
Coping, Stress and Suicide Ideation in the South African Police Service in the Eastern Cape¹

R Meyer, S Rothmann and J Pienaar

WorkWell: Research Unit for People, Policy and Performance, Faculty of Economic and Management Sciences, PU for CHE

ABSTRACT

The objective of this research is to determine the relationship between coping and stress on the one hand and suicide ideation among police members on the other. A cross-sectional survey design was used. The study population ($N = 307$) consisted of uniformed police members in the Eastern Cape Province of South Africa. The COPE, Police Stress Inventory, Adult Suicide Ideation Questionnaire and a Biographical Questionnaire were used as measuring instruments. The results showed that passive coping strategies are related to suicide ideation. A discriminant analysis showed that suicide attempt, passive coping strategies, medical conditions, use of alcohol, problem-focused coping strategies and police-specific demands correctly classified 64.29 per cent of participants who scored high on suicide ideation.

JEL I12, I30

1 INTRODUCTION

Suicide of employees is increasingly becoming a problem in police and security organisations (Pienaar, 2002). It is therefore imperative that research be conducted regarding suicidal behaviour. Furthermore, managers should become aware of possible causes of suicidal behaviour. In South Africa, members of the police service are challenged by various potential stressors, such as a high crime level, organisational transformation and a lack of resources (Pienaar, 2002). Not surprisingly, increased rates of illness, post-traumatic stress, burnout, alcohol abuse and suicides, and decreased levels of job satisfaction and job performance, as compared to norms for the general population, are found in research with police members (Anshel, 2000; Nel, 1994; Rothmann & Agathagelou, 2000; Rothmann & Strijdom, 2002).

Police suicides have shown a consistent increase over the past two decades and according to Violanti (1995), there are a few possible precursors and correlates of police suicide. The immediate availability of firearms, continuous exposure to death and injury, social strain resulting from shift-work, a general lack of social support and the negative public image of police officers have been suggested as possible stressors and reasons for police suicide (Biggam, Power, MacDonald, Carcary & Moodie, 1997; Janik & Kravitz, 1994; Nel & Burgers, 1998; Schmidtke, Fricke & Lestor, 1999; Violanti, 1995).

A study on police suicide conducted in 1995 indicated that South African Police Service (SAPS) officers were 11 times more likely to commit suicide than the general South African population (Pienaar, 2002; Rossouw, 1997). The Eastern Cape seems to be one of the risk areas. The high number of police suicides in this province correlates with the large police population in the province. This is also one of the provinces with the highest levels of recorded crime (Pienaar, 2002).

According to Reynolds (1991a), suicidal behaviour may be categorised as including suicide completion, overt intention, suicide attempt and suicide ideation. Suicide ideation constitutes one aspect of suicidal behaviour (Reynolds, 1991a). Many factors may contribute to suicidal behaviour of police members. According to Jacobs (1998), Rossouw (1998) and Schmidtke *et al.* (1999), these factors include inappropriate coping strategies, demands of the work situation and factors outside the work situation, as well as the interactions among these variables. Previous research on suicide ideation focused on social factors (e.g. the effects of family, religion, interpersonal relations and social support) and individual factors (e.g. stress and depression) (Zhang & Jin, 1998). According to Vilhjalmsón, Kristjansdóttir and Sveinbjardóttir (1998), thoughts of suicide appear to be unrelated to gender and educational attainment, but may be more prevalent among unmarried and younger individuals. Life stresses in general and family stress in particular are associated with suicide ideation. The lack of social interaction and the lack of support from relatives and friends are also indicated in suicide ideation (Anshel, 2000; Hirsch & Ellis, 1995; Nel, 1994; Vilhjalmsón *et al.*, 1998).

Police work is highly stressful, since it is one of the few occupations where an employee is continually required to face physical dangers and to put his or her life on the line at any time. According to Fain and McCormick (1988), some people consider stress to be events external to the organism that make demands on it, while others suggest that it is the organism's response to events that challenge it. Coping behaviour is an important aspect of the stress process and refers to both overt and covert behaviours that reduce or eliminate psychological distress or stressful conditions (Fain & McCormick, 1988). The way in which

an individual copes depends on his or her understanding of the stressful situation, making sense of it, and developing appropriate responses to it. However, research indicates that police officers utilise coping mechanisms that increase rather than alleviate their stress (Violanti, 1995).

Anshel (2000) defines effective coping as the efficacy with which individuals deal with their emotional responses to stressors and act to resolve the stressors and the cost of their effectiveness to the individual. Maladaptive coping was found in a Canadian study of police stress by Burke (1994), in which officers who coped by using alcohol and drugs, anger and withdrawal were more likely to suffer from health problems than officers who used more adaptive coping skills.

The SAPS needs to intervene to prevent suicide. Such prevention should probably emphasise helping the police member cope with serious financial and family events and difficulties by enhancing self-esteem, mastery and support, and by offering treatment if alcohol abuse or serious distress are present. However, little information is available about the reasons for the high suicide rate in the SAPS. Only one study has been done to determine the level of suicide ideation of members of the SAPS – in the North West Province (see Rothmann & Strijdom, 2002). Therefore, it is necessary to study suicide ideation of police members and possible correlates thereof in the Eastern Cape.

The objective of this research is to determine the relationship between coping, stress and suicide ideation of police members in the Eastern Cape.

2 THEORETICAL BACKGROUND

According to Pieterse (1992), suicide is an act with a fatal outcome that is deliberately initiated and performed by the deceased himself, in the knowledge or expectation of its fatal outcome, and with the outcome being considered by the actor as instrumental in bringing about desired changes in consciousness and social conditions. Reynolds (1991a) states that suicidal behaviour may be categorised to include suicide completion, overt intention, suicide attempts and suicide ideation. Suicide ideation therefore constitutes but one aspect of suicidal behaviour (Reynolds, 1991a) and shows a strong association with suicide (Jin & Zhang, 1998).

Reynolds (1991a) defines suicide ideation as thoughts and ideas about death, suicide, serious self-injurious behaviour, and thoughts related to the planning, conduct and outcome of suicidal behaviour. Suicide ideation can be operationalised as ranging from relatively mild, general thoughts about death

and wishes that one was dead to serious ideation about specific plans and means of taking one's life. It may also be considered a primary marker for the risk of more suicidal behaviours (Bonner & Rich, 1987; Reynolds, 1991a; Shea, 1998).

Schotte and Clum (1982) as well as Bonner and Rich (1987) found a relationship between the frequency of suicide ideation and the likelihood of attempts at suicide, but Reynolds (1991a) found that a larger proportion of individuals think about suicide than actually attempt suicide. According to Vilhjalmsson *et al.* (1998), a clear majority of persons attempting suicide (over 60 per cent) have tried to kill themselves at least once before and only a small fraction (about 1 per cent) of the attempts result in death. Suicidal ideation itself is maladaptive, consistent with a cognitive-behavioural focus, is viewed as a domain of self-statement, a realistic precursor of suicide attempts, and is regarded as a normal, non-pathological reaction to seemingly intolerable conditions.

Coping is conceptualised as the cognitive and behavioural efforts used to manage, master, tolerate and reduce external and/or internal demands that are appraised as taxing or exceeding a person's resources (Bishop *et al.*, 2001; Horesh *et al.*, 1996; Folkman & Lazarus, 1984; Patterson, 2000). According to Bishop *et al.* (1996), coping is viewed as a dynamic process that changes according to the situation and the corresponding appraisal made by the individual. It appears that individuals do have consistent coping preferences or dispositions that are employed across a wide range of situations. Parkes (1986) found that coping may be influenced not only by the nature of the stressful episode but also by the resources, both intra-individual and environmental, available to the person concerned. Callan (1993) defines non-coping as failed efforts to cope, accompanied by various physical and psychosocial disturbances, which result in higher stress. Thus the use of effective coping strategies and a strong support system protect individuals from psychological distress by reducing or eliminating distress (Patterson, 1999).

Horesh *et al.* (1996), Folkman and Lazarus (1984) and Patterson (2000) distinguish between problem-focused and emotion-focused coping. Problem-focused coping strategies refer to actions taken during the stressful event aimed at managing, improving and changing the unpleasant experience or reducing the effects thereof. Emotion-focused coping strategies refer to what the individual was thinking during the stressful event and describe thoughts to regulate emotional responses which can arise as a result of exposure to a stressful event. Beehr, Johnson and Nieva (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.

Police literature on stress has identified numerous coping strategies used by police officers to manage occupational and personal stress. According to Patterson (1999) aloofness, alcoholism, authoritarianism, cynicism, depersonalisation, emotional detachment and suspiciousness are all factors that have been identified as either coping strategies or personality characteristics that develop in police officers over the length of their careers. Despite being used on the assumption that they will assist coping, these factors are rarely effective in helping officers manage stressful events. Female police officers tend to make more use of passive coping strategies such as detachment and denial (Anshel, 2000). In the study by Patterson (2000), coping was conceptualised as active coping (e.g. physical exercise) and passive coping (e.g. the use of medication). Hageman (1978) showed that not coping with stressors in the work environment may be related to suicide ideation.

According to Crank and Caldero (1991), police stress is conceptualised as any condition that has adverse consequences for a police officer's well-being and can be linked to negative emotional outcomes such as divorce rates, suicidal behaviour and alcoholism. Physical disorders such as hypertension, gastric and duodenal ulcers, and kidney and cardiovascular diseases also have been attributed to stress among police personnel (Crank & Caldero, 1991; Mearns & Mauch, 1998). Janik and Kravitz (1994) state that stress emanating either from work or from the home can establish a vicious cycle of demands and frustrations that will at best lead to deterioration in functioning and at worst become superimposed on pre-existing psychological impairment. It is obviously best to prevent police officers from becoming stressed and to identify certain signs that act as stress indicators (Lowenstein, 1999).

Research by Hageman (1978) has shown that stressors in the work environment may be related to suicide ideation. According to Rothmann and Strijdom (2002) irregular working hours, poor working conditions, constant fear and trauma make police members more susceptible to suicide. Shift-work (Burke, 1994; Violanti, 1995), the dangers involved in police work (Violanti, 1995), poor working conditions and inadequate salaries (Biggam *et al.*, 1997; Gulle, Tredoux & Foster, 1998; Kop, Euwema & Schaufeli, 1999) seem to be related to job satisfaction, stress and suicide tendencies (Kruger, 1996; Lott, 1995). Perceived staff shortages, inadequate resources, time pressure, lack of communication and work overload also emerged as prime stressors (Biggam *et al.*, 1997; Kop *et al.*, 1999). Gulle *et al.* (1998) examined the frequency with which stressful events occurred (within a month) in the SAPS. In their study, they found that excessive paperwork, insufficient manpower, fellow officers not

doing their job, inadequate or poor quality equipment and inadequate salaries were among the stressors which occurred most frequently within the police.

Biggam *et al.* (1997) state that there are important reasons why police stress should warrant serious consideration. The police play an important role in the maintenance of society and to fulfil this duty successfully, the work-force must be effective – and stress potentially undermines the efficiency of the police service. The effects of police stress may have an adverse effect on the development and maintenance of working relationships with the public. Also, on a more individual basis, it is possible that officers under stress may pose a real threat to their own safety and that of others.

3 METHOD

3.1 Research design

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

3.2 Sample

The study population includes a stratified random sample ($N = 307$) of uniformed police members in the Eastern Cape. The stations were divided into small stations (fewer than 25 staff members), medium stations (between 25 and 100 staff members) and large stations (more than 100 staff members). All the police members at randomly identified small and medium stations in the Eastern Cape were asked to complete the questionnaire. Stratified random samples according to race and gender were taken at the large stations.

The sample consisted mainly of captains ($n = 170$) and sergeants ($n = 57$), with a mean age of 34.92. A total of 234 participants were male, while 65 were females. Various language groups were included in the study, namely Afrikaans ($n = 162$), English ($n = 25$), Xhosa ($n = 13$), Ndebele ($n = 3$) and Sesotho ($n = 1$). The study population consisted of various race groups, including White ($n = 104$), Black ($n = 119$) and Coloured ($n = 67$). A total of 150 of the participants were married, 81 were divorced and 61 were single. About 26 per cent of the participants had been formally charged in terms of the disciplinary code. A total of 41 (13 per cent) of the participants had medical conditions that could affect their quality of work. Regarding the use of alcohol, 57 per cent indicated that they took 0-4 drinks per week, 13.36 per cent indicated that they took 5-7 drinks per week, while 4.56 per cent indicated that they took 15 or more drinks per

week. A total of 7 (2.28 per cent) of the participants had attempted suicide before.

3.3 Measuring instruments

Four questionnaires were used in the empirical study, namely the *COPE Questionnaire* (COPE) (Carver, Scheier & Weintraub, 1989), the *Police Stress Inventory* (PSI) (Pienaar, 2002), the *Adult Suicide Ideation Questionnaire* (ASIQ) (Reynolds, 1991a) and a *Biographical Questionnaire*.

The *COPE 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 use to cope in different circumstances (Carver *et al.*, 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 were 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 COPE. Test-retest reliability varies from 0.46 to 0.86 and from 0.42 to 0.89 (applied after two weeks) (Carver *et al.*, 1989).

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 of 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" the respondent had experienced 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-specific Demands (8 items). The alpha coefficients of the three scales were 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 a measure of suicide ideation and was used to assess the degree to which individuals have thought about killing themselves over the past month. Each of the items measures a specific suicidal behaviour or thought. Reynolds (1991a)

reported that the internal consistency (coefficient alpha) of the ASIQ was 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. According to Rothmann and Strijdom (2002), the internal consistencies of the ASIQ are 0.98 and 0.95 for whites and blacks respectively, which is acceptable (Nunnally & Bernstein, 1994).

A *Biographical 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 relationships with significant other, language, whether disciplinary actions were taken against the member previously, self-rated performance, self-rated job satisfaction, medical conditions, use of prescription and over-the-counter medicine, reasons for medication, number of alcoholic drinks per week, smoking behaviour, number of cigarettes per day, other drug use, exercise behaviour and previous suicide attempts (Pienaar, 2002).

3.4 Statistical analysis

The statistical analysis was carried out by using the SAS program (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 were used to determine differences between demographic 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 what combination of independent variables could be used to classify police members into groups who obtained low versus high suicide ideation scores. The resulting discriminant

function separated 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). A stepwise multiple regression analysis was used to determine the proportion of variance in the dependent variable (suicide ideation) that is explained by the independent variables.

4 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, Cronbach Alpha coefficients and inter-item correlation coefficients of the measuring instruments

Item	Mean	SD	Skewness	Kurtosis	<i>r</i>	α
Problem-focused coping	69.74	13.26	-0.77	1.11	0.33	0.92
Passive coping	26.63	7.58	0.33	-0.32	0.30	0.85
Seeking emotional support	18.89	5.17	-0.44	-0.57	0.46	0.86
Stress: Job demands	78.07	26.60	-0.31	-0.33	0.39	0.92
Stress: Lack of resources	76.78	23.70	-0.53	-0.00	0.42	0.91
Stress: Police-specific demands	41.74	16.19	-0.45	-0.72	0.49	0.88
ASIQ	8.27	17.02	4.62*	28.15*	0.61	0.97

*High skewness and kurtosis

Table 1 shows that acceptable Cronbach alpha coefficients ($\alpha > 0.70$) were obtained for all the scales (see Nunnally & Bernstein, 1994). The mean inter-item correlations of most of the scales are also acceptable ($0.15 \leq r \leq 0.50$, Clark & Watson, 1995), except for the ASIQ which is somewhat higher. The confirmatory factor analysis resulted in acceptable loads on the various factors, which confirm their construct validity. It is evident from Table 1 that the scores on the measuring instruments are relatively normally distributed, with low

skewness and kurtosis. The only exception is the ASIQ, which shows high skewness and kurtosis.

The product correlation coefficients between the COPE, PSI and ASIQ are reported in Table 2. In the case of the correlation between the ASIQ and the other measuring instruments, Spearman correlation coefficients were computed because of the skew distribution of suicide ideation scores. The scores on the other measuring instruments are normally distributed and Pearson correlation coefficients were computed for them.

Table 2 Correlation coefficients between measuring instruments

Item	Problem-focused Coping	Passive Coping	Seeking Emotional Support	Stress: Job Demands	Stress: Lack of Resources	Stress: Police-specific Demands
Passive coping	0.29 ^{*+}	-	-	-	-	-
Seeking emotional support	0.66 ^{***}	0.33 ^{*+}	-	-	-	-
Stress: Job demands	0.09	0.26 ^{*+}	0.5	-	-	-
Stress: Lack of resources	0.70	0.04	-0.00	0.72 ^{***}	-	-
Stress: Police-specific demands	0.11	0.11	0.00	0.58 ^{***}	0.65 ^{***}	-
ASIQ	-0.09	0.25 ^{*+}	-0.03	0.05	-0.00	0.08

* Statistically significant correlation: $p \leq 0.05$

+ Practically significant correlation (medium effect): $r \geq 0.30$

++ Practically significant correlation (large effect): $r \geq 0.50$

Table 2 shows practically significant correlation coefficients of medium effect between Passive Coping on the one hand and suicide ideation (ASIQ), Stress: Job Demands and Problem-focused Coping on the other hand. Practically significant correlation coefficients of large effect also exist between Stress: Police-specific Demands on the one hand and Stress: Job Demands and Stress: Lack of Resources on the other hand. A practically significant correlation coefficient of large effect exists between Stress: Lack of Resources and Stress: Job Demands. There is also a practically significant correlation of large and medium effect between Seeking Emotional Support on the one hand and Problem-focused Coping and Passive Coping on the other hand.

The product correlation coefficients between the COPE, PSI, ASIQ, Relationship satisfaction, Job satisfaction, Amount of support, Adequacy of support and Accessibility of support are reported in Table 3. In the case of the correlation between the ASIQ and the other measuring instruments, Spearman correlation coefficients were computed because of the skew distribution of suicide ideation scores. The rest of the measuring instruments are normally distributed and Pearson correlation coefficients were computed for them.

Table 3 Correlation Coefficients between the COPE, PSI, ASIQ, relationship satisfaction, job satisfaction, amount of support and adequacy of support

Item	Problem-focused coping	Passive coping	Seeking emotional support	Stress: job demands	Stress: lack of resources	Stress: police-specific demands	ASIQ
SATISFACTION							
Satisfaction–relationship	0.05	-0.16*	0.12*	-0.13*	-0.14*	-0.10	-0.27* ⁺
Satisfaction–Job	0.04	0.02	0.13*	-0.25* ⁺	-0.30* ⁺	-0.24* ⁺	-0.08
AMOUNT OF SUPPORT							
SAPS in general	0.01	-0.05	0.07	-0.18*	-0.29* ⁺	-0.23*	-0.03
Top management	-0.03	-0.01	-0.00	-0.24*	-0.36* ⁺	-0.27* ⁺	-0.07
Colleagues	-0.03	-0.09	-0.00	-0.06	-0.06	-0.07	-0.15*
Family	0.07	-0.03	0.11	-0.07	0.02	-0.02	-0.14*
Friends	0.10	-0.10	0.14*	-0.15*	-0.06	-0.04	-0.24*
Religion	0.18*	-0.04	0.20*	-0.02	-0.07	-0.05	-0.18*

Table 3 continued

Item	Problem-focused coping	Passive coping	Seeking emotional support	Stress: job demands	Stress: lack of resources	Stress: police-specific demands	ASIQ
ADEQUACY OF SUPPORT							
SAPS in general	-0.04	-0.01	0.09	-0.18*	-0.30*+	-0.27*+	-0.01
Top management	-0.03	0.01	0.11	-0.23*	-0.33*+	-0.27*+	-0.05
Direct commander	-0.14*	-0.06	0.18*	-0.17*	-0.24*	-0.16*	-0.13*
Colleagues	0.11	-0.11	0.14*	-0.19*	-0.20*	-0.17*	-0.18*
Family	0.00	-0.07	0.07	-0.11	-0.04	-0.08	-0.20*
Friends	0.10	-0.08	0.20*	-0.17*	-0.08	-0.10	-0.24*
Religion	0.19*	-0.03	0.18*	-0.07	-0.12	-0.14*	-0.25*+

* Statistically significant correlation: $p \leq 0.05$

+ Practically significant correlation (medium effect): $r \geq 0.30$

Table 3 shows practically significant (negative) correlation coefficients of medium effect between suicide ideation (ASIQ) on the one hand and relationship satisfaction and adequacy of support from religion on the other hand. A practically significant (negative) correlation coefficient of medium effect exists between Stress: Job Demands and job satisfaction. Practically significant (negative) correlation coefficients of medium effect also exist between Stress: Lack of Resources on the one hand and job satisfaction, amount of support and adequacy thereof from the SAPS in general, and amount of support and adequacy thereof from top management. There is also a practically significant (negative) correlation of medium effect between Stress: Police-specific Demands on the one hand and job satisfaction, amount of support and adequacy thereof from top management, and adequacy of support from the SAPS in general.

The differences between the suicide ideation of different demographic items (gender, formally charged and suicide attempt) are shown in Table 4.

Table 4 Differences between the suicide ideation of different demographic groups

Item	ASIQ Group 1		ASIQ Group 2		<i>p</i>	<i>d</i>
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>		
Gender	7.37	12.36	9.49	22.28	0.46	-
Charged	10.69	20.89	7.24	15.53	0.19	-
Attempt	53.58	50.94	7.10	13.66	0.05*	0.90 ⁺⁺

* Statistically significant difference: $p \leq 0.05$

+ Practically significant difference (medium effect): $d \geq 0.50$

++ Practically significant difference (large effect): $d \geq 0.80$

Table 4 shows that police members who previously attempted suicide obtained a statistically significant and practically significantly higher score (of large effect) on suicide ideation compared with those who had not yet attempted suicide.

The analysis of the intensity and frequency of the extracted factors on the PSI, namely Stress: Job Demands, Stress: Lack of Resources and Stress: Police-specific Demands, is given in Table 5.

Table 5 The intensity and frequency of police stressors

Factor and Items	Intensity	Frequency	Severity
Stress: Job Demands			
Being assigned more responsibility	4.82	4.14	19.95
Having to deal with crisis situations	5.19	4.32	22.42
Having to work shift-work	3.85	3.17	12.20
Having to do someone else's work	4.85	4.47	21.68
Having to work overtime	4.34	4.38	19.00
Being frequently interrupted	4.91	4.19	20.57
More paper-work than you can handle	4.99	4.87	24.30
Having to perform tasks that are not part of your job description	4.91	4.87	23.91

Table 5 continued

Factor and Items	Intensity	Frequency	Severity
Stress: Lack of Resources			
Lack of officers to handle specific tasks	5.50	4.60	25.30
Inadequate or poor quality equipment	5.81	4.74	27.53
Lack of recognition for work well done	5.78	4.48	25.89
Other officers not doing their job	6.18	5.24	32.38
Negative attitudes experienced towards the organisation	5.05	4.07	20.63
Other officers poorly motivated	5.59	4.78	26.72
Inadequate salary	6.18	5.28	32.63
Supervision is poor or inadequate	5.10	3.14	16.01
Staff shortages	6.47	5.89	38.11
Stress: Police-specific Demands			
Seeing criminals go free	6.43	4.28	27.52
Having to deal with the media	3.87	1.81	7.00
Fellow officer killed in the line of duty	6.47	1.89	12.22
Killing someone in the line of duty	5.41	1.19	6.43
Racial conflict	5.41	2.72	14.72

Table 5 shows that Lack of Resources can be identified as the stressor dimension with the highest intensity and frequency. Staff shortages, inadequate salaries and other officers not doing their job can be seen as stressors with a high intensity and average frequency. Other stressors, such as a lack of officers to handle specific tasks, inadequate or poor quality equipment, a lack of recognition for work well done, negative attitudes towards the organisation and poorly motivated co-workers, can be seen as stressors with an average intensity that occur on an average basis. Inadequate supervision is a stressor with an average intensity, but it does not occur on a regular basis.

Regarding stressors associated with Job Demands, having to deal with crisis situations, excessive paper-work, having to perform tasks not in the job description and having to do someone else's work were found to be the stressors with the highest intensity and frequency. Shift-work also showed an average intensity, but a low frequency.

Seeing criminals go free is one of the Police-specific Demands with the highest intensity and frequency of stress. A fellow officer killed in the line of duty is also very stressful, but this stressor is very low in frequency. The other stressors (racial conflict and killing someone in the line of duty) are also very intense, but they do not occur on a regular basis.

Subsequently 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 discriminant function for members with low and high suicide ideation is given in Table 6.

Table 6 The linear discriminant function for police members with low and high suicide ideation

Variable	High suicide ideation	Low suicide ideation
Constant	-143.32	-160.68
Race	3.15	2.67
Rank	1.62	1.19
Size	1.80	1.98
Years in the SAPS	0.39	0.47
Years in position	0.54	0.44
Gender	14.85	15.77
Status	5.08	5.18
Criminal charge	6.50	5.65
Satisfaction with police	3.48	3.74
Medical status	14.26	15.92
Use of alcohol	5.34	4.85
Previous suicide attempt	80.48	89.61
Stress: Job demands	0.01	0.02
Stress: Lack of resources	0.20	0.21
Stress: Police-specific demands	-0.01	-0.06
Problem-focused coping	0.02	0.07
Passive coping	0.35	0.23
Seeking emotional support	0.39	0.34

By applying the stepwise discriminant analysis, it was found that all the variables listed above should be retained for the discriminant analysis. Table 7 summarises the frequencies and percentages of police members that can be classified as belonging to the high or low suicide ideation groups (based on these variables).

Table 7 Classification of membership of high/low suicide ideation groups

Group	High suicide ideation	Low suicide ideation	Total
High suicide ideation	9 (64.29%)	5 (35.71%)	14 (100%)
Low suicide ideation	29 (10.82%)	239 (89.18%)	268 (100%)

Table 7 shows that the combination of variables of police members classifies 64.29 per cent of the high suicide ideation cases and 89.18 per cent of the low suicide ideation cases correctly. A total of 35.71 per cent of the high and 10.82 per cent of the low suicide ideation cases are classified incorrectly.

Finally a stepwise discriminant analysis was conducted. The variables that best predict suicide ideation of police members are given in Table 8.

Table 8 Variables that predict suicide ideation in police members

Variables	Partial R-Square	F-Value
Previous suicide attempt	0.08	23.51
Passive coping	0.03	7.48
Medical status	0.01	3.57
Use of alcohol	0.01	3.23
Problem-focused coping	0.01	5.46
Stress: Police-specific demands	0.01	2.37

Table 8 shows that the following variables can be used to predict suicide ideation of police members: previous suicide attempts, passive coping strategies and a lack of problem-focused coping strategies, medical conditions, use of alcohol and Stress: Police-specific Demands. Suicide attempt explains 8 per cent of the variance in suicide ideation, Passive Coping 3 per cent, and medical conditions, use of alcohol, Problem-focused Coping and Stress: Police-specific Demands 1 per cent respectively.

5 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), 14 (4.96 per cent) of the uniformed police members have significant suicide ideation levels. According to Rothmann and Van Rensburg (2001), the cut-off score points to the need for further evaluation of suicidal thoughts, intentions and behaviour. Although this cut-off score may result in an over-identification of cases, it is more desirable to make a false positive decision than propose a false negative decision when evaluating suicidal behaviour (Rothmann & Van Rensburg, 2001). Beetge (1993) and Hirsh and Ellis (1995) state that although women think about participating in suicide more often than men, the suicide rate among men is approximately four times higher than in the case of women. The results show that suicide attempts are also higher in the case of male police officers than in the case of female police officers. This could possibly be due to the fact that more male than female police officers were included in the study.

Anshel (2000) states that male and female police officers experience different sources of stress and use different coping strategies. Consistent with this finding, female police officers obtained higher scores on emotional support and problem-focused coping. However, these results are inconsistent with the finding of Anshel (2000), namely that female police officers tend to make more use of passive coping strategies. It could be deduced from the results that coping responses are dependent on a police officer's gender. These results also confirm the findings of Fain and McCormick (1988) that coping responses are independent of a police officer's marital status and rank, since no practically significant correlations were found between these variables.

Anshel (2000) and Burke (1993) also state that police members who suffer from medical conditions and who tend to abuse alcohol have more dysfunctional coping strategies and higher suicide ideation. This could be linked to the results of this study, namely that passive coping shows a practically significant correlation with suicide ideation and that medical conditions and alcohol abuse can be used to predict suicide ideation of police officers.

Stress because of a lack of resources and job demands were found to be the main stressors of police officers. These results confirm the findings of Biggam *et al.* (1997), namely that regardless of the fact that police work offers potential for the introduction of traumatic stress, the most salient stressors will rest within the organisation itself. Furthermore, passive coping shows a practically significant correlation with job demands. This implies that the higher the job demands a police officer experiences, the more likely it is that he/she will make use of passive coping strategies.

The results showed that lack of resources can be identified as the stressor with the highest intensity and frequency. Staff shortages, inadequate salary, officers not doing their job, inadequate or poor quality equipment, lack of recognition for work well done, seeing criminals go free and more paper-work than you can handle can be seen as stressors with the highest intensity. These findings confirm the findings of Gulle *et al.* (1998) who found that excessive paper-work, insufficient manpower, fellow officers not doing their job, inadequate or poor quality equipment, inadequate salary and court leniency with criminals were among the stressors which occurred most frequently within the police force. Inadequate supervision and shift-work also show a high intensity but do not occur on a regular basis.

Furthermore, practically significant negative relationships were found between stress because of job demands as well as lack of resources and police-specific demands on the one hand, and job satisfaction on the other hand. These results confirm the findings of Cooper, Kirkcaldy and Brown (1994) that job stress is related to lower job satisfaction.

Additionally, statistically and practically significant negative relationships were found between job demands, lack of resources and police-specific demands on the one hand, and the amount and adequacy of support from the SAPS in general, top management, direct commander and colleagues on the other hand. This confirms the findings of Anshel (2000), Hirsh and Ellis (1995) and Yang and Clum (1994), namely that social support moderates the effects of stress, and that a lack of social support is also indicated in suicide ideation.

Horesh *et al.* (1996) found that suicide risk can be predicted by coping strategies. Accordingly, this study shows that suicide ideation of police members is positively related to the use of passive coping strategies. However, this finding is inconsistent with the findings of Rothmann and Van Rensburg (2001), who found no practically significant relationship between suicide ideation and coping strategies in police members. Furthermore, practically significant negative relationships were found between suicide ideation on the one hand, and relationship satisfaction and religion on the other hand. This implies that police members who are dissatisfied with their relationships (work, marital, family and friends) are more likely to have higher suicide ideation. Janik and Kravitz (1994) found that marital or relationship problems operate as precursor behaviour for depression, and would be an important focus in predicting suicide attempts among police. It can also be deduced that police members who turn to religion for support will have lower levels of suicide ideation.

The results show that suicide attempt, passive coping, medical conditions, alcohol use, low problem-focused coping and police-specific demands could be used to predict suicide in police members. This confirms the findings of Beetge (1993), namely that previous suicide attempts, alcohol and drug abuse, poor health, family and work stress, and social isolation could be seen as individual risk factors which contribute to suicide ideation. Research also shows that a clear majority of persons attempting suicide (over 60 per cent) have tried to kill themselves at least once before (Vilhjalmsson *et al.*, 1998). Thus, suicide attempt could be seen as a significant predictor of suicide ideation and this confirms the findings of this study, namely that 8 per cent of the variance in suicide ideation can be explained by suicide attempt. Passive coping strategies explain 3 per cent of the variance in suicide ideation, and this finding confirms that these strategies play an important role in the prediction of suicide ideation. These variables (suicide attempt, passive coping, medical conditions, alcohol use, low problem-focused coping and police-specific demands) correctly classified almost 65 per cent of police members who measured high on suicide ideation, while they correctly classified almost 90 per cent of the police members who measured low on suicide ideation.

A limitation of this research is that the research design does not allow one to determine the direction of the relationship between the variables (see Kerlinger & Lee, 2000). Another limitation is that few female police officers were included in this study.

6 RECOMMENDATIONS

The SAPS needs to attend to the suicide ideation of police members and possible correlates thereof. Senior police personnel, and especially the direct commanders, should be trained in identifying individuals who tend towards suicide ideation. It seems that coping strategies, suicide attempt, medical conditions, alcohol abuse and police-specific demands should be considered when predicting suicidal behaviour. The amount of social support police officers receive and the impact of other stressors should also be attended to.

The SAPS could help prevent suicidal thoughts and intentions by helping police officers cope with work-related problems and relationship difficulties. These efforts should emphasise the offering of support and treatment if alcohol abuse or serious distress are present and could lead to an increase in psychological health. The SAPS can contribute to the mental health of police officers by gaining support from the direct commanders, the helping professions and the organisation itself. Police officers must also be encouraged to make use of more adaptive coping strategies to manage occupational stress. Appropriate coping

strategies can be learned as methods for managing stressful occupational events, and inappropriate strategies perhaps unlearned.

Maladaptive coping mechanisms should be examined and methods found to neutralise the negative effects that follow the use of these behaviours. The teaching and monitoring of officers' adaptive and maladaptive coping skills remain a limitation in police training and job supervision. An organisational structure is needed in the SAPS to monitor officers' use of maladaptive coping and the lack of adaptive coping. This would encourage continued access to stress management training.

Furthermore, the SAPS should implement strategies to help with stress prevention and management. If dealt with effectively, serious conditions such as depression, suicidal behaviour, aggression and irrational acts may be prevented. One approach could be to alter the job or aspects of the organisation as a means of reducing police officers' stress. Such interventions would include the reduction of excessive workload, increasing participation in decision-making and instituting flexible work schedules. Another approach is to enhance the amount of support police officers receive. The helping professions should train counsellors to provide social support to stressed individuals. Interventions in the form of counselling sessions in which police officers could vent emotional frustrations concerning the organisation could also be implemented. Organisational and supervisory support should also be encouraged. Other suggestions for coping with stress include the provision of outlets for aggression through exercise and sporting activities, in-service training to combat and prevent stress and negative behaviour and a strong and supportive leadership within the force. Police officers who receive enough social support and implement effective coping strategies would experience less stress and suicide ideation.

Future research is needed regarding the relationship between personality dimensions, coping strategies and suicide ideation in the SAPS. Regarding coping, longitudinal studies are required to learn more about the factors that influence coping responses among police officers. Future research should also be directed more towards the specific coping mechanisms used by police officers.

ENDNOTES

- 1 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 authors and are not necessarily to be attributed to the NRF.

REFERENCES

- 1 ANSHEL, M.H. (2000) "A conceptual model and implications for coping with stressful events in police work", *Criminal Justice and Behaviour*, 27, 375-400.
- 2 BEEHR, T.A., JOHNSON, L.B. & NIEVA, R. (1995) "Occupational stress: Coping of police and their spouses", *Journal of Organizational Behavior*, 16: 3-25.
- 3 BEETGE, B. (1993) "Selfmoord in die SA Polisie: Wat word tans daaraan gedoen?" *Servamus*: 17-20.
- 4 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: 118-33.
- 5 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: 353-74.
- 6 BONNER, R.L. & RICH, A.R. (1987) "Toward a predictive model of suicide ideation and behaviour: Some preliminary data in college students." *Suicide and Life-Threatening Behavior*, 17: 50-63.
- 7 BURKE, R.J. (1993) "Work-family stress, conflict, coping and burnout in police officers", *Stress Medicine*, 9: 181.
- 8 BURKE, R.J. (1994) "Stressful events, work-family conflict, coping, psychological burnout and well-being among police officers", *Psychological Report*, 75: 787-800.
- 9 CALLAN, V.J. (1993) "Individual and organizational strategies for coping with organizational change", *Work and Stress*, 7: 63-75.
- 10 CARVER, C.S., SCHEIER, M.F. & WEINTRAUB, J.K. (1989) "Assessing coping strategies: A theoretical based approach", *Journal of Personality and Social Psychology*, 56: 267-83.
- 11 CLARK, L.A. & WATSON, D. (1995) "Constructing validity: Basic issues in objective scale development", *Psychological Assessment*, 7: 309-19.
- 12 COHEN, J. (1988) *Statistical Power Analysis for the Behavioural Sciences*, (rev. ed.) Academic Press, Orlando, Florida.
- 13 COOPER, C.L., KIRKCALDY, B.D. & BROWN, J. (1994) "A model of job stress and physical health: The role of individual differences", *Personality and Individual Differences*, 16: 653-5.

- 14 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: 339-49.
- 15 EVENS, B.J. & COMAN, G.J. (1992) "General versus specific measures of occupational stress: An Australian police survey", *Stress Medicine*, 9: 11-20.
- 16 FAIN, D.B. & MCCORMICK, G.M. (1988) "Use of coping mechanisms as a means of stress reduction in North Louisiana", *Journal of Police Science and Administration*, 16: 21-28.
- 17 FOLKMAN, S. & LAZARUS, R.S. (1984) *Stress, Appraisal and Coping*, Springer: New York.
- 18 GULLE, G., TREDoux, C. & FOSTER, D. (1998) "Inherent and organisational stress in SAPS: An empirical survey in the Western Cape", *South African Journal of Psychology*, 28: 129-34.
- 19 HAGEMAN, M.J.C. (1978) "Occupational stress and marital relationships", *Journal of Police Science and Administration*, 6: 402-11.
- 20 HIRSH, J. & ELLIS, J.B. (1995) "Family support and other social factors predicting suicidal ideation", *International Journal of Social Psychiatry*, 41: 26-30.
- 21 HORESH, N., ROLNICK, T., IANCU, I., DANNON, P., LEPKIFKER, E., APTER, A. & KOTLER, M. (1996) "Coping styles and suicide risk", *Acta Psychiatrica Scandinavica*, 93: 489-93.
- 22 JACOBS, Q. (1998, August) "Selfmoord in die SAPD: Die laaste uitweg, of is dit!" *Union Post*, 3: 4.
- 23 JANIK, J. & KRAVITZ, H.M. (1994) "Linking work and domestic problems with police suicide", *Suicide and Life-Threatening Behavior*, 24: 267-74.
- 24 JIN, S. & ZHANG, J. (1998) "The effects of physical and psychological well-being on suicide ideation." *Journal of Clinical Psychology*, 54: 401-13.
- 25 KERLINGER, F.N. & LEE, H.B. (2000) *Foundations of Behavioural Research* (4th ed.) Harcourt: Orlando, Florida.
- 26 KOP, N., EUWEMA, M. & SCHAUFELI, W. (1999) "Burnout, job stress and violent behaviour among Dutch police officers", *Work and Stress*, 13: 326-40.
- 27 KRUGER, G. (1996, January 30) "SAPD-stres: 'n Kultuur teen sielkunde kwel: Geestesgesondheid moet prioriteit wees", *Beeld*: 11.
- 28 LOTT, L.D. (1995, November) "Deadly secrets: Violence in the police family", *FBI Law Enforcement Bulletin*, 64: 12-6.
- 29 LOWENSTEIN, L.F. (1999) "Treating stress in the police force", *The Police Journal*, 72: 65-74.

- 30 MEANS, J. & MAUCH, T.G. (1998) "Negative mood regulation expectancies predict anger among police officers and buffer the effects of job stress", *The Journal of Nervous and Mental Disease*, 186: 120-25.
- 31 NEL, J. (1994) "A contextual approach to post-shooting trauma in the South African Police Service", Unpublished master's dissertation, Rand Afrikaans University, Johannesburg.
- 32 NEL, J. & BURGERS, T. (1998) "Stress and trauma in the work environment." *Unisa Psychologia*, 25: 17-24.
- 33 NUNNALLY, J.C. & BERNSTEIN, I.H. (1994) *Psychometric Theory* (3rd ed.) McGraw-Hill: New York.
- 34 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: 115-23.
- 35 PARKES, K.R. (1986) "Coping in stressful episodes: The role of individual differences, environmental factors and situational characteristics", *Journal of Personality and Social Psychology*, 51: 1277-92.
- 36 PATTERSON, G.T. (1999) "Coping effectiveness and occupational stress in police officers", *Police Trauma*.
- 37 PATTERSON, G.T. (2000) "Demographic factors as predictors of coping strategies among police officers", *Psychological Reports*, 87: 275-83.
- 38 PIENAAR, J. (2002) "Coping, stress and suicide ideation in the South African police services", Unpublished doctoral thesis, PU for CHE, Potchefstroom.
- 39 PIETERSE, J.J. (1992) "Selfmoord: 'n biopsigososiale verskynsel", *Servamus, Feb*.
- 40 REYNOLDS, W.M. (1991a) *Suicide Ideation Questionnaire: Professional Manual*, Odessa, FL: Psychological Assessment Resources.
- 41 REYNOLDS, W.M. (1991b) "Psychometric characteristics of the adult suicide ideation questionnaire with college students", *Journal of Personality Assessment*, 56, 289-307.
- 42 ROSSOUW, L. (1997) *Police Suicide: Research Findings - 1994 to 1997*, South African Police Service, Pretoria.
- 43 ROSSOUW, L. (1998) *Police Suicide: Annual Report - 1998*, South African Police Service, Pretoria.
- 44 ROSSOUW, L. (1999) *Police Suicide: Annual Report - 1999*, South African Police Service, Pretoria.
- 45 ROTHMANN, S. & AGATHAGELOU, A.M. (2000) "Die verband tussen lokus van beheer en werkstevredenheid by senior polisiepersoneel", *Tydskrif vir Bedryfsielkunde*, 26(2): 20-6.

- 46 ROTHMANN, S. & STRIJDOM, G. (2002) "Suicide ideation in the South African police service in the North West Province, *South African Journal of Industrial Psychology*, 28(1): 44-48.
- 47 ROTHMANN, S. & VAN RENSBURG, P. (2001) "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.
- 48 SAS INSTITUTE. (2000) *The SAS System for Windows: Release 8.01*. Cary, SAS Institute Inc, North Carolina.
- 49 SCHMIDTKE, A., FRICKE, S. & LESTER, D. (1999) "Suicide among German federal and state police officers," *Psychological Reports*, 84: 167-77.
- 50 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: 690-96.
- 51 SHAUGHNESSY, J.J. & ZECHMEISTER, E.B. (1997) *Research Methods in Psychology* (4th ed.) McGraw-Hill, New York.
- 52 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.
- 53 STEYN, H.S. (1999) "Praktiese betekenisvolheid: Die gebruik van effekgroottes," *Wetenskaplike Bydraes – Reeks B: Natuurwetenskappe* Nr. 117. PU vir CHO, Potchefstroom.
- 54 VILHJALMSSON, R., KRISTJANSBOTTIR, G. & SVEINBJAR-
DOTTIR, E. (1998) "Factors associated with suicide ideation in adults," *Social Psychiatry and Psychiatric Epidemiology*, 33: 97-103.
- 55 VIOLANTI, J.M. (1995) "Trends in police suicide", *Psychological Reports*, 77: 688-90.
- 56 YANG, B. & CLUM, M.A. (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 Behavior*, 24, 127-39.
- 57 ZHANG, J. & JIN, S. (1998) "Interpersonal relations and suicide ideation in China," *Genetic, Social and General Psychology Monographs*, 124: 79-94.