Stress and coping of Police Officers in the South African Police Service

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Abstract:

Working in the police service can be physically and emotionally demanding. Officers use various coping methods to deal with the stressors. The main aim of this study was to investigate which coping responses are used most by police officers in the South African Police Service (SAPS) and to investigate how the prevalence of these coping responses changes over time. A longitudinal approach was used where data were collected at three different points in time. The final sample (n=120) was used for this study. The results indicate that police officers predominantly use planful problem-solving, positive reappraisal and confrontive coping to deal with their daily stress. Planful problem-solving and positive reappraisal are seen as adaptive ways of dealing with stress while the outcomes of confrontive coping are context dependent. The coping responses of seeking social support, escape avoidance and accepting responsibility were used less frequently. The results indicate that coping styles change over time as police officers accepted significantly less responsibility, made less use of confrontive coping and relied more on planful problem-solving, positive reappraisal and escape avoidance. The findings of this study have important implications for the diagnosis and treatment of stress of active police officers. It is recommended that interventions such as emotional competence training be used to reinforce and refresh positive coping strategies in order to enhance the emotional wellbeing of police officers.

Key Words: Police coping, changes in coping, adaptive coping, maladaptive coping, police stress, Ways of Coping
Introduction

Serving in the police service is seen as one of the most stressful professions in the world (Anshel, 2000) as the nature of police work is inherently demanding and dangerous (Watson, Jorgensen, Meiring & Hill, 2012). Officers are exposed to multiple distressing occurrences (Young, Koortzen & Oosthuizen, 2012) that have a major impact on physical and psychological wellbeing (Visser, Meiring, Lynch & Reinhard, 2010).

The South African police context is unique in many ways and places additional pressure on police officers, specifically due to the unique legacy of apartheid. Democratization in 1994 caused substantial changes as the South African Police Service (SAPS) went through a large-scale transformation process (Newham, 2000). The restructuring of the SAPS resulted in many unintended consequences, including the loss of valuable skills. The transformation created a significant amount of doubt and insecurity in police officers, leading to feelings of vulnerability, exposure and a lack of control (Young et al., 2012). The unstable socio-political circumstances during the 1990s (Rauch, 2001) caused South Africa’s crime rate to surge, which added to the strain and anxiety experienced by the SAPS (Naido, 2006). Large scale urbanization, inequality, high levels of unemployment and racial tension created an environment of systemic and pervasive crime.

Police officers are often the first point of contact for people in distress and are often exposed to large scale trauma in their daily work. In an effort to protect and maintain the psychological wellbeing of police officers, the SAPS has created numerous units to assist police officers in coping with their job. For example, Psychological Services, Chaplain Services and Social Service all represent the helping services of the SAPS. One of the main objectives of their interventions is to assist police officers to adopt pro-active rather than maladaptive and potentially ineffective coping strategies such as substance abuse, domestic violence and suicide ideation. The goals of this study were to investigate (a) the extent to which newly recruited police officers utilise different types of coping strategies, and (b) changes in the adoption of these strategies over time. These are important research questions that have not been explored sufficiently in the scholarly literature. Answering them is critically important in understanding and promoting a psychologically healthy police service.

Coping in the Police Environment

Coping is a process of cognitive and behavioural efforts to manage stress in a way that minimizes the effects of the stressor (Lazarus & Folkman, 1984). Current literature suggests
that coping with stress is a process that unfolds over time (Folkman, 2011) as an individual appraises the situation to determine whether, and to what extent, it will have an influence on his wellbeing (Folkman, Lazarus, Gruen & DeLongis, 1986). Individuals change their appraisals based on the assessment of available coping resources (Folkman, 2011). The context in which the coping occurs as well as the skill with which it is applied influences the outcome of the coping strategy (Folkman & Lazarus, 1986; Lazarus, 1993).

Various studies have found that certain coping strategies assist police officers in coping with their stressors. Problem-focused coping strategies yield positive outcomes (Gumani, Fourie & Terre Blanche, 2013; LeBlanc, Regehr, Jelley & Barath, 2008; Naudé, 2003; Rothmann, Jorgensen & Hill, 2011), specifically in reducing suicide ideation (de Wet, 2004; Van der Merwe, Rothmann & Pienaar, 2004), and in promoting overall wellbeing (Hart, Wearing & Headey, 1995). Planful problem-solving (Moller, 2008; Violanti, 1992, 1993) and confrontation (Aaron, 2000) lead to healthier ways of dealing with the stress. Leisure coping improves the wellbeing and psychological health of police officers (Iwasaki, Mannell, Smale & Butcher, 2002). Mostert and Joubert (2005) found that approach coping strategies, such as active coping and turning to religion, reduced the level of burnout of police officers.

Although emotion-focused coping strategies have been found to be maladaptive in certain contexts, they have also been shown to relieve officers’ stress. Support from supervisors reduced the levels of stress (Morash, M., Kwak, D.-H., Hoffman, V., Lee, C. H., Cho, S. H., & Moon, B., 2008) and seeking social support buffered the effects of stress on police officers (de Jager, 2002; Patterson, 2003; Violanti, 1993) and reduced the level of burnout (Mostert & Joubert, 2005). Receiving emotional support reduced the levels of exhaustion in officers in the SAPS (Nortje, 2003), predicted work engagement (Rothmann et al., 2011) and also moderated the effect of stress on professional efficacy (Klopper, 2003). According to Folkman and Moskowitz (2000), positive reappraisal is usually seen as an adaptive coping response but can be maladaptive in certain situations.

Although the helping services in the SAP promote adaptive coping strategies, many police officers continue to use ineffective, maladaptive and even self-defeating coping strategies. Emotion-focused coping strategies (Lazarus & Folkman, 1984) are often seen as maladaptive coping responses. Hart et al. (1995) argue that distancing and confrontive coping are generally associated with less adaptive coping as these methods can result in individuals becoming even more distressed, causing greater police trouble and in effect leading to greater levels of
psychological stress (Lazarus, 1993). Distancing and avoidance have particularly strong maladaptive potential in the policing context (Violanti, 1993). Avoidance has been linked to psychosomatic symptoms, work-family conflict (Burke, 1998), psychological distress and depression (Aaron, 2000; Moller, 2008), PTSD (LeBlanc et al., 2008; Ménard & Arter, 2013), burnout (Naudé, 2003) and suicide ideation (Pienaar, Rothmann & van de Vijver, 2007). Officers who used avoidance coping had high levels of cynicism and exhaustion combined with lower feelings of accomplishment and professional efficacy (Klopper, 2003; Myendeki, 2008; Nortje, 2003; Wiese, Rothmann & Storm, 2003). It is suggested that avoidance is the least effective coping strategy for relieving stress (Violanti, 1992, 1993).

The most frequently used strategies for dealing with stress and trauma are reported to be problem-focused coping (Pienaar & Rothmann, 2003), and specifically confrontive coping (Cronqvist, Klang & Björvell, 1997; Gumani et al., 2013), active coping (a form of problem-focused coping) (Sundaram & Kumaran, 2012), accepting responsibility (Roth, & Cohen, 1986), planful problem-solving (Moller, 2008; Richter, Lauritz, du Preez, Cassimjee & Ghazinour, 2013; Violanti, 1993) and self-control (Moller, 2008; Soraya, 2013; Violanti, 1993). Most used among the emotion-focused coping strategies are situational tolerance, a sense of responsibility, positive reappraisal and seeking social support (Gumani et al., 2013; Moller, 2008; Richter et al., 2013). Various studies indicated that many officers use avoidance coping strategies (Myendeki, 2008; Violanti, 1993), especially when the situation is unique (de Wet, 2004).

Coping strategies used least include the maladaptive strategies of disengagement, denial, avoidance, distancing (Bishop et al., 2001; Gumani et al., 2013; Richter et al., 2013), seeking social support, self-blame, and tension reduction (Larsson, Kempe & Starrin, 1988). The coping strategies of accepting responsibility and confrontive coping, which are sometimes seen as adaptive coping strategies (Gumani et al., 2013; Moller, 2008; Richter et al., 2013; Soraya, 2013), were found to be used least by police officers.

**Changes in coping strategies**

There is evidence that the manner in which individuals perceive and deal with stressful encounters changes over time. In general, seeking social support seems to be inconsistent in different contexts and is more prone to change over time while the coping strategy of positive reappraisal is moderately consistent (Lazarus, 1993).
Although only limited research has investigated the changing coping methods of police officers, Laguna, Linn, Ward and Rupslaukyte (2009) established that more experienced police officers have significantly greater hysterical reactions than new officers when dealing with stressful occasions. Laguna et al. (2009) argue that this could be because new officers may feel brave and well-equipped to deal with a situation, while more experienced officers might be conscious of their limitations and the difficulties of the situation. They further argue that traumatic memories may be aroused when experienced police officers are exposed to a repeat of traumatic and stressful events and they will therefore tend to react less calmly. Waters and Ussery (2007) found that a police officer’s level of resilience decreases with the length of service.

A study conducted in the SAPS found that over a period of six months self-controlling coping decreased and accepting responsibility increased in police officers (Soraya, 2013). Soraya found that officers’ coping strategies changed from emotion-focused strategies to more problem-focused coping. Pienaar and Rothmann (2003) argue that an explanation might be that emotions are not typically acceptable in the police environment. Larsson et al. (1988) found that older and more experienced police officers may appraise situations differently due to a developed ability to distance themselves from the situation. Similarly, Moller (2008) found that older police officers made more use of planful problem-solving, distancing, and escape avoidance.

Various police studies on stress and coping have been performed internationally, but limited research has been conducted on the coping strategies used in the SAPS. The longitudinal nature of this study particularly adds value in understanding the way in which officers’ coping changes over time. The objectives of this study were to investigate what coping methods police officers use predominantly when experiencing stress, to determine whether the dominant coping methods are adaptive or maladaptive and to investigate how the coping methods change over time spent in the SAPS.

METHOD

Participants
This study formed part of an international collaboration between the University of Pretoria, South Africa and the University of Umeå, Sweden. The data were collected on three separate occasions from three different samples. The first sample (T1) consisted of 1280 police recruits
who were enrolled as police trainees in a population of 28 000 police candidates selected nationally out of 70 000 applicants. The second sample (T2) consisted of 463 police trainees of the first sample undergoing practical training at different training sites. The last sample (T3) consisted of 120 police officers, of the initial sample, who had spent two years in the field at various police stations in South Africa. The sample of 120, which was included in all three time periods, was used in this study. Table 1 summarises the demographic characteristics of the sample at T3.

**TABLE 1 ABOUT HERE**

**Instruments**
The Ways of Coping questionnaire (WCQ) English version (Folkman & Lazarus, 1988) was used to collect data on how individuals cope with difficult situations. The questionnaire contains 66 items that are rated on a 4-point Likert scale. It consists of eight coping scales, namely confrontive coping, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, planful problem-solving and positive reappraisal. The WCQ has been translated into numerous languages including Dutch, Hebrew, Spanish, French, and German (Folkman & Lazarus, 1988). A number of studies (Folkman & Lazarus, 1985 (0.58-0.85), Folkman & Lazarus, Dunkel-Schetter, DeLongis & Gruen, 1986, (0.61-0.79), Hays, All, Mannahan, Cuaderes, and Wallace, 2006, (0.63-0.79) have reported alpha coefficients for the WCQ. In a meta-analytic review of the WCQ (Rexrode, K. R., Petersen, S. & O’Toole, S., 2008), in which the sample size (k) ranged from 80 to 106 (median: 0.83), the median of alphas for the eight WCQ subscales was 0.68, with a range of 0.62 to 0.77 for adults. Table 2 depicts an overview of the reliability coefficients reported in the meta-analytic review (Rexrode et al., 2008) as well as the alpha coefficients found in this study over the three time periods.

**TABLE 2 ABOUT HERE**

**Procedure**
The data were collected at three points in time through convenience sampling using surveys that the participants completed voluntarily. The first set of data (T1) was collected in July 2006 when newly enrolled students at the Police College in Pretoria were assessed by means of a
test battery\textsuperscript{1}. A second data collection (T2) followed at the end of their theoretical training in December 2006 and a third data collection (T3) was performed between 2008 and 2010 after these officers had worked in the field.

**Ethical considerations**
Informed consent was obtained from all the participants. The study has received ethical clearance from the Research Ethics Committee of the University of Pretoria and has been approved by the Office of Strategic Research, SAPS.

**Data analysis**
SPSS version 23 was used to analyse the data. Firstly, exploratory factor analysis was performed to confirm the stability of Folkman and Lazarus's (1988) factor structures over the three time periods. Two of the factors, namely distancing and self-controlling, did not yield constant factor structures over the three time periods and were excluded from the study. Maximum Likelihood was used as an estimator and the data were rotated by means of Promax rotations. The pattern matrices were analysed to check for salient factor loadings of items on dimensions.

The averages of the mean values were independently analysed over the three time periods and were used to determine the prominence of each coping process. The data did not fulfill the assumptions of parametric data and therefore the Friedman test, a non-parametric one-way repeated measure of variance, was conducted to determine whether there are differences in the coping responses over the three time periods (Field, 2009).

Secondly, a non-parametric post-hoc test, the Wilcoxon signed-rank test, was administered to indicate when the significant differences occurred. The coping constructs in T1, the baseline, were compared to the constructs of T2 to determine whether there was an immediate effect of change on the construct. Coping in T1 was compared with the constructs in T3. Significant results were indicative of long-term effects. A Bonferroni correction was applied to the post-hoc test to guard against Type I errors (Field, 2009). Cohen’s $d$ was used to indicate the

\begin{footnotesize}
\textsuperscript{1} The Ways of Coping Questionnaire (WCQ) was one of the instruments used in the battery of assessments. The other instruments in the battery included the Symptoms checklist-90-R (SCL-90-R), the State Trait Anger Expression Inventory (STAXI), the Temperament and Character Inventory (TCI), the Spielberger Police Stress Survey and the Police Culture Questionnaire.
\end{footnotesize}
practical significance of the findings where 0.1 is seen as a small effect, 0.3 as a medium effect and 0.5 as a large effect (Cohen, 2013).

RESULTS

Factor analysis and prominence of coping styles
During the process of factor analysis, problematic items and two of the factors, namely distancing and self-controlling, were removed since they did not yield stable factor structures. The coping methods used most frequently, as indicated in Table 3, were seeking social support, planful problem-solving and positive reappraisal, while the coping styles used least were escape avoidance, followed by accepting responsibility and confrontive coping.

[TABLE 3 ABOUT HERE]

[TABLE 4 ABOUT HERE]

[TABLE 5 ABOUT HERE]

Changes in coping styles
The results of the Friedman test (Table 4) indicate that police officers accepted significantly less responsibility after each successive time period ($\chi^2 = 13.1, p < .05$). The Wilcoxon analysis (Table 5) shows that accepting responsibility declined from T1 to T2 ($Z = -1.785, p = 0.074$) and declined significantly from T2 to T3 ($Z = -2.948, p = 0.003$).

The Friedman test indicates a significant difference in the use of confrontive coping ($\chi^2 = 12.05, p < .05$). The Wilcoxon signed ranks test indicated a significant decline from T1 to T2 ($Z = 2.948, p = 0.013$) and an even larger decline from T2 to T3 ($Z = -3.323, p = 0.01$).

There was a significant difference in the usage of positive reappraisal over the three time periods ($\chi^2 = 6.06, p < 0.5$). The Wilcoxon results indicated that there was a significant decline in T2 ($Z = -1.797, p = 0.027$) and a further significant decline in T3 ($Z = -2.53, p = 0.11$).

Although the Friedman test indicated a statistically significant difference in the use of planful problem-solving ($\chi^2 = p < 0.5$), the Wilcoxon signed ranks test indicated a non-statistically significant increase from T1 to T2, and a decline from T2 to T3 ($Z = -2.197, p = 0.028$). Seeking
social support increased non-significantly from T1 to T2 and thereafter decreased sharply from T2 to T3. Finally, there was a non-statistically significant increase in the use of escape avoidance over the years.

The effect sizes for the constructs accepting responsibility ($r = -0.08$), confrontive coping ($r = -0.09$), planful problem-solving ($r = -0.06$), and positive reappraisal ($r = -0.07$) were very small. The practical significance of the changes over a time period is thus very small.

**DISCUSSION**

The purpose of this study was to investigate police officers’ coping responses in order to determine whether these responses are adaptive or maladaptive and to investigate how coping responses change over time. The study shows that the coping responses of seeking social support, planful problem-solving, and positive reappraisal were used most often by officers. The prominent use of seeking social support (Gumani et al., 2013; Richter et al., 2013), planful problem-solving (Moller, 2008; Richter et al., 2013; Violanti, 1993), and positive reappraisal (Bishop et al., 2001; du Preez, Cassimjee, Lauritz, Ghazinour & Richter, 2011; Violanti, 1993) as coping responses supports previous research. Violanti suggested that the use of positive reappraisal among police officers might be due to their newly acquired abilities to solve problems and their perception of maturity in their ability.

The methods used least by officers were escape avoidance, followed by accepting responsibility and confrontive coping. The low use of avoidance is supported by previous studies (Bishop et al., 2001; du Preez et al., 2011; Larsson et al., 1988; Moller, 2008). Richter et al. (2013) found that avoiding was infrequently used. Paulsen (2008) also reports limited use of avoidance coping strategies among police officers in Cape Town, which he finds surprising, given the prevalence of both physical and psychological disorders within the police context. This is somewhat troubling since reality avoidance seems to be particularly effective in mitigating the stress-strain sequence (Anshel, 2000; Roth & Cohen 1986). Conversely, other studies have found that avoidance is frequently used among officers (de Wet, 2004; Myendeki, 2008; Violanti, 1993). The low use of accepting responsibility confirms previous research findings (du Preez et al., 2011; Violanti, 1993).

Although existing literature suggests that seeking social support alleviates stress, buffers against suicide ideation, and predicts work engagement, the change over time was minimal in
the current study. That does not mean that it is not an important strategy, but merely that the use of the strategy changed relatively little over time for newly recruited police officers. This is somewhat expected since most police officers are dependent on social networks as first and last resort for support in dealing with trauma (Stephens & Long, 2007). What is less clear is what behaviour police officers engage in to gain access to the social support that they need to cope with their work. This behaviour can probably be categorised as being either adaptive or maladaptive, depending on the specific context.

Similarly, planful problem-solving and positive reappraisal are mostly seen as positive ways of dealing with difficult situations (Folkman et al., 1986). Positive reappraisal allows an individual to alter negative emotions to become less negative, while planful problem-solving in particular specifically significantly reduces stress amongst officers. The results from this study showed that recruits made use of planful problem solving and positive reappraisal initially, but this changed over time. One possible explanation for this may be that police officers have no authority to plan their work activities. If police officers are not given the latitude to make decisions in order to creatively solve problems associated with their work, they may become discouraged from engaging in this coping strategy. Hackman and Oldham (2010) explain that when employees have considerable freedom, independence and discretion in determining how to carry out their tasks, they have an increased feeling of responsibility for the outcomes, which in effect also increases their intrinsic motivation.

The use of confrontive coping declined significantly during the time the trainees spent in the training college and there was an even greater decline when the police officers were working in the field. An explanation for this might be that when police officers experience chronic stress over a long period of time they become burnt out and as a result become detached from their work and therefore confront their problems less.

Finally, there was a non-significant increase in the use of escape avoidance when the recruits joined the training academy and an even greater increase when they were working in the field, implying that police officers attempt to escape their reality in order to deal with their anxieties. Violanti (1992) argued that the high use of avoidance might be due to the strict control in the police environment. In contrast, Pienaar and Rothmann (2003) and Moller (2008) found that senior officers used escape avoidance less than younger officers. Pienaar and Rothmann (2003) argued that this difference might be due to the different types of duties senior superintendents
need to perform as opposed to the duties performed by senior officers. The effect of time on the use of avoidance is thus not clear.

The practical significance of the changing nature of the coping styles indicates a small effect according to Cohen’s $d$ (Cohen, 2013). This may in part be explained by the low statistical power at T3. However, the pattern of utilisation of coping styles appears to differ in complex ways over the career span of police officers. What is particularly concerning is the decrease in problem-solving over time. The reduction in this adapting coping response may signal an overly rigid autocratic management style that stifles creativity in dealing with problems or a degree of learned helplessness of police officers due to prolonged exposure to occupational stressors. Thus, police officers who have longer periods of tenure seem to avoid responsibility in making decisions out of fear of failure or punitive disciplining.

A drawback of the longitudinal design of this study is that the sample size decreased on successive sampling occasions. The sample on the third occasion was relatively small in comparison to the first two samples. However, this is typical of longitudinal studies where the turnover of participants is quite high. Another limitation of this study might be that the instrument used is a retrospective measure and would not give data as accurate as would a measure of momentary account. In addition, the data obtained in this study relies on self-report and it might not be entirely accurate as it depends on individuals’ memories and is susceptible to social desirability (Larsson et al., 1988).

CONCLUSION

The findings indicate that police officers mostly use seeking social support, planful problem solving and positive reappraisal to cope with stressful occurrences. These coping methods are mainly seen as adaptive ways of dealing with stress. The coping responses used least by police officers included escape avoidance, followed by accepting responsibility and confrontive coping. The findings indicate that over time police officers changed the way in which they cope with stressful situations. As the time spent in the SAPS increased, officers accepted less responsibility, confronted their problems to a lesser degree, and viewed their situations as less positive. They also relied more on planful problem-solving, escape avoidance, and seeking social support.
REFERENCES


### Table 1: Characteristics of the participants during Time 3 (n = 120)

<table>
<thead>
<tr>
<th>Item</th>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>50</td>
<td>41.7</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>70</td>
<td>58.3</td>
</tr>
<tr>
<td>Race</td>
<td>Black</td>
<td>117</td>
<td>97.5</td>
</tr>
<tr>
<td></td>
<td>White &amp; Indian</td>
<td>3</td>
<td>2.5</td>
</tr>
<tr>
<td>Qualification</td>
<td>lower than gr 12</td>
<td>4</td>
<td>3.3</td>
</tr>
<tr>
<td></td>
<td>Gr12</td>
<td>83</td>
<td>69.2</td>
</tr>
<tr>
<td></td>
<td>Gr 12 with exemption</td>
<td>8</td>
<td>6.7</td>
</tr>
<tr>
<td></td>
<td>1-2 years diploma</td>
<td>14</td>
<td>11.7</td>
</tr>
<tr>
<td></td>
<td>3 years diploma</td>
<td>9</td>
<td>7.5</td>
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<td></td>
<td>Post graduate degree or higher</td>
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<td>1.7</td>
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<tr>
<td>Home language</td>
<td>English</td>
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<td>0.8</td>
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<td></td>
<td>Afrikaans</td>
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<td>0.8</td>
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<td></td>
<td>Xhosa</td>
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<td></td>
<td>Zulu</td>
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<td>7.5</td>
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<td></td>
<td>Sesotho</td>
<td>4</td>
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<td></td>
<td>Setswana</td>
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<td>Swati</td>
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<td>Ndebele</td>
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<td></td>
<td>Sepedi</td>
<td>22</td>
<td>18.3</td>
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<tr>
<td>Total</td>
<td></td>
<td>120</td>
<td>100</td>
</tr>
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</table>

### Table 2: Alpha coefficients of the WCQ constructs

<table>
<thead>
<tr>
<th></th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>Analytic study review*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accepting responsibility</td>
<td>.49</td>
<td>.57</td>
<td>.48</td>
<td>.64</td>
</tr>
<tr>
<td>Confrontive coping</td>
<td>.42</td>
<td>.49</td>
<td>.53</td>
<td>.62</td>
</tr>
<tr>
<td>Planful problem-solving</td>
<td>.52</td>
<td>.58</td>
<td>.61</td>
<td>.71</td>
</tr>
<tr>
<td>Positive reappraisal</td>
<td>.71</td>
<td>.68</td>
<td>.77</td>
<td>.70</td>
</tr>
<tr>
<td>Seeking social support</td>
<td>.71</td>
<td>.73</td>
<td>.74</td>
<td>.77</td>
</tr>
<tr>
<td>Escape avoidance</td>
<td>.71</td>
<td>.70</td>
<td>.68</td>
<td>.75</td>
</tr>
</tbody>
</table>

*Rexrode et al. (2008)
### Table 3: Usage (mean values) of coping methods from most to least

<table>
<thead>
<tr>
<th>Coping response</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>Average</th>
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</thead>
<tbody>
<tr>
<td>Seeking social support</td>
<td>3.23</td>
<td>3.24</td>
<td>2.99</td>
<td>3.15</td>
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<tr>
<td>Planful problem-solving</td>
<td>3.16</td>
<td>3.15</td>
<td>2.97</td>
<td>3.09</td>
</tr>
<tr>
<td>Positive reappraisal</td>
<td>3.16</td>
<td>3.15</td>
<td>2.97</td>
<td>3.09</td>
</tr>
<tr>
<td>Confrontive coping</td>
<td>2.85</td>
<td>2.79</td>
<td>2.57</td>
<td>2.74</td>
</tr>
<tr>
<td>Accepting responsibility</td>
<td>2.64</td>
<td>2.58</td>
<td>2.29</td>
<td>2.50</td>
</tr>
<tr>
<td>Escape avoidance</td>
<td>2.05</td>
<td>2.08</td>
<td>2.23</td>
<td>2.12</td>
</tr>
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</table>

### Table 4: Friedman tests statistics

<table>
<thead>
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<th>Coping response</th>
<th>Chi-Square</th>
<th>Df</th>
<th>Asymp. Sig.</th>
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<tbody>
<tr>
<td>Accepting responsibility</td>
<td>13.102</td>
<td>2</td>
<td>0.001*</td>
</tr>
<tr>
<td>Confrontive coping</td>
<td>12.053</td>
<td>2</td>
<td>0.002*</td>
</tr>
<tr>
<td>Planful problem-solving</td>
<td>7.679</td>
<td>2</td>
<td>0.022*</td>
</tr>
<tr>
<td>Positive reappraisal</td>
<td>6.055</td>
<td>2</td>
<td>0.048*</td>
</tr>
<tr>
<td>Escape avoidance</td>
<td>4.195</td>
<td>2</td>
<td>0.123</td>
</tr>
<tr>
<td>Seeking social support</td>
<td>1.903</td>
<td>2</td>
<td>0.386</td>
</tr>
</tbody>
</table>

* p < 0.05 statistically significant

### Table 5: Test statistics from the Wilcoxon signed ranks

<table>
<thead>
<tr>
<th></th>
<th>Time 1 - Time 2</th>
<th>Time 1 – Time 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Z</td>
<td>p-value</td>
</tr>
<tr>
<td>Accepting responsibility</td>
<td>-1.785</td>
<td>0.074</td>
</tr>
<tr>
<td>Confrontive coping</td>
<td>-2.478</td>
<td>0.013*</td>
</tr>
<tr>
<td>Planful problem-solving</td>
<td>-1.081</td>
<td>0.28</td>
</tr>
<tr>
<td>Positive reappraisal</td>
<td>-1.797</td>
<td>0.072</td>
</tr>
<tr>
<td>Seeking social support</td>
<td>-0.399</td>
<td>0.69</td>
</tr>
<tr>
<td>Escape avoidance</td>
<td>-0.12</td>
<td>0.904</td>
</tr>
</tbody>
</table>

*p < 0.025 statistically significant