

## **PROACTIVE STRESS MANAGEMENT: THE NATURE, EFFECT AND IMPLICATIONS OF THE SOUTH AFRICAN POLICE SERVICE'S "MANAGING STRESS EFFECTIVELY" PROGRAMME**

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### **INTRODUCTION**

The need for a stress-management programme can generally be attributed to the fact that police work is often extremely stressful and that police officials tend to suffer from a variety of stress-induced physiological, psychological and behavioural disorders. McCraty, Atkinson and Tompson (1999:1-3) argue that particular attention should be given to occupational stress in policing as its potentially negative consequences affect society in more direct and critical ways than for most other organisations. It was, therefore, crucial that a stress-management programme should be developed for the South African Police Service (SAPS).

The programme that was developed by the section Police Social Work Services (PSWS) in 2000 was given the title "Managing Stress Effectively". It formed part of a comprehensive package of seven personnel capacity-building programmes. The others were entitled "Colleague Sensitivity", "Substance Dependency", "Be Money Wise", "HIV/AIDS Awareness", "HIV/AIDS Peer Educators Training" and "Life Skills".

A need arose for the comprehensive and scientific measurement of these programmes' effect on personnel. This was required to ensure that they met their proposed outcomes, represented a cost-effective intervention mechanism and, ultimately, that PSWS made a meaningful contribution to the personnel's effective social functioning. Therefore, in 2001 the comprehensive Evaluation of Personnel Capacity-building Programmes (EPCaP) study was launched. The evaluation of the "Managing Stress Effectively" programme formed part of this study.

In this overview of the nature and results of the research there are three main themes. They are the nature of the "Managing Stress Effectively" programme, the scientific verification of its effect and the implications that the results might have for social work services in other settings.

### **THE OUTCOMES AND STRUCTURE OF THE PROGRAMME**

#### **The outcomes of the programme**

The "Managing Stress Effectively" programme falls within the category of personnel capacity programmes. These can be defined as *structured intervention mechanisms that are implemented to empower employees with the knowledge, attitude and behaviour that they require to become (more) resilient* (Stutterheim & Weyers, 2002:10). Within the SAPS context, resilience was viewed as *"...the process, capacity and outcome of successful adaptation to challenges and adversity, sustained competence under threatening circumstances and the ability to recover from trauma"* (Stutterheim & Weyers, 2004:11).

The programme's specific aim is to empower participants with the ability to develop and utilise stress-management strategies and techniques that suit their unique personalities, immediate work environments and personal lives. To achieve this result, they must *understand* the nature of stress (knowledge), be *willing* to adopt new stress-management behaviour (attitude) and be able to *utilise* newly acquired knowledge and skills to design and implement a personal stress management plan (behaviour).

## THE PROGRAMME CONTENT

The programme takes 16 hours to complete and is presented in a workshop format. This format maximises group participation, but is also able to meet individual needs. Experiential learning is emphasised throughout and each session follows the basic social group work process.

The approach followed in the programme is that stress is a normal part of everyday life, but that dealing with it *appropriately* is the challenge. The proceedings, therefore, start with an overview of the *basic nature and causes* of stress. This is followed by activities that enable participants to draw up a profile of their stress and stress reactions. The third part of the programme focuses on strategies and techniques that could potentially be used in stress management and, in the final part, participants are enabled to draw up a personal stress-management action plan. These four parts, together with the contents and main teaching activities of the programme, are summarised in Table 1.

**TABLE 1**  
**THE STRUCTURE AND PRESENTATION OF THE “MANAGING STRESS EFFECTIVELY” PROGRAMME**

Subject	Methods
<b>Opening</b>	<ul style="list-style-type: none"> <li>• <i>Presentation</i>: Introduction, orientation to the programme and its intended outcomes, as well as general behavioural and organisational requirements.</li> </ul>
<b>Part 1: “What is stress?”</b>	<ul style="list-style-type: none"> <li>• <i>Presentation</i>: Introduction to the theme and procedure</li> </ul>
<ul style="list-style-type: none"> <li>• Defining stress</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Small group activity</i>: Symbolic drawing of the definition of stress</li> </ul>
<ul style="list-style-type: none"> <li>• The causes of stress</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Group discussion</i> on the causes of stress and whether stress is good or bad for you</li> </ul>
<ul style="list-style-type: none"> <li>• The physiology of stress</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Small group activity</i>: Body drawing, indicating all the stress reactions on a physical, emotional and behavioural level</li> </ul>
<b>Part 2: “My personal stress profile”</b>	<ul style="list-style-type: none"> <li>• <i>Presentation</i>: Introduction to the theme and procedure</li> <li>• <i>Individual activity</i>: Completing checklists covering the participant’s level of stress, the causes of their stress, their personal reactions to stress, their personality type and their depression/anxiety levels</li> </ul>
<b>Part 3: “Strategies for dealing with stress”</b>	<ul style="list-style-type: none"> <li>• <i>Presentation</i>: Introduction to the theme and procedure</li> <li>• <i>Group activities</i>: Demonstrations, role-play, breathing exercises</li> <li>• <i>Individual activity</i>: Progressive muscle relaxation exercise, visualisation</li> </ul>
<b>Part 4: “My personal stress-management action plan”</b>	<ul style="list-style-type: none"> <li>• <i>Presentation</i>: Introduction to the theme and procedure</li> <li>• <i>Individual activity</i>: Compilation of a personal stress-management action plan according to a set format.</li> </ul>
<b>Closing</b>	<ul style="list-style-type: none"> <li>• <i>Presentation</i>: Summary of the content and outcomes</li> <li>• Evaluation and closing</li> </ul>

The basic content of each of the four parts entails the following:

### **Part 1: “What is stress?”**

The first part of the programme is aimed at finding answers to three basic questions. These are: what is stress, what causes stress and what is the physiology of stress?

Because there are so many divergent opinions regarding the *nature of stress*, participants are firstly allowed to define stress in their own words and according to their own frames of reference. This often brings interesting perceptions to the fore. It has, for example, been found that detectives stationed at serious and violent crime units tend to recount the “violent/aggressive” side of stress and often mistakenly incorporate the causes of, and reactions to, stress as their definitions. Selye’s classic definition of stress is then introduced into the discussion. He views it as “...*the result of an*

*imbalance between the level of demand placed on people, as they perceive it, and their perceived capability to meet the demands*" (Selye, 1956:15). By discussing and agreeing on a common definition of stress, the participants are also enabled to understand how they, as unique individuals, experience stress in a unique way.

When the subject of the *causes of stress* is introduced, it is emphasised that stress is a common everyday occurrence and has come to characterise modern life (Ross & Altmaier, 1994:1). It is even more prevalent amongst SAPS personnel due to challenges associated with law enforcement. Participants are warned that if they ignore the existence of stress and its real cause(s), their productivity and mental health can be negatively affected. The programme then focuses on the potential causes and enables participants to identify the particular causes of *their* stress. They often realise that what they experience as the main cause of their stress is not necessarily the same for another person.

At this stage, the question "How does stress affect me?" is introduced. Participants tend to come to the conclusion that stress can actually be good (motivational). However, if prolonged stress is ignored, it could have a detrimental effect on them physically and emotionally, as well as in terms of behaviour. These negative effects are illustrated through body drawings (see Table 1).

### **Part 2: "My personal stress profile"**

The overview of the nature of stress provides a baseline for the second part of the programme. This entails the drawing up of a personal stress profile. This is done with the aid of self-administered questionnaires and checklists. Some enable participants to identify the causes of their stress and to measure their stress and depression/anxiety levels. Others deal with their stress reactions and personality types. Participants are usually astounded by the eventual content of their stress profiles.

By the end of Part 2, most participants realise that their next step should be to learn more about the different techniques and strategies that could be used to deal more effectively with stress.

### **Part 3: "Strategies for dealing with stress"**

There is a tendency in other programmes to focus only on a single stress-management strategy or mechanism. These are often not relevant to the unique circumstances of SAPS personnel (the same probably also applies for other organisations). The programme, therefore, exposes participants to a variety of strategies and techniques in order to enable them to choose the strategy or strategies and techniques that will fit their personalities and circumstances best. These strategies, which are contained in Part 3 of the programme, focus on physical, emotional, mental and spiritual well-being.

- **Physical well-being**

During this phase participants are exposed to a variety of strategies and techniques that could be used in the physical management of stress. Topics that are covered include diet, rest and relaxation. The participants are encouraged to think of as many practical ways as possible to improve their diet, to apply rest and relaxation techniques and exercises, to participate in sport activities and to utilise breathing/relaxation exercises.

- **Emotional well-being**

In covering emotional well-being strategies, emphasis is placed on emotional support, releasing emotions and emotional distancing. In this regard, participants are encouraged to find practical ways to improve these facets of their work and personal lives. They also practise the different

techniques that could improve emotional well-being and are often quite excited by the effect that these have on their moods/emotional stances.

- **Mental and spiritual well-being**

The third category of strategies covers mental and spiritual well-being and the adoption of a positive life stance. It deals with issues that include realistic expectations, personal needs versus wants, perceptions versus reality, and the concepts of self-management and balance-in-life.

During Part 3 of the programme participants are not only exposed to a variety of potential stress-management techniques, but also practise these in simulated life situations. This, ultimately, enables them to select the most suitable techniques when compiling their personal stress-management plans.

#### **Part 4: “My personal stress-management action plan”**

The programme culminates in a process where each participant formulates his or her own personal stress-management action plan. This plan, which is drawn up according to a set guideline and format, also serves as a tangible reminder and tool in their ongoing stress-management endeavours. After its completion, each participant also pledges to put the plan into practice.

### **RESEARCH METHODOLOGY**

Because of space constraints here, only the main elements of the research methodology will be covered. They will include the research objectives, hypothesis, design and procedure.

#### **Research objectives and hypothesis**

The three objectives of the study were:

- to measure the programme’s *effect* on SAPS personnel’s knowledge, attitudes and behaviour;
- to determine the *influence* that the quality of the *presentation* of the programme had on its effect; and
- to use the research results to formulate guidelines for the improvement of the programme and its presentation.

The study tested the hypothesis:

*The “Managing Stress Effectively” programme has a practical significant effect on the knowledge, attitude and behaviour of SAPS personnel.*

#### **Research design and procedure**

In the empirical research a comparison group pre-test-post-test design was used. This is equivalent to the classical experiment, but according to Fouche and De Vos (1998:145), without the “random assignment of subjects to the groups”. It was deemed the most appropriate design because it made it possible to determine the effect of the programme statistically in circumstances where it is not possible to comply with all the prerequisites of a classical experiment (Bailey, 1994:236-237).

The research procedure consisted of four basic steps. These were a literature study, the design and testing of measurement instruments, the measurement of the programme’s effect, and the analysis and interpretation of data.

- The literature study focused on the theoretical base of the themes covered by the programme, the requirements for capacity-building programmes and the attributes of effect measurement.

- The second step involved the development, peer-group review and pilot testing of six measurement scales. Three consecutive pilot studies were done in Soweto, Krugersdorp and Pretoria.
- The main empirical study commenced on 3 February 2003 with the mobilisation of the various experimental and comparison groups. By 28 May 2003 a total of 327 personnel had undergone the stress-management training, while 57 other members made up the comparison group.
- The fourth step entailed analysing and interpreting all data generated by the questionnaires.

**Sampling and the composition of the research groups**

In the research use had to be made of availability samples. In the case of the experimental group, all the SAPS personnel in South Africa who attended the programme from 3 February 2003 to 28 May 2003 were included. At the same time provincial heads mobilised comparison groups and submitted their members to the equivalent of the experimental group’s pre-test and post-test questionnaires.

In order to ascertain the representivity of both the experimental and comparison groups, four main criteria were used. These were rank/position, race, gender and province. By using province as a criterion, it was also possible to ensure that attributes such as language distribution, geographical location and different sections of the organisation would be covered. In the evaluation of representivity, a deviation of less than 10% was viewed as insignificant, between 10% and 19% as small and 20%+ as potentially significant.

The composition of the experimental and comparison groups in terms of rank is contained in Table 2. The table also provides the equivalent personnel profile of the whole organisation at the time.

**TABLE 2  
A PROFILE OF THE EXPERIMENTAL AND COMPARISON GROUPS IN TERMS OF RANK**

Groups	Constable	Sergeant	Inspector	Officers	Civil act personnel	Not determined	Total (n) <sup>7</sup>
Experimental group	23 (7.10%)	43 (13.27%)	117 (36.11%)	37 (11.42%)	103 (31.80%)	1 <sup>3</sup> (0.31%)	324 (100%)
Comparison groups	0	8 (14.03%)	28 (49.12%)	7 (12.28%)	14 (24.56%)	-	57 (100%)
Total SAPS population	13936 (10.52%)	17478 (13.19%)	56671 (42.78%)	15008 (11.33%)	29304 (22.11%)	85 <sup>3</sup> (0.06%)	132482 (100%)

Unspecified ranks/ posts on database. <sup>7</sup>Totals (n) may vary depending on the total number of respondents that completed the item.

The composition of both research groups was generally in line with that of the SAPS population. There were, however, three notable deviations. The number of inspectors was lower in the

experimental and higher in the comparison group than the norm, and no constables were included in the comparison group. From the data it did not seem as though these deviations had any marked negative impact on the outcome of the research.

The race and gender distribution of the experimental and comparison groups, as well as that of the SAPS population, is contained in Table 3.

**TABLE 3**  
**A PROFILE OF THE EXPERIMENTAL AND COMPARISON GROUPS IN TERMS OF RACE AND GENDER**

Groups	Black Male	Black Female	Coloured Male	Coloured Female	White Male	White Female	Indian Male	Indian Female	Total (n) <sup>7</sup>
Experimental group	126 (39.62%)	69 (21.70%)	20 (6.29%)	27 (8.49%)	32 (10.06%)	37 (11.64%)	6 (1.89%)	1 (0.31%)	318 (100%)
Comparison groups	17 (31.48%)	3 (5.56%)	6 (11.11%)	2 (3.70%)	10 (18.51%)	15 (27.78%)	1 (1.85%)	-	54 (100%)
Total SAPS population	63466 (47.91%)	17150 (12.95%)	9006 (6.80%)	4392 (3.32%)	20429 (15.42%)	12753 (9.63%)	3516 (2.65%)	1343 (1.01%)	132482 (100%)

Totals (n) may vary depending on the total number of respondents who completed the item.

In general, the research groups' race and gender profile compared well with that of the SAPS population. However, white males and females were somewhat over-represented and black females were under-represented in the comparison groups. The possibility that this could have had a negative influence on the programme's affect was further investigated. It was found that the programme did not discriminate between gender and race groups and that it can be presented to all SAPS personnel.

The final criterion that was used to determine the representivity of the groups was the provinces from which the participants originated. The results showed an equitable ratio between the participants and the total number of employees in each province. In no instance did deviations exceed the 10% mark.

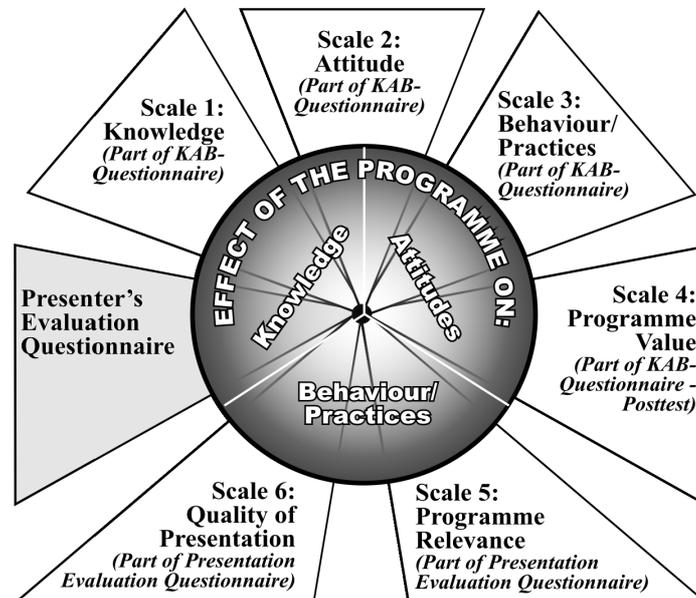
It was concluded that the random sampling succeeded exceedingly well in generating both experimental and comparison groups that were representative of the organisation's personnel profile. In no instance did their composition fall outside the parameter of a 20% deviation set for representivity of the population.

### **Data-collection instruments**

Owing to the uniqueness of the programme, standardised scales could not be used in the research. Consequently, entirely new instruments had to be developed. This process proved to be extremely difficult and not successful in all respects. The Cronbach alpha coefficient ("α") of each scale was calculated and a score of 0.50 or higher was accepted as an appropriate reliable coefficient (Jackson, 2003:87-91). Although all the scales had a satisfactory reliability coefficient, it was found during the main study that some were formulated in such a way that they could not measure *change* effectively. In these cases it was not possible to prove that change actually took place or

not (Elmes, Kantowitz & Roediger, 2003:59-60, 144-145; Zechmeister & Posavec, 2003:194-197). This type of deficiency was expected from the outset and countered with the help of triangulation.

**DIAGRAM 1**  
**THE WAY IN WHICH TRIANGULATION WAS USED IN THE STUDY**



In the research the data produced by six scales were triangulated. The fit between these scales and the questionnaires in which they were contained is portrayed in Diagram 1.

In the study Hilton's definition of triangulation was used as point of departure. He states that "Triangulation in research refers to the combination of two or more theories, data sources, methods, or investigators in one study of a single phenomenon to converge on a single construct" (Hilton, 2003). In this case, the so-called "intra-method" (Sarantakos, 1998:236-237) of triangulation was used. It entailed the use of multiple instruments to measure the same phenomenon, viz. the effect of the programme (Mark, 1996:220; Patton, 2002:556, 559-560). The purpose was "[to] capture a more complete, holistic and contextual portrayal and reveal the varied dimensions of a given phenomenon" (Hilton, 2003) and to test the constancy of measurement (Patton, 2002:248).

### **The KAB questionnaires**

KAB or KAP (Knowledge, Attitudes and Behaviour or Practices) studies are quite common in education-oriented research in fields such as health, education, economics, social marketing and social developmental (Berger, Ratchford & Haines, 1994; Mitchell & Kaufman, 2002; Donati, Haman & Medda, 2000; Working Party on Development Cooperation and Environment (WPDCE), 1999; Weinreich, 1999). Their use is, however, still rare in the field of social work.

This type of research is based on the premise that human functioning can be divided into three interrelated but not necessarily linearly dependent dimensions. They are the cognitive (thinking), affective (feeling) and conative (behaviour/doing) dimensions (Thompson, 2002:xvii). A number

of studies have indicated that a change in one dimension does not necessarily bring about a change in another dimension (e.g. an increase in knowledge does not necessarily change attitudes) and that the accomplishment of change in one dimension (e.g. attitudes) is not necessarily a prerequisite for change in another dimension (e.g. behaviour) (Akade, 2001:248-251; McCann & Sharkey, 1998:268-269; Elkind, 1993:17). This phenomenon made it possible to measure the effect of the programme on the three dimensions separately.

The programme content and available literature were used to develop the KAB questionnaires. These consisted of four sections. The first three contained the scales that dealt with the participants' knowledge, attitudes and existing/intended behaviour. A fourth section (Scale 4) was added to the post-test questionnaire and gave the members of the experimental groups the opportunity to assess the value of the programme.

The questionnaires were made up of both closed (e.g. true or false) and Likert-type questions (e.g. strongly disagree, disagree, agree, strongly agree) (Jackson, 2003:61). They were formulated in such a way that they would determine the respondents' existing (in terms of the pre-test) and newly acquired (in terms of post-test) knowledge, attitudes and behaviour.

### **The presentation evaluation questionnaire**

A presentation evaluation questionnaire was developed for the whole EPCaP study. It was based on a literature study as well as an analysis of existing measurement instruments. The questionnaire was tested and standardised during the piloting phase of the research. It consisted of 31 questions and was divided into six sections: the evaluation of the presenter, the presenter's presentation skills, the learning process, the context within which the programme was presented, the relevance of the programme and general.

### **The presenter's evaluation questionnaire**

Each social worker who presented a programme was requested to complete a presenter's evaluation questionnaire. It consisted of sections that covered the following aspects: self-evaluation of abilities, presentation skills, the learning process, the context within which the programme was presented and the relevance of the programme. They could also make recommendations regarding the improvement of the programme. The questionnaire was based on the presentation evaluation questionnaire and comparisons could, therefore, be drawn between the two sets of data.

### **Procedures and formulas used in data analysis**

All the data generated by the questionnaires were analysed in conjunction with the North-West University's Statistical Consultation Services and with the aid of the SASS computer package (SAS Institute Inc., 1999). The procedures and formulas that were used will be discussed briefly.

### **Procedures and formulas for the calculation of reliability and validity**

In order to determine the reliability of the instruments, the Cronbach alpha coefficient (" $\alpha$ ") of every scale and subscale was calculated. A score of 0.50 or higher was accepted as an appropriate reliability coefficient (Jackson, 2003:87-91). The validity of the questions and scales was primarily determined by means of peer-group evaluations and the pilot studies (Jackson, 2003:44-45; Creswell, 2003:157-158; Elmes *et al.*, 2003:55-59).

### Procedures and formulas for the calculation of change/effect

Cohen's formula for the calculation of effect size, also known as Cohen's d-value (Cohen, 1988:20-27; Steyn, 2000:1-3), was used to measure the magnitude of the programme's effect. The reason for this choice was the following:

- A probability sample could not be drawn in the research. It was, therefore, only possible to view the respondents as a sub-population of the planned target population. Consequently, it was not possible by means of inferential statistics to generalise the results to the target population.
- To determine whether the programme changed knowledge, attitudes and behaviour in practice, the standardised difference was used as an effect size (Gravetter & Forzano, 2003:454). This entailed dividing the difference between two averages (or averages of a given mean) by the standard deviation. According to Steyn (2000:3), this is a natural criterion for drawing conclusions regarding significance.

The primary formula that was used in the research was Cohen's formula for calculating the effect size *between* two groups. It is the following:

$$d = \frac{\mu_1 - \mu_2}{\sigma}$$

Where:

d = effect size

$\mu_1$  = average difference score in the experimental group (e)

$\mu_2$  = average difference score in the comparison group (c)

$\mu_1 - \mu_2$  = difference between average difference

$\sigma$  = maximum standard deviation of difference scores (Cohen, 1988:20-27).

The guidelines that were used in the interpretation of all d-values were as follows.

- If d = 0.2 it would indicate a *small effect*, implying that the research should be repeated in order to confirm whether there is an effect.
- If d = 0.5 it would indicate a *medium effect*, implying that the result can be viewed as significant, but also that better planned research could produce even more significant results.
- If d = 0.8 it would indicate a *large effect* that is of *practical significance*.
- Because there are no absolute boundaries between the three d-values, concepts such as "small to medium effect" and "large effect" could be used (Spatz, 2001:74-75; Steyn, 1999:3).

In determining the experimental groups' experience of the *value* and *relevance* of the programme, as well as the *quality* of the presentation, the following formula was used:

$$d = \frac{\mu_{\text{diff}}}{\sigma_{\text{diff}}}$$

Where:

d = effect size

$\mu_{\text{diff}}$  = average difference of scores in the experimental group (abbreviated with " $\mu_1$ ")

$\sigma_{\text{diff}}$  = standard deviation of difference score.

Besides effect sizes (d-values), use was also made in certain scales of descriptive statistics such as totals, percentages and averages.

### **The reliability of the measurement instruments**

The formula for the calculation of Cronbach alpha coefficients (Gravetter & Foranzo, 2003:455) was used to determine the reliability of the different scales and subscales that were utilised in the research. Table 4 provides a summary of the results of this process.

**TABLE 4  
THE RELIABILITY OF THE SCALES**

<b>Scales and questions</b>	<b><math>\alpha</math></b>
Scale 1: Knowledge of stress management	0.50 <sup>■</sup>
Scale 2: Attitudes regarding stress	0.60 <sup>■</sup>
Scale 3: Stress-related behaviour	0.50 <sup>■</sup>
Scale 4: The value of the programme	0.82 <sup>■</sup>
Scale 5: The relevance of the programme	0.85 <sup>■</sup>
Scale 6: Quality of the programme presentation	-
Subscale 6.1: Evaluation of the presenter	0.83 <sup>■</sup>
Subscale 6.2: Evaluation of the presenter's presentations skills	0.84 <sup>■</sup>
Subscale 6.3: Evaluation of the learning process	0.88 <sup>■</sup>
Subscale 6.4: Evaluation of the presentation context	0.78 <sup>■</sup>

■Reliable scale:  $\alpha = 0.5+$

Table 4 shows that all the scales had an acceptable Cronbach alpha coefficient ( $\alpha$ ) and could, therefore, be used in the effect measurements. The  $\alpha$  of the first three scales, however, tended to be on the low side.

### **THE PROGRAMME'S EFFECT ON KNOWLEDGE, ATTITUDES AND BEHAVIOUR**

In measuring the effect of the programme, it was assumed that the respondents had already developed a certain level of knowledge and had fixed attitudes, behaviour practices and skills before the start of the programme (Thompson, 2002:xvi-xvii). These levels were measured with the pre-test. They were again measured after the presentation of the programme and simultaneously, comparative questionnaires were administered to the comparison groups. This made it possible to discount any environmental influences when determining the net effect of the programmes (intervention/independent variable) on the experimental groups. The results of the measurement of all three KAB scales are contained in Table 5.

**TABLE 5**  
**EFFECT SIZES OF SCALE 1 (KNOWLEDGE), SCALE 2 (ATTITUDES) AND SCALE 3 (BEHAVIOUR)**

Experimental group (e)		Comparison group (c)		$\sigma$	d-Value (effect size)
n	$\mu_1$	N	$\mu_2$		
Effect size of Scale 1: Knowledge of stress management					
327	-0.14	57	-0.14	0.360	<b>0.4*</b>
Effect size of Scale 2: Attitudes regarding stress					
298	0.054	51	0.054	0.538	<b>0.1</b>
Effect size of Scale 3: Stress-related behaviour					
327	0.21	57	0.21	0.421	<b>0.5*</b>

\* Medium effect:  $d = \pm 0.5$ .

The questions of "Scale 1: Knowledge of stress management" focused on the respondents' knowledge of the nature of stress and how to manage it (Dainow, 1988:3). The d-value of this scale indicates that the programme had a medium effect on this level of knowledge (see Table 5). If Spatz's (2001:74-75) views are taken into consideration, this type of result could be viewed as significant. However, some further study is required to confirm this finding beyond all doubt.

In the case of "Scale 2: Attitude regarding stress", the questions focused on the respondents' willingness to allow new experiences to modify their attitude towards stress management (Barker, 1995:290; Dianow, 1988:3). The scores obtained showed no significant differences between the pre-test and post-test. This result contradicts those that were achieved by means of the other measurement instruments used in triangulation. From this and the data on which the calculations were based, it was concluded that the questions that were used in the scale were seriously flawed.

One of the main aims of the "Managing Stress Effectively" programme was to change respondents' stress-related behaviour. The questions that were used in Scale 3 focused on three issues. They were the way in which the respondents deal with stress, how they manage pent-up emotions and their first reactions when confronted with a difficult situation. This scale produced a d-value of 0.5 (see Table 5). As in the case of Scale 1, this result can be viewed as important and significant, but as such, not necessarily conclusive enough.

The possible reasons for the lower than expected and contradictory effect measurement were further investigated. An analysis of the data on which the measurements were based showed some flaws in the questions that were used, as well as the presence of a Hawthorne effect (Babbie, 2001:220). A number of comparison group members essentially wanted to change their stress-management behaviour (or to indicate this desire) and were able to guess the most appropriate answers.

In spite of some flaws, it was possible to draw an important conclusion from the application of the three KAB scales. This was that, in the case of the respondents' knowledge and intended behaviour, there was ample proof that the programme brought about a significant change.

### THE VALUE OF THE PROGRAMME

The post-test questionnaire that was administered to the experimental group contained five additional Likert-type questions (see Table 6). These were specifically aimed at determining the value that the programme had for the respondents.

The programme as a whole received an exceptionally high value rating (see Table 6). This is reflected in the far above average d-value of 1.4 and a d-value of 1.7 for question 22. Such effect sizes are viewed by Cohen (1969:22-25) and others as indicative of a large effect that is of practical significance. This finding is further substantiated by the fact that 93.47% of the respondents were of the opinion that it had either an “above average” or “a lot of value”. All these findings can be viewed as proof that the programme as a whole, as well as its constituent parts, were of great value to the respondents. Because the parts covered knowledge, behaviour and attitudes-related issues, it can be assumed that it must have had an effect on all three these dimensions.

**TABLE 6**  
**EFFECT SIZE OF SCALE 4 (VALUE OF THE PROGRAMME)**

Questions	n	Choices and Responses				$\mu_{diff}$	$\sigma_{diff}$	d-Value (effect size)
		<i>It had no or little value</i>	<i>It had below average value</i>	<i>It had above average value</i>	<i>It had a lot of value</i>			
22. What was the overall value of the programme/ course?	306	6 (1.96%)	14 (4.58%)	66 (21.57%)	220 (71.90%)	3.633	0.665	1.7**
23. What value did the following component have for you: “What is stress/ what causes stress and the physiology of stress?”	304	6 (1.97%)	20 (6.58%)	84 (27.63%)	194 (63.82%)	3.532	0.707	1.5**
24. What value did the following component have for you: “The compilation of your personal stress profile”?	303	7 (2.31%)	35 (11.55%)	111 (36.63%)	150 (49.50%)	3.333	0.770	1.0**
25. What value did the following component have for you: “The different strategies in dealing with stress”?	303	5 (1.65%)	16 (5.28%)	109 (35.97%)	173 (57.10%)	3.485	0.675	1.5**
26. What value did the following component have for you: “The compilation of your own personal stress management plan”?	306	9 (2.94%)	19 (6.21%)	81 (26.47%)	197 (64.38%)	3.522	0.742	1.4**
<i>Average</i>		7	21	90	187	3.501	0.711	1.4**

\*\*Practical significant effect: d = 0.8+

## THE RELEVANCE OF THE PROGRAMME

The experimental group's view of the relevance of the programme was the fifth dimension of programme effect that was measured. The reason for also focusing on this facet was that any given programme could have a large effect on its participants, but compared to other available capacity-building and general training programmes, would not be deemed as a main priority. It was, therefore, necessary to ascertain to what extent the programme was relevant to the personnel's professional and personal lives.

The relevance scale (Scale 5) consisted of six questions. These questions dealt with issues such as the degree to which the programme stimulated the respondents' creative thinking and the extent to which they could use the newly gained knowledge and insight in their jobs. The results are contained in Table 7.

**TABLE 7**  
**EFFECT SIZE OF SCALE 5 (RELEVANCE OF THE PROGRAMME)**

Scales/ questions	n	$\mu$	$\sigma$	d-Value (effect size)	$\alpha$
<i>Scale 5</i>	289	3.512	0.400	2.53**	0.85 <sup>■</sup>
22. The course/programme stimulated my creative thinking.	284	3.415	0.528	1.73**	
23. I will be able to apply the new knowledge and insights that I have gained in my job.	287	3.473	0.546	1.78**	
24. I feel that the course/programme will help me do my job better.	283	3.487	0.521	1.89**	
25. I will be able to apply the new knowledge and insights that I have gained in my daily life.	289	3.453	0.532	1.79**	
26. I feel that the course/programme will help me to live my life in a better way.	287	3.505	0.534	1.88**	
27. All SAPS personnel should receive this course/programme.	288	3.763	0.464	2.72**	

■ Reliable scale:  $\alpha = 0.5+$ . \*\*Practical significant effect:  $d = 0.8+$

With an overall effect size of 2.53 (see Table 7), it is clear that the stress-management programme had an extremely high relevancy value. The probable reason for this effect is that the programme successfully addressed an issue that represented a felt need within the organisation. This conclusion is substantiated by the fact that the effect size in the case of Question 27: "All SAPS personnel should receive this course/programme" was extremely high ( $d=2.72$ ).

There are a number of additional conclusions that could be drawn from the effect size generated by the other questions. These include the following:

- All the scores tended to be high. This indicates that the relevance of the programme could not be attributed to only one factor, but to the combined effect of all its components.

- If the two questions that relate to the effect of the programme on a person's job performance (questions 23 & 24) are compared to those that focus on their personal lives (questions 25 & 26), no overall trend emerges. This implies that the programme should not be seen as either a job-enrichment instrument or a personal-empowerment tool, but rather as a combination of the two.
- Questions 23 to 26 *inter alia* also dealt with knowledge, attitudes and behavioural change. In terms of triangulation, their high effect size further vindicates the conclusions reached regarding flaws in some of the scales that were used. It is, therefore, clear that the programme must have had a practical significant effect on respondents' knowledge, attitudes and behaviour.

### THE INFLUENCE OF THE PROGRAMME PRESENTATION

Because poor presenters and presentations will have a detrimental influence on any programme's effect, it was necessary to measure the overall quality of the stress-management programme's presentations. For this purpose Scale 6 was developed and included in the presentation evaluation questionnaire. This scale consisted of 21 questions that were grouped into four subscales. Only the results for these four subscales are included in Table 8.

**TABLE 8**  
**EFFECT SIZES OF SCALE 6 (QUALITY OF PROGRAMME PRESENTATION)**

Subscale	n	$\mu$	$\sigma$	d-Value (effect size)	$\alpha$
Subscale 6.1: Evaluation of the presenter	290	3.434	0.468	1.99**	0.83 <sup>■</sup>
Subscale 6.2: Evaluation of the presenter's presentation skills	290	3.699	0.507	2.36**	0.84 <sup>■</sup>
Subscale 6.3: Evaluation of the learning process	290	3.471	0.445	2.18**	0.88 <sup>■</sup>
Subscale 6.4: Evaluation of the presentation context	289	4.304	0.569	2.29**	0.78 <sup>■</sup>
<i>Average</i>	289.8			2.21**	0.83 <sup>■</sup>

■ Reliable scale:  $\alpha = 0.5+$ . \*\*Practical significant effect:  $d = 0.8+$

The average rating for the four scales that covered the quality of the programme presentation came to an astonishing 2.21 (see Table 8). This would, firstly, indicate that the presenters generally succeeded extremely well in their task of presenting the programme in an effective and professional way. A second implication is that any weaknesses in the effects of the programme could not be attributed to the presenters, but rather to the contents of the programme.

### THE PRESENTER'S EVALUATION OF THE PROGRAMME

The presenters of the programme also had to complete the presenter's evaluation questionnaire. This questionnaire, which was similar to the presentation evaluation questionnaire, enabled them to evaluate their own expertise and presentation skills, as well as the learning process, the learning context and the relevance of the programme. The data showed strong similarities between the presenters' and respondents' evaluations. The only marked difference was that the presenters tended to evaluate their presentation skills at a lower level than those attributed to them by the respondents.

Provision was also made in the questionnaire for recommendations regarding the improvement of the programme. Some of these are included in the guidelines.

## **FINDINGS AND IMPLICATIONS**

The three main research findings and their implications can be summarised as follows:

The availability sampling produced experimental and comparison groups that correlated extremely well with the profile of the SAPS population. The programme should, therefore, have the same type of effects on all other SAPS personnel, irrespective of their rank/post, race, gender or province of origin.

- Through the triangulation of measurements it became clear that the programme ought to have had a *practical significant effect* on SAPS personnel's stress-related knowledge, attitude and behaviour. In addition, it empowered them to function more effectively on both a professional and a personal level. The programme, therefore, succeeded fully in the purpose for which it was originally designed.
- The third general finding was that the *presentations of the programme* were of a high standard and contributed positively to its effect.

## **GUIDELINES FOR IMPROVING THE PROGRAMME**

In spite of the programme's proven effect, value and relevance, it is not without some shortcomings. The research results were, therefore, also used as a basis to formulate the following guidelines for its further improvement:

- The elements of the programme that the presenters found least helpful and most cumbersome should be reformulated.
- It should become standard practice to revise and update the programme every 12 to 18 months. In this process and in order to comply with the principles of experiential learning, all the activities, exercises, checklists and examples should be re-evaluated and improved in order to make them even more relevant and effective.
- The nature of the programme makes it an imperative that only suitably qualified social workers from the Police Social Work Services should present the programme. In order to ensure an even higher presentation standard, all the presenters should receive an advanced facilitation and presentations skills course.
- The KAB scales should be improved and used on a continual basis in the evaluation of the programme's effect. This will help to ensure that all new participants will receive the same high standard of service delivery.

## **CONCLUDING REMARKS**

The "Managing Stress Effectively" programme represents an important attempt by the Police Social Work Services to enhance SAPS personnel's ability to face the rigours of their highly stressful occupations. It is, therefore, quite significant that the research has proven that it is a highly effective intervention mechanism that succeeds fully in the purpose for which it was originally designed. Through its proactive stress-management abilities, the personnel are enabled to lead more productive professional lives and to serve all of South Africa's communities more effectively.

The study's results have, however, implications that stretch beyond the narrower ambit of police or even occupational social work services. They indicate that social workers do have the ability to develop, implement and evaluate stress-management programmes. Such programmes could and should become an integral part of generic practice.

## REFERENCES

- AKADE, A. 2001. Risky business: South African youths and HIV/AIDS prevention. **Education Studies**, 27(3):237-256.
- BABBIE, E. 2001. **The practice of social research** (9<sup>th</sup> ed). Belmont (CA): Wadsworth/Thompson Learning.
- BAILEY, K.D. 1994. **Methods of social research**. New York: The Free Press.
- BARKER, R.L. 1995. **The practice of social research** (9<sup>th</sup> ed). Belmont (CA): Wadsworth/Thompson Learning.
- BERGER, E.I., RATCHFORD, B.T. & HAINES, G.H. 1994. Subjective product knowledge as a moderator? Relationship between attitudes and purchase intentions for a durable product. **Journal for Ecometric Psychology**, 15(2):301-314.
- COHEN, J. 1969. **Statistical power analysis for the behavioral sciences**. New York: Academic Press.
- COHEN, J. 1988. **Statistical power analysis for the behavioral sciences** (2<sup>nd</sup> ed). Hillside (NJ): Erlbaum.
- CRESWELL, J.W. 2003. **Research design: qualitative, quantitative, and mixed methods approaches** (2<sup>nd</sup> ed). Thousand Oaks: Sage Publications.
- DIANOW, S. 1988. **Developing skills with people**. London: Alden Press Oxford.
- DONATI, S., HAMAN, R. & MEDDA, E. 2000. Family planning KAP survey in Gaza. **Social Science & Medicine**, 50(6):841-849.
- ELKIND, P.D. 1993. Correspondence between knowledge, attitudes, and behaviour in farm health and safety practice. **Journal of Safety Research**, 24(3):171-179.
- ELMES, D.G., KANTOWITZ, B.H. & ROEDIGER, H.L. 2003. **Research methods in psychology**. Belmont (CA): Wadsworth/Thompson.
- FOUCHE, C.B. & DE VOS, A.S. 1998. Selection of a research design. In: DE VOS, A.S. (ed) **Research at grass roots: a primer for the caring professions**. Pretoria: Van Schaik.
- GRAVETTER, F.J. & FORZANO, L.B. 2003. **Research methods for the behavioural sciences**. Belmont (CA): Thompson/ Wadsworth.
- HILTON, A. 2003. Should qualitative and quantitative studies be triangulated? **International Society of Nurses**. Available: <http://www.isncc.org/news/triangle.htm> [Accessed: 15 September 2003].

- JACKSON, S.L. 2003. **Research methods and statistics: a critical thinking approach**. Belmont (CA): Thompson/Wadsworth.
- MARK, R. 1996. **Research made simple: A handbook for social workers**. London: Sage Publications.
- McCANN, T.V. & SHARKEY, R.J. 1998. Educational intervention with international nurses and changes in knowledge, attitudes and willingness to provide care to patients with HIV/AIDS. **Journal of Advanced Nursing**, 27:267-273.
- McCRATY, R., ATKINSON, M., TOMPSON, M. 1999. **Impact of the HeartMath Self-Management Program on Psychological Stress in Police Officers**. Available: <http://www.heartmath.org/ResearchPapers/Police/welcome.html> [Accessed: 4 December 2001].
- MITCHELL, C.M. & KAUFMAN, C.E. 2002. Structure of knowledge, attitudes, and behaviour among American Indian young adults. **AIDS Education and Prevention**, 14:401-408.
- PATTON, M.Q. 2002. **Qualitative research & evaluation methods**. London: Sage Publications.
- ROSS, R.R. & ALTMAIER, E.M. 1994. **Intervention in occupational stress: A handbook of counselling for stress at work**. London: Sage Publications.
- SARANTAKOS, S. 1998. **Social research**. South Yarra (Australia): Macmillan.
- SAS INSTITUTE INC. 1999. **The SAS System for Windows Release 8.02 TS Level 02M0 Copyright © 1999-2001 by SAS Institute Inc., Cary, NC, USA**.
- SELYE, H. 1956. **Stress for life**. New York: McGraw-Hill.
- SPATZ, C. 2001. **Basic statistics: tales of distributions**. Belmont (CA): Wadsworth/Thompson Learning.
- STEYN, H.S. 1999. **Praktiese beduidenheid: die gebruik van effekgroottes**. (Wetenskaplike Bydraes, Reeks Natuurwetenskappe nr. 117). Potchefstroom: Publikasiebeheer Komitee, PU vir CHO.
- STEYN, H.S. 2000. Practical significance of the difference means. **Journal of Industrial Psychology**, 26(3):1-3.
- STUTTERHEIM, E. & WEYERS, M.L. 2002. **Strength-focused intervention**. Paper presented at the International Conference on Military Medicine (ICMM), September 15-20, 2002, Sun City, South Africa.
- STUTTERHEIM, E. & WEYERS, M.L. 2004. Strength-focused intervention: The new approach of the Social Work Service of the South African Police Service (SAPS). **Social Work/Maatskaplike Werk**, 40(1):1-14.
- THOMPSON, N. 2002. **People Skills** (2<sup>nd</sup> ed). New York: Palgrave Macmillan.
- WEINREICH, N.K. 1999. **Research in the social marketing process**. Available: <http://www.social-marketing.com/process.html> [Accessed: 18 October 2001].

WORKING PARTY ON DEVELOPMENT COOPERATION AND ENVIRONMENT. 1999. **Environment communication: applying communication tools towards sustainable development.** Paris: OECD Publications.

WPDCE *see* Working Party on Development Cooperation and Environment.

ZECHMEISTER, E.B. & POSAVEC, E.J. 2003. **Data analysis and interpretation in behavioural sciences.** Belmont (CA): Thompson/Wadsworth.

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