaar, J. (2002). Coping, stress and suicide ideation in the South African Police Services. Unpublished doctoral thesis, PU for CHE, Potchefstroom.
- Pieterse, J.J. (1992). Selfmoord: 'n Biopsigososiale verskynsel. *Servamus*, Feb.
- Reynolds, W. M. (1991a). *Suicide ideation Questionnaire: Professional Manual*. Odessa, FL: Psychological Assessment Resources.
- Reynolds, W.M. (1991b). Psychometric characteristics of the Adult Suicide ideation Questionnaire with college students. *Journal of Personality Assessment*, 56, 289-307.
- Rossouw, L. (1997). *Police suicide: Research findings – 1994 to 1997*. Pretoria: South African Police Services.
- Rossouw, L. (1998). *Police suicide: Annual report - 1998*. Pretoria: South African Police Services.
- Rossouw, L. (1999). *Police suicide: Annual report - 1999*. Pretoria: South African Police Services.
- Pienar, J. & Rothmann, S. (in press). The internal consistency and construct validity of the Police Stress Inventory in the South African Police Service.
- Rothmann, S. & Strijdom, G. (2002). Suicide ideation in the South African Police Services in the North West Province. *South African Journal of Industrial Psychology*, 28(1), 44-48.
- Rothmann, S. & Van Rensburg, P. (2001, September). *Correlates of suicide ideation in the South African Police Services in the North West Province*. Poster session presented at the 13th conference of the South African Institute for Management Sciences, Stellenbosch.
- SAS Institute. (2000). *The SAS System for Windows: Release 8.01*. Cary, NC: SAS Institute Inc.
- Schmidtke, A., Fricke, S. & Lester, D. (1999). Suicide among German federal and state police officers. *Psychological Reports*, 84, 167-177.
- Schotte, D.E. & Clum, G.A. (1982). Suicide ideation in a college population: A test of a model. *Journal of Consulting and Clinical Psychology*, 50, 690-696.
- Shaughnessy, J.J. & Zechmeister, E.B. (1997). *Research methods in psychology* (4th ed.). New York: McGraw-Hill.
- Steyn, H.S. (1999). *Praktiese betekenisvolheid: Die gebruik van effekgroottes*. Wetenskaplike bydraes – Reeks B: Natuurwetenskappe Nr. 117. Potchefstroom: PU vir CHO.
- Van Rensburg, P.J. (1998, February). *An analysis of the suicide statistics of the SAPS: North West Province*. Paper presented at the SAPS congress, Johannesburg.

- Velting, M. D. (1999). Suicide ideation and the five-factor model of personality. *Personality and Individual Differences*, 27, 943-952.
- Vilhjalmsson, R., Kristjansdottir, G. & Sveinbjardottir, E. (1998). Factors associated with suicide ideation in adults. *Social Psychiatry and Psychiatric Epidemiology*, 33, 97-103.
- Violanti, J.M. (1995). Trends in police suicide. *Psychological Reports*, 77, 688-690.
- Violanti, J.M., Marshall, J.R. & Howe, B.H. (1985). Stress, coping and alcohol use: The police connection. *Journal of Police Science and Administration*, 13, 106-110.
- Wagner, M. & Brzeczek, R. (1983). Alcoholism and suicide: A fatal connection. *FBI-Law Enforcement Bulletin*, 52,8-15.
- Yang, B. & Clum, G. (1994). Life stress, social support and problem-solving skills predictive of depressive symptoms, hopelessness and suicide ideation in an Asian student population: A test of model. *Suicide and Life-Threatening Behaviour*, 24(2), 127-139.

CHAPTER 3

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

In this chapter conclusions will be drawn regarding the literature review and the empirical study, the limitations of the study will be highlighted and recommendations will be made for further studies.

3.1 CONCLUSIONS

In this section, conclusions will be drawn in terms of specific theoretical objectives and the results of the empirical study.

3.1.1 Conclusions in terms of specific theoretical objectives

A literature study was undertaken to conceptualise suicide and suicide ideation, stress and coping as well as the role of coping and stress in suicide ideation. Subsequently, the following conclusions were drawn in terms of the theoretical objectives.

Suicide ideation can be described as the domain of thoughts and ideas about death, suicide and serious self-injurious behaviour and includes thoughts related to the planning, conduct and outcome of suicidal behaviour, particularly as the last relates to thoughts about the response of others. Suicidal behaviour can be classified into four categories according to severity namely suicide completion, overt intention, suicide attempt and suicide ideation. A strong relationship was found in the literature regarding suicide ideation and suicide.

Coping can be conceptualised as perceptual, cognitive or behavioural responses that are used to manage, avoid or control situations that could be regarded as difficult. The term coping could be used to refer to strategies or results. Several maladaptive coping strategies like alcohol or drug abuse emerged from the literature and previous research indicated that this form of coping can result in poor performance, burnout or eventually in individuals leaving the police profession.

Stress can be conceptualised as any demand either internal, external or both that requires a person to adjust accordingly in order to maintain balance. From the literature police stress was conceptualised as any condition that affects an officer's well-being and it can result in negative emotional outcome. In the literature study it result that organisational stressors (from paperwork and lack of resources) more strongly affects police members than inherent stressors (danger work). It also shows that higher ranks have more strain from organisation stressors than inherent ones.

3.1.2 Conclusions in terms of specific empirical objectives.

The results of the discriminant analysis showed that 12 (7,32%) of the uniformed police members in Mpumalanga have significant suicide ideation levels. A relationship was found between suicide ideation and coping. Suicide ideation correlated with passive coping. After the linear discriminant analysis was conducted it indicated that passive coping (together with four other variables namely medical conditions (6%), ranks (5%), previous suicide attempts (3%) and gender (1%) predicts about 2% of suicide ideation. Although this relationship is not so high it does indicate that there exists a relationship between passive coping and suicide ideation. A relationship was also found between the frequency of suicide ideation and the likelihood of attempt of suicide. Another relationship was found between gender and suicide ideation, which indicates that males have higher suicide ideation levels.

Regarding the levels of stress experienced by police members in Mpumalanga, the Police Stress Inventory measured both intensity and severity of stressors. Several situational factors were identified as being contributors to police stress. It seems that stress caused by Job demands were experienced as both intense and frequent by police members in Mpumalanga. When the data were collected the attitude of some members expressed this finding because to some members the research questionnaire were just extra paperwork that had to be done too.

High levels of both intense and frequent stressors were experienced regarding Lack of Resources. Problems like staff shortages and poor/inadequate equipment can be identified as situational factors contributing to the stress levels of police members in Mpumalanga. The sample consisted mainly of small and medium-sized stations with the rank of captain in the position of station commander. Bearing this in mind the conclusion can be that higher

ranks experience more stress regarding organisational stressors (like job demands and the lack of resources). This conclusion is consistent with previous findings by Biggam et al. (1997). A relationship was found between suicide ideation and stress. Lack of Resources was associated with suicide ideation.

3.2 LIMITATIONS

The sample size was one limitation of this study. Kerlinger and Lee (2000) state that a large as possible sample should always be used. The smaller the sample the greater the error and vice versa. The reasons ascribe to the limited size varies. It seems as if a problem exists regarding staff shortages and lack of resources within the province. The number of higher ranks like senior superintendents as well as superintendents included in the sample was also limited. The sample size could have affected the poor correlation that was found between suicide ideation and some other variables. Another limitation of the study was its design. It is not possible to determine the causality of relationships by using a cross-sectional design.

Little research exists on the influence of personality dimensions (more specifically the five-factor model of personality) and other constructs from the fortigenic paradigm including sense of coherence, generalised self-efficacy and locus of control regarding suicide ideation. The validity of the personality dimensions can be increased by including constructs from the fortigenic perspective that focus on the psychological strengths. Previous research suggest that there appear to be differences in underlying individual attribute within the population of suicidal individuals that might require variations in the treatment approach.

3.3. RECOMMENDATIONS

Next, recommendations for the organisation and future research are made.

3.3.1 Recommendations for the organisation

It would be recommended that these are specific actions that management of the SAPS can do in order to manage the stress, coping and suicide ideation levels of officers. The workplace environmental issues such as the nature of physical workspace, quality of equipment, compensation packages and related aspects should be addressed by the organisation.

Further, the development of training programmes in stress awareness should receive attention. Stress management in the organisation must be seen as simply another skill to be learned and mastered.

It is also recommended that peer-counselling programmes should be utilised in the SAPS. Peers may have already experienced many of the same problems and may be seen as invaluable sources of help to fellow officers. Applying the idea of support groups can easily be accomplished within the organisation by taking advantage of the natural groups that already exist informally and formally within the structure.

Establish physical fitness programmes that can strengthen the individual to withstand occupational stressors. Exercise can be considered as an adaptive rather than a maladaptive coping strategy and it will also increase the fitness levels of police officers which is a job requirement. Total wellness programs can enhance the physical and emotional well-being of officers by stressing preventive physical and mental health efforts.

3.3.2 Recommendations for future research

- Large diverse sample sizes are recommended for future studies and future studies should attempt to sample a broader number of ranks from police station to improve both size and generalisability.
- It is also recommended that future studies implement personality dimensions as well as sense of coherence, self-efficacy and locus of control in regard to the relationship between suicide ideation, stress and coping.
- Considering that the literature suggests that the spouse and family play an important role regarding the support that officers receive it is recommended that the influence of the spouse and family of an officer should be taken into account in future studies.
- Alternative designs, such as a longitudinal design should be used in future studies.

REFERENCES

- Anshel, M.H. (2000). A conceptual model and implications for coping with stressful events in police work. *Criminal Justice and Behaviour*, 27, 375-400.
- Beehr, T.A., Johnson, L.B. & Nieva, R. (1995). Occupational stress: Coping of police and their spouses. *Journal of Organizational Behavior*, 16, 3-25.
- Biggam, F.H., Power, K.G., MacDonald, R.R., Carcary, W.B. & Moodie, E. (1997). Self-perceived occupational stress and distress in a Scottish police force. *Work & Stress*, 11, 118-133.
- Bishop, G.D., Tong, E.M.W., Diong, S.M., Enkelmann, H.C., Why, Y.P., Khader, M. (1996). The relationship between coping and personality among police officers in Singapore. *Journal of Research in Personality*, 35, 353-374.
- Bonner, R.L. & Rich, A.R. (1987). Toward a predictive model of suicide ideation and behavior: Some preliminary data in college students. *Suicide and Life-Threatening Behavior*, 17, 50-63.
- Burke, R.J. (1993). Work-family stress, conflict, coping and burnout in police officers. *Stress Medicine*, 9, 181-180.
- Burke, R.J. (1994). Stressful events, work-family conflict, coping, psychological burnout, and well-being among police officers. *Psychological Reports*, 75, 787-800.
- Callan, V.J. (1993). Individual and organizational strategies for coping with organizational change. *Work and Stress*, 7, 63-75.
- Carver, C.S., Scheier, M.F. & Weintraub, J.K. (1989). Assessing coping strategies: A theoretical based approach. *Journal of Personality and Social Psychology*, 56, 267-283.
- Clark, L.A. & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, 7, 309-319.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Revised ed. Orlando, FL: Academic Press.
- Crank, J.P. & Caldero, M. (1991). The production of occupational stress in medium-sized police agencies: a survey of line officers in eight municipal departments. *Journal of Criminal Justice*, 19, 339-349.
- Evens, B.J. & Coman, G.J. (1992). General versus specific measures of occupational stress: An Australian police survey. *Stress Medicine*, 9, 11-20.
- Folkman, S. & Lazarus, R.S. (1984). *Stress, appraisal and coping*. New York: Springer.

- Graf, F. (1986). The relationship between social support and occupational stress among police officers. *Journal of Police Science and Administration*, 14, 178-184.
- Gulle, G., Tredoux, C. & Foster, D. (1998). Inherent and organisational stress in the SAPS: an empirical survey in the Western Cape. *South African Journal of Psychology*, 28, 129-136.
- Hageman, M.J.C. (1978). Occupational stress and marital relationships. *Journal of Police Science and Administration*, 6, 402-411.
- Hem, E., Berg, A & Ekeberg, Q. (2001). Suicide in police – A critical review. *Suicide and Life-Threatening Behaviour* 31(2), 224-233.
- Hirsh, J. & Ellis, J.B. (1995). Family support and other social factors predicting suicidal ideation. *International Journal of Social Psychiatry*, 41, 26-30.
- Horesh, N., Rolnick, T., Iancu, I., Dannon, P., Lepkifker, E., Apter, A. & Kotler, M. (1996). Coping styles and suicide risk. *Acta Psychiatrica Scandinavica*, 93, 489-493.
- Jacobs, Q. (1998, August). Selfmoord in die SAPD: Die laaste uitweg, of is dit! *Union Post*, 3, 4.
- Janik, J. & Kravitz, H.M. (1994). Linking work and domestic problems with police suicide. *Suicide and Life-Threatening Behavior*, 24, 267-274.
- Jin, S. & Zhang, J. (1998). The effects of physical and psychological well-being on suicide ideation. *Journal of Clinical Psychology*, 54, 401-413.
- Kast, G. (1999, Julie). Police suicides figures dropping. *The Star*, 2.
- Kerlinger, F.N. & Lee, H.B. (2000). *Foundations of behavioral research* (4th ed.). Orlando, FL: Harcourt.
- Kohn, P.M. (1996). On coping adaptively with daily hassles. In M. Zeider & N.S. Endler (Eds.), *Handbook of coping* (pp. 181-201), New York: John Wiley.
- Koortzen, p. (1996). Die dimensionaliteit van polisie-stressore. *Acta Criminologica*, 9(2), 55-63.
- Kop, N. & Euwema, M. (2001). Occupational stress and the use of force by Dutch police officers. *Criminal Justice and Behavior*, 28(5), 631-652.
- Kop, N., Euwema, M & Schaufeli, W. (1999). Burnout, job stress and violent behaviour among Dutch police officers. *Work & Stress*, 13(4), 326-340.
- Kruger, G. (1996, January 30). SAPD-stres: 'n Kultuur teen sielkunde kwel: Geestes-gesondheid moet prioriteit wees. *Beeld*, p. 11.
- Lester, D. (1986). Stress in police officers – An American perspective. *Servamus*, November.

- Lott, L.D. (1995, November). Deadly secrets: Violence in the police family. *FBI Law Enforcement Bulletin*, 64, 12-16.
- Lowenstein, L.F. (1999). Treating stress in the police force. *The Police Journal*, 72, 65-74.
- Maynard, P., Maynard, N., McCubin, H. I. & Shao, D. (1980). Family life and the police profession: Coping patterns wives employ in managing job stress and the family environment. *Family Relations*, 29, 495-501.
- McCafferty, F.L. (1992). Stress and suicide in police officers: Paradigm of occupational stress. *Southern Medical Journal*, 85, 233-243.
- Moore, D.S. (1995). *The basic practice of statistics*. New York: W.H. Freeman.
- Moos, R.H. (1994, July). *Conceptual and empirical advances in stress and coping theory*. Paper presented at the 23rd International Congress of Applied Psychology, Madrid, Spain.
- Nel, J. & Burgers, T. (1998). Stress and Trauma in the Work Environment. *Unisa Psychologia*, 25, 17-24.
- Nunnally, J.C. & Bernstein, I.H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.
- Olivier, A. (2001, September). Selfmoord in SAPD hoogste ter wêreld. *SA Media: Rapport*, 12.
- Osman, A., Kopper, B.A., Linehan, M.M., Barrios, F.X., Gutierrez, P.M. & Bagge, C.L. (1999). Validation of the Suicide ideation Questionnaire and the Response for Living Inventory in an adult psychiatric inpatient sample. *Psychological Assessment*, 11, 115-123.
- Patterson, G.T. (1999). Coping effectiveness and occupational stress in police officers. *Police Trauma*.
- Patterson, G.T. (2000). Demographic factors as predictors of coping strategies among police officers. *Psychological Reports*, 87, 275-283.
- Pieterse, J.J. (1992). Selfmoord: 'n Biopsigososiale verskynsel. *Servamus*, Feb.
- Reynolds, W. M. (1991a). *Suicide ideation Questionnaire: Professional Manual*. Odessa, FL: Psychological Assessment Resources.
- Reynolds, W.M. (1991b). Psychometric characteristics of the Adult Suicide ideation Questionnaire with college students. *Journal of Personality Assessment*, 56, 289-307.
- Rossouw, L. (1997). *Police suicide: Research findings – 1994 to 1997*. Pretoria: South African Police Services.
- Rossouw, L. (1998). *Police suicide: Annual report - 1998*. Pretoria: South African Police Services.

- Rossouw, L. (1999). *Police suicide: Annual report - 1999*. Pretoria: South African Police Services.
- Pienaar, J. (2002). Coping, stress and suicide ideation in the South African Police Services. Unpublished doctoral thesis, PU for CHE, Potchefstroom.
- Rothmann, S. & Strijdom, G. (2002). Suicide ideation in the South African Police Services in the North West Province. *South African Journal of Industrial Psychology*, 28(1), 44-48.
- Rothmann, S. & Van Rensburg, P. (2001, September). *Correlates of suicide ideation in the South African Police Services in the North West Province*. Poster session presented at the 13th conference of the South African Institute for Management Sciences, Stellenbosch.
- SAS Institute. (2000). *The SAS System for Windows: Release 8.01*. Cary, NC: SAS Institute Inc.
- Schmidtke, A., Fricke, S. & Lester, D. (1999). Suicide among German federal and state police officers. *Psychological Reports*, 84, 167-177.
- Schotte, D.E. & Clum, G.A. (1982). Suicide ideation in a college population: A test of a model. *Journal of Consulting and Clinical Psychology*, 50, 690-696.
- Shaughnessy, J.J. & Zechmeister, E.B. (1997). *Research methods in psychology* (4th ed.). New York: McGraw-Hill.
- Shea, S.C. (1998). The chronological assessment of suicide events: A practical interviewing strategy for the elicitation of suicide ideation. *Journal of Clinical Psychiatry*, 59, 58-72.
- Steyn, H.S. (1999). *Praktiese betekenisvolheid: Die gebruik van effekgroottes*. Wetenskaplike bydraes – Reeks B: Natuurwetenskappe Nr. 117. Potchefstroom: PU vir CHO.
- Van Rensburg, P.J. (1998, February). *An analysis of the suicide statistics of the SAPS: North West Province*. Paper presented at the SAPS congress, Johannesburg.
- Velting, M. (1999). Suicidal ideation and the five –factor model of personality. *Personality and Individual Differences*, 27, 943-952.
- Vilhjalmsson, R., Kristjansdottir, G. & Sveinbjardottir, E. (1998). Factors associated with suicide ideation in adults. *Social Psychiatry and Psychiatric Epidemiology*, 33, 97-103.
- Violanti, J.M. (1995). Trends in police suicide. *Psychological Reports*, 77, 688-690.
- Violanti, J.M., Marshall, J.R. & Howe, B.H. (1985). Stress, coping and alcohol use: The police connection. *Journal of Police Science and Administration*, 13, 106-110.
- Wagner, M & Brzezczek, R. (1983). Alcoholism and suicide: A fatal connection. *FBI-Law Enforcement Bulletin*, 52, 8-15.

- Yang, B. & Clum, G. (1994). Life stress, social support and problem-solving skills predictive of depressive symptoms, hopelessness and suicide ideation in an Asian student population: A test of a model. *Suicide and Life-Threatening Behaviour*, 24, 127-139.
- Zeidner, M. & Endler, N.S. (1996). *Handbook of coping: Theory, research, applications*. New York: Wiley.
- Zhang, J. & Jin, S. (1998). Interpersonal relations and suicide ideation in China. *Genetic, Social and General Psychology Monographs*, 124, 79-94.