THE RELATIONSHIP BETWEEN BURNOUT, PERSONALITY TRAITS AND COPING STRATEGIES IN A CORPORATE PHARMACEUTICAL GROUP

K. STORM
S. ROTHMANN
WorkWell: Research Unit for People, Policy and Performance,
Faculty of Economic and Management Sciences
PU for CHE

ABSTRACT

The objective of this research was to determine the relationship between burnout, personality traits and coping strategies. A survey design was used. The study population consisted of 131 employees in a corporate pharmaceutical group. The Maslach Burnout Inventory, NEO Personality Inventory Revised and COPE were administered. Active coping strategies were associated with Emotional Stability, Extraversion, Openness to Experience and Conscientiousness, while passive coping strategies were associated with Neuroticism, low Agreeableness and low Conscientiousness. Emotional Stability, Extraversion, Openness to Experience, Agreeableness and Conscientiousness were associated with lower emotional exhaustion and depersonalisation and higher personal accomplishment. Constructive coping strategies were associated with personal accomplishment.

OPSOMMING

Die doelstelling van hierdie navorsing was om te bepaal of daar 'n verband tussen uitbranding, persoonlikheidstrekke en coping-strategieë bestaan. 'n Opnameontwerp is gebruik. Die ondersoekgroep het bestaan uit 131 werknemers van 'n korporatiewe apteekgroep. Drie vraelyste is gebruik, naamlik die Maslach-Uitbrandingsvraelys, die NEO Personality Inventory Revised en die COPE. Aktiewe coping-strategieë is geassosieer met Emosionele Stabiliteit, Ekstroversie, Openheid vir Ervaring en Konsensieusheid, terwyl passiewe coping-strategieë geassosieer is met Neurotisisme, lae Inskiklikheid en lae Konsensieusheid. Emosionele Stabiliteit, Ekstroversie, Openheid vir Ervaring, Inskiklikheid en Konsensieusheid is geassosieer met lae emosionele uitputting, lae depersonalisasie en hoë persoonlike bereiking. Konstruktiewe coping-strategieë is geassosieer met persoonlike bereiking.

The work environment in which employees currently function demands more of them than it did in any previous period. Employees in pharmaceutical companies have to cope with the demands that arise from fulfilling various roles, as well as with increased pressures such as managed health care and primary health care. Tracking and addressing their effectiveness in coping with new demands and stimulating their growth in areas that could possibly impact on the standard of pharmaceutical services is therefore of great importance (Gupchup, Singhal, Dole & Lively, 1998). One area that should be researched in this regard is burnout.

Burnout has been recognised as a serious threat, particularly for employees who work with people (Van Dierendonck, Schaufeli & Buunk, 1993). Burnout is conceptualised as a syndrome of emotional exhaustion and cynicism that occurs frequently among individuals who do "people work" of some kind (Maslach & Jackson, 1981). It is the end result of consistently unsuccessful attempts at mediating stressors in the environment on the part of the individual (Levert, Lucas & Ortlepp, 2000). Burnout is generally viewed as a syndrome consisting of three dimensions: emotional exhaustion, depersonalisation and reduced personal accomplishment (Maslach & Jackson, 1986).

Research over the past two decades has shown that burnout is not only related to negative outcomes for the individual – including depression, a sense of failure, fatigue and loss of motivation – but also to negative outcomes for the organisation, including absenteeism, turnover rates and lowered productivity (Schaufeli & Enzmann, 1998). According to Levert et al. (2000), burned-out workers show a lack of commitment and are less capable of providing adequate services, especially along dimensions of decision making and initiating involvement with clients (Maslach, 1982). According to Sammut (1997), burned-out workers are also too depleted to give of themselves in a creative, co-operative fashion.

In the literature, high levels of burnout are associated with ineffective coping strategies (Rowe, 1997) and low degrees of burnout with more constructive coping strategies (Maslach & Jackson, 1982). Rowe (1997) also demonstrated the importance of teaching individuals with limited coping skills to alter the way in which they currently address problems. Alsoofi, Al-Heeti and Alwashli (2000) found a significant correlation between ways of coping and burnout, while de Rijk, Le Blanc and Schaufeli (1998) argue that utilising active coping strategies buffers the effects of job stressors on negative job-related outcomes like burnout.

On the presumption that personality traits are related to coping strategies and burnout, the five-factor model (FFM) of personality traits is used as theoretical framework in this study. Research has found that five factors provide a useful typology or taxonomy for classifying them and are labelled "the Big Five" (McCrae & Costa, 1987; McCrae & John, 1992). The five-factor personality traits include Neuroticism, Extraversion, Openness to Experience, Agreeableness and Conscientiousness (McCrae & Costa, 1987).

Burnout, personality traits and coping

Burnout could be seen as a metaphor commonly used to describe a state or process of mental exhaustion, similar to the smothering of a fire or the extinguishing of a candle (Schaufeli & Buunk, 1996). Probably the most frequently cited definition of burnout comes from Maslach and Jackson (1986, p.1): "Burnout is a syndrome of emotional exhaustion, depersonalisation, and reduced personal accomplishment that can occur among individuals who do 'people work' of some kind." The three dimensions entail the following (Maslach, 1982; Maslach & Jackson, 1986):

- Emotional exhaustion is believed to be at the core of burnout. Individuals experiencing emotional exhaustion in their jobs report overwhelming feelings of emotional strain, as well as feelings of being drained and used up, irritability and frustration.

- Depersonalisation refers to the development of negative, impersonal and cynical attitudes and feelings about recipients in which the employee treats others like objects.
- Reduced personal accomplishment is the tendency to evaluate oneself negatively, particularly with regard to one's work with clients.

Burnout should be distinguished from concepts such as stress and depression. According to Lazarus and Folkman (1984), occupational stress occurs when job demands tax or exceed the person's adaptive resources. Stress is thus a generic term that refers to the temporary adaptation process that is accompanied by mental and physical symptoms and is caused by an imbalance between job demands and the response capability of the worker. In contrast, burnout can be considered as a final stage in a breakdown in adaptation that results from the long-term imbalance of demands and resources and is accompanied by chronic malfunctioning at work. Burnout can thus be considered as a particular kind of prolonged job stress (Brill, 1984), or the consequence of chronic, ongoing stress.

According to Schaufeli and Enzmann (1998), burnout tends to be jobrelated and situationspecific rather than pervasive. In contrast, depression generalises across situations and other spheres of life. Unlike depression – a mental disorder with pervasive influence on a full range of life activities – burnout has been conceptualised as primarily influencing human service workers' thoughts and feelings about professional performance (Leiter & Maslach, 1988). Depression is also most often accompanied by guilt, whereas burnout generally occurs in the context of anger (Freudenberger & Richelson, 1990). However, burnout and depression also overlap to a certain extent. Schaufeli and Enzmann (1998) showed that emotional exhaustion (a component of burnout) and depression share on an average 26% of their variance. The relationships with other burnout components such as depersonalisation and personal accomplishment are much weaker.

The FFM is often used in research regarding personality in organisations. According to the FFM, personality consists out of the following traits (McCrae & Costa, 1987):
- Neuroticism. Individuals measuring high on Neuroticism are characterised by a tendency to experience negative emotions such as anxiety, depression or sadness, hostility and self-consciousness, as well as a tendency to be impulsive.
- Extraversion. Those high in Extraversion tend to experience positive emotions and to be warm, gregarious, fun-loving and assertive.
- Openness to Experience. People high in Openness to Experience are inclined to be curious, imaginative, empathetic, creative, original, artistic, psychologically minded, aesthetically responsive and flexible.
- Agreeableness. Agreeableness reflects a proclivity to be good-natured, acquiescent, courteous, helpful, flexible, co-operative, tolerant, forgiving, soft-hearted and trusting.
- Conscientiousness. Those high on Conscientiousness have a tendency to be habitually careful, reliable, hard-working, well-organised and purposeful.

Several researchers (e.g. Deary et al., 1996; Hills & Norvell, 1991; Mills & Huebner, 1998) have found that Neuroticism is positively related to burnout. Grundy (2000) found that, Neuroticism predicted approximately 21% of the variance in emotional exhaustion, 9% of the variance in depersonalisation, and almost 7% of the variance in personal accomplishment. It appears as if a negative relation exists between Extraversion and burnout, and that higher levels of burnout are associated with tendencies to be low on Agreeableness (Mills, 1995). Schaufeli and Enzmann (1998) found that emotional exhaustion is positively related to Neuroticism and Openness (33% shared variance), depersonalisation is positively related to Neuroticism and negatively to Agreeableness (20% shared variance), and personal accomplishment is significantly related to Neuroticism,

Extraversion, Openness and Conscientiousness (25% shared variance). Mills and Huebner (1998) found that emotional exhaustion also correlated significantly with Extraversion, Agreeableness and Conscientiousness. Depersonalisation was also related to Agreeableness, and reduced personal accomplishment was related to Extraversion.

Folkman, Lazarus, Gruen and DeLongis (1986, p. 572) define coping as "the person's cognitive and behavioural efforts to manage (reduce, minimise, or tolerate) the internal and external demands of the person-environment transaction that is appraised as taxing or exceeding the person's resources". Coping also refers to perceptual, cognitive or behavioural responses that are used to manage, avoid or control situations that could be regarded as difficult (Moos, 1994; Zeidner & Endler, 1996).

According to Carver, Scheier and Weintraub (1989), individuals have consistent coping preferences or dispositions that are employed across a wide range of situations. Furthermore, McCrae and Costa (1986) and Bishop et al. (2001) point out that such coping preferences are associated with personality traits. Studies measuring coping dispositions have done so by instructing the participants to think about the ways in which they usually deal with stress (Carver et al., 1989). The dispositional version of the Coping Orientation to Problems Experienced (COPE) scale (Carver et al., 1989) is one such inventory.

The empirical studies designed to investigate the relation of coping efforts and burnout (Etzion & Pines, 1986; Pines, Aronson & Kafry, 1981; Shinn, Rosario, Morch & Chestnut, 1984) yielded inconsistent findings. Shinn et al. (1984) found no relation between coping strategies and burnout, whereas Pines and her colleagues (Etzion & Pines, 1986; Pines et al., 1981) found that active coping efforts, such as confronting the problem, were associated with lower levels of burnout, and inactive efforts such as avoidance were associated with higher levels of burnout.

Lauzon (1991) conducted a study among 173 nurses and found that escape/avoidance and confrontational coping were predictive of burnout. Planful problem-solving and positive reappraisal were negatively related to burnout. Teague (1992) found that those who utilised more emotion-oriented coping styles reported the highest amount of burnout.

Duquette, Kerouac, Sandhu, Ducharme and Saulnier (1995) reported that nurses using avoidance strategies or responses such as escape, inhibition and blaming others are more susceptible to burnout, yet those using active coping methods such as positive appraisal and objective analysis of stressful events are less prone to burnout. A review of 12 studies revealed that those who are burned out cope with stressful events in a rather passive, defensive way, whereas active and confronting coping is associated with less burnout (Schaufeli & Enzmann, 1998). Both confronting coping and avoidance coping share about 5-10% of the variance of emotional exhaustion and depersonalisation.

According to Rowe (2000), individuals using proactive strategies were more able to effectively cope with stressors, felt a greater sense of personal accomplishment and were less emotionally exhausted. Shaddock, Hill and Van Limbeek (1998) have found evidence for a link between the practice of religion, or having an ideology, and lower burnout scores, while Alsoofi et al. (2000) also found a significant correlation between ways of coping and burnout. Finally, Etzion (1984) and Leiter and Meechan (1986) reported that social support is associated with less burnout.

Some researchers have studied the relationship that exists between these personality traits and coping. The findings of several studies suggest that those who are high in Neuroticism are less likely to engage in problem-focused coping (Endler &

Parker, 1990; Parkes, 1986). Instead, they tend to rely on emotion-focused forms of coping, particularly ones that involve escape-avoidance and self-blame (Hooker, Frazier & Monahan, 1994; McCrae & Costa, 1986). Similarly, Carver et al. (1989) have shown that Neuroticism is positively related to behavioural disengagement, mental disengagement, denial and venting of emotion; they also have reported weaker negative correlations with active coping and positive reinterpretation (Scheier, Carver & Bridge, 1994).

High Extraversion is associated with problem-focused coping (Hooker et al., 1994; McCrae & Costa, 1986). Amirkhan, Risinger and Swickert (1995) found that Extraversion is related to social support-seeking. Rim (1987) reported that Extraversion is related to problem-focused coping and positive thinking. Extraverts tend to engage in less avoidance and other maladaptive forms of emotion-focused coping.

Researchers have concluded that Openness to Experience has a relatively weak influence on coping responses (McCrae & Costa, 1986; Watson & Hubbard, 1996). However, Folkman et al. (1986) showed that open individuals might be expected to be particularly effective copers, able to utilise modes of coping, such as positive reappraisal, because they are described as creative, original and imaginative (Costa & McCrae, 1985).

According to Vickers, Kolar and Hervig (1989), Agreeableness showed relatively modest associations with support seeking, problem solving and positive reappraisal. Hooker et al. (1994) found that those high on Agreeableness were more likely to cope via seeking support and less likely to utilise other forms of emotion-focused coping (e.g. avoidance). O'Brien and DeLongis (1996) found that individuals higher on Agreeableness engaged in more support seeking and less confrontation than those lower on Agreeableness.

According to Hooker et al. (1994), Conscientiousness is associated with problem-focused coping and less use of emotion-focused coping. O'Brien and DeLongis's (1996) findings suggest that those higher on Conscientiousness used significantly less escape-avoidance and less self-blaming strategies in coping across stressful situations than those lower on conscientiousness. Those higher on Conscientiousness also displayed a greater tendency to engage in problem solving.

Although the evidence to date indicates a strong relationship between burnout, personality traits and coping strategies the majority of the research studies have been conducted elsewhere in the world. It is not clear to what extent the results obtained can be generalised to South Africa. Because of the diversity between cultures in social behaviour and responses to situations it is risky to generalise findings across cultures without evidence to back up those generalisations (Bishop et al., 2001).

The objective of this research was to determine the relationship between burnout, personality traits and coping of employees in a corporate pharmaceutical group.

METHOD

Research design
A survey design was used to achieve the research objective (Shaughnessy & Zechmeister, 1997).

Participants
The participants were staff members of a corporate pharmaceutical group (N = 131). A total of 61,07% are married, while 81% of the sample consisted of females.

Measuring instruments
Three questionnaires were used, namely the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1986), the NEO Personality Inventory Revised (NEO-PI-R) (Costa & McCrae, 1992) and the COPE-Questionnaire (COPE) (Carver et al., 1989).

The *Maslach Burnout Inventory (MBI)* was used to determine participants' level of burnout. The MBI consists of three sub-scales: Emotional Exhaustion describes feelings of being emotionally overextended and exhausted by one's work; Depersonalisation describes an unfeeling and impersonal response towards recipients of one's care or service; Personal Accomplishment describes feelings of competence and successful achievement in one's work with people (Maslach & Jackson, 1986). Maslach and Jackson (1986) and Lahoz and Mason (1989) reported Cronbach alpha coefficients varying from 0,71 to 0,90. Test-retest reliability varies from 0,60 to 0,82 and 0,54 to 0,60 (applied after one year), which could be regarded as acceptable.

The *COPE* was used to measure participants' coping strategies. The COPE is a multidimensional 53-item coping questionnaire that indicates the different ways that people cope in different circumstances (Carver et al., 1989). The COPE, which was adapted for the purposes of this study measures eight coping strategies, namely Problem-solving (7 items), Seeking Support for Instrumental Reasons (4 items), Seeking Support for Emotional Reasons (4 items), Positive Reinterpretation and Growth (3 items), Acceptance (4 items), Turning to Religion (4 items), Focus on and the Venting of Emotions (3 items) and Denial (4 items). Carver et al. (1989) reported Cronbach alpha coefficients varying from 0,45 to 0,92. Test-retest reliability varies from 0,46 to 0,86 and 0,42 tot 0,89 (applied after two weeks). A second-order factor analysis, which was carried out on these scales for the purposes of this study, resulted in two factors with Eigenvalues higher than one. These factors can be labelled as Active Coping (five scales) and Passive Coping (three scales).

The *NEO Personality Inventory Revised (NEO-PI-R)* (Costa & McCrae, 1992) was used to measure the personality of employees based on the FFM of personality. According to Costa and McCrae (1992), the Cronbach coefficient alphas of the five personality traits vary from 0,86 (Openness to Experience) to 0,92 (Neuroticism). Costa and McCrae (1992) reported test-retest reliability coefficients (over six years) for Extraversion, Neuroticism and Openness to Experience varying from 0,68 to 0,83 and for Agreeableness and Conscientiousness (over three years) of 0,63 and 0,79 respectively. Satisfactory construct validity was found as well as predictive validity in relation with other criteria such as psychological well-being and Jungian types (Costa & McCrae, 1992).

Research procedure
The NEO-PI-R was administered eight months before the COPE and the MBI were administered. The rationale of this was to predict coping strategies and burnout of individuals after their personality traits and coping strategies have been measured.

Statistical analysis
The statistical analysis was carried out with the help of the SAS-program (SAS Institute, 2000). Cronbach alpha coefficients and interitem correlations were used to assess the internal consistency of the measuring instruments (Clark & Watson, 1995). Coefficient alpha conveys important information regarding the proportion of error variance contained in a scale. According to Clark and Watson (1995), the mean interitem correlation coefficient (which is a straightforward measure of internal consistency) is a useful index to supplement information supplied by coefficient alpha.

Descriptive statistics were used to analyse the data. Because a non-probability sample was used in this research, effect sizes (rather than inferential statistics) were used to decide on the significance of the findings. Pearson product-moment correlation coefficients were used to specify the relationships between the variables. A

cut-off point of 0,30 (medium effect, Cohen, 1988) was set for the practical significance of correlation coefficients.

Canonical correlation was used to determine the relationships between the dimensions of burnout, personality traits and coping strategies. The goal of canonical correlation is to analyse the relationship between two sets of variables (Tabachnick & Fidell, 2001). Canonical correlation is considered a descriptive technique rather than a hypothesis-testing procedure.

RESULTS

Table 1 shows the descriptive statistics, the Cronbach alpha coefficients and the mean inter-item correlation coefficients of the MBI, NEO-PI-R AND COPE.

TABLE 1
DESCRIPTIVE STATISTICS, ALPHA COEFFICIENTS AND INTER-ITEM CORRELATION COEFFICIENTS OF THE MBI, NEO-PI-R AND COPE

Item	Mean	SD	Skewness	Kurtosis	r (Mean)	α
MBI						
Emotional Exhaustion	15,84	10,64	0,78	0,21	0,44	0,88
Depersonalisation	4,78	4,83	1,28	1,08	0,34	0,70
Personal Accomplishment	34,24	9,15	-0,65	-0,10	0,33	0,80
COPE						
Problem-solving	21,17	3,62	-0,38	0,37	0,38	0,81
Seeking social support (instrumental)	11,38	2,80	-0,24	-0,55	0,50	0,80
Seeking social support (emotional)	11,15	3,24	-0,26	-0,86	0,58	0,85
Positive reinterpretation and growth	9,77	1,80	-0,89	1,24	0,43	0,69
Acceptance	11,55	2,36	0,02	-0,35	0,25	0,57
Turning to religion	13,92	2,66	-1,72	2,88	0,65	0,87
Denial	7,04	2,53	1,01	1,06	0,35	0,70
Focus on and venting of emotions	7,07	2,37	0,43	-0,39	0,51	0,75
NEO-PI-R						
Neuroticism	11,06	3,16	0,11	0,10	0,50	0,86
Extraversion	14,49	2,96	0,16	0,12	0,48	0,84
Openness to Experience	13,98	2,13	0,36	-0,20	0,37	0,78
Agreeableness	15,94	2,29	-0,05	0,42	0,34	0,74
Conscientiousness	16,66	2,16	-0,39	0,48	0,36	0,76

The MBI scores are normally distributed. The Cronbach alpha coefficients of the scales of the MBI in Table 1 are considered to be acceptable compared to the guideline of α > 0,70 (Nunnally & Bernstein, 1994). Furthermore, the inter-item correlations for the MBI are considered acceptable compared to the guideline of 0,15< r < 0,50 (Clark & Watson, 1995). It appears that the MBI has acceptable levels of internal consistency.

Table 1 shows that the most frequently used coping strategies used by participants are Turning to Religion (weighted mean = 3,48), Positive Reinterpretation and Growth (weighted mean = 3,26) and Problem-solving (weighted mean = 3,02). The alpha values are considered acceptable, although the alpha coefficient of Acceptance is somewhat lower than the guideline of α > 0,70 (Nunnally & Bernstein, 1994). The inter-item correlation coefficients vary between 0,25 (Acceptance) and 0,65 (Turning to Religion). It appears that the COPE has acceptable levels of internal consistency.

The alpha coefficients of the personality traits Neuroticism, Extraversion, Openness to Experience, Agreeableness and

Conscientiousness are 0,79, 0,89, 0,81, 0,86 and 0,77 respectively. Compared to the guideline of α > 0,70 (Nunnally & Bernstein, 1994), these coefficients are acceptable. The mean inter-item correlation coefficients of the personality traits compare favourably with the guideline of Clark and Watson (1995).

The product-moment correlation coefficients between the MBI, NEO-PI-R and the COPE are reported in Table 2.

TABLE 2
PRODUCT-MOMENT CORRELATION COEFFICIENTS BETWEEN THE MBI, THE NEO-PI-R AND THE COPE

Item	Emotional Exhaustion	Depersonalisation	Personal Accomplishment
COPE			
Problem-solving	-0,13	-0,11	0,28
Seeking social support (instrumental)	0,10	0,04	0,26
Seeking social support (emotional)	0,07	-0,04	-0,04
Positive reinterpretation and growth	-0,26	-0,18	0,36 *
Acceptance	-0,08	-0,06	0,15
Turning to religion	-0,15	-0,19	0,03
Denial	-0,00	-0,02	-0,23
Focus on and venting of emotions	0,16	0,06	-0,10
NEO-PI-R			
Neuroticism	0,21	0,21	-0,21
Extraversion	-0,31 *	-0,26	0,27
Openness to experience	-0,06	-0,03	0,34 *
Agreeableness	-0,19	-0,23	0,09
Conscientiousness	-0,21	-0,13	0,21

* Correlation is practically significant r > 0,30 (medium effect)

** Correlation is practically significant r > 0,50 (large effect)

Inspection of Table 2 shows that Personal Accomplishment is practically significantly related to Positive Reinterpretation and Growth. Furthermore, Emotional Exhaustion is practically significantly (negatively) related to Extraversion. Personal Accomplishment correlated practically significantly with Openness to Experience. Regarding effect sizes, all these values had medium effects.

Canonical correlation was performed between a set of personality traits and coping strategies, personality traits and burnout, as well as coping strategies and burnout using SAS CANCORR. Shown in the tables are correlations between the variables and canonical variates, standardised canonical variate coefficients, within-set variance accounted for by the canonical variates (percent of variance), redundancies and canonical correlations.

The results of the canonical analysis of personality traits and active coping are shown in Table 3. The first set of personality traits included Neuroticism, Extraversion, Openness to Experience, Agreeableness and Conscientiousness. The coping strategies set included Problem-solving, Turning to Religion, Positive Reinterpretation and Growth and Acceptance.

The first canonical correlation was 0,52 (27% overlapping variance); the second was 0,44 (19% overlapping variance). The other three canonical correlations were 0,33, 0,19 and 0,04. With all four canonical correlations included, $F_{(25, 436, 14)} = 3,53$, p (0,0001, and with the first canonical correlation removed, $F_{(16, 361, 13)} = 2,87$, $p < 0,0002$. Subsequent F-tests were not statistically significant ($p < 0,01$). The first two pairs of canonical variates, therefore, accounted for the significant relationships between the two sets of variables. Data on the first two pairs of canonical

variates appear in Table 3. Total percentage of variance and total redundancy indicate that that the first pair of canonical variates was moderately related, but the second pair was only somewhat related; interpretation of the second pair is questionable.

TABLE 3
RESULTS OF THE CANONICAL ANALYSIS:
ACTIVE COPING AND THE NEO-PI-R

	First Canonical Variate		Second Canonical Variate	
	Correlation	Coefficient	Correlation	Coefficient
Personality set				
Neuroticism	-0,87	-0,57	0,10	0,78
Extraversion	0,79	0,25	0,06	0,31
Openness to experience	0,33	0,27	-0,23	-0,43
Agreeableness	0,28	-0,00	0,74	0,88
Conscientiousness	0,72	0,31	0,35	0,45
Percent of variance	0,42		0,15	Total = 0,56
Redundancy	0,11		0,03	Total = 0,14
Coping set				
Problem-solving	0,69	0,27	0,09	-0,22
Seeking support for instrumental reasons	0,38	0,18	0,08	-0,05
Positive reinterpretation and growth	0,93	0,86	0,22	-0,14
Acceptance	0,40	-0,02	0,32	0,24
Turning to religion	0,20	-0,23	0,95	1,02
Percent of variance	0,34		0,21	Total = 0,55
Redundancy	0,09		0,04	Total = 0,13
Canonical correlation	0,52		0,44	

With a cut-off correlation of 0,30 the variables in the personality traits set that correlated with the first canonical variate were Neuroticism, Extraversion, Openness to Experience and Conscientiousness. Among the coping variables, Problem-solving, Seeking Support for Instrumental Reasons, Positive Reinterpretation and Growth and Acceptance correlated with the first canonical variate. The first pair of canonical variates indicates that emotional stability (low Neuroticism) (-0,87), Extraversion (0,79), Openness to Experience (0,33) and Conscientiousness (0,72) are associated with Problem-solving (0,69), Seeking Social Support for Instrumental Reasons (0,38), Positive Reinterpretation (0,93) and Acceptance (0,40).

The variables in the personality traits set that correlated with the second canonical variate were Agreeableness and Conscientiousness. Among the coping variables, Acceptance and Turning to Religion correlated with the second canonical variate. The second pair of canonical variates indicates that Agreeableness (0,74) and Conscientiousness (0,35) are associated with Acceptance (0,32) and Turning to Religion (0,95).

The results of the canonical analysis of personality traits and passive coping are shown in Table 4.

The first canonical correlation was 0,53 (28% overlapping variance); the second was 0,24 (6% overlapping variance). The other canonical correlation was 0,20. With all three canonical correlations included, $F (15, 328, 91) = 3,70$, $p < 0,0001$. Subsequent F-tests were not statistically significant. The first pair of canonical variates, therefore, accounted for the significant relationships between the two sets of variables. Data on the first pair of canonical variates appear in Table 4. Total percent of variance and total redundancy indicate that that the first pair of canonical variates was moderately related.

With a cut-off correlation of 0,30 the variables in the personality traits set that correlated with the first canonical variate were Neuroticism, Agreeableness and Conscientiousness. Among the

coping variables, Seeking Social Support for Emotional Reasons, Denial and Focus on the Venting of Emotions correlated with the first canonical variate. The first pair of canonical variates shows that high Neuroticism (0,91), low Agreeableness (-0,33), and low Conscientiousness (-0,48) are associated with Seeking Social Support for Emotional Reasons (0,32), Denial (0,65) and Focus on the Venting of Emotions (0,90).

TABLE 4
RESULTS OF THE CANONICAL ANALYSIS:
RASSIVE COPING AND THE NEO-PI-R

	First Canonical Variate	
	Correlation	Coefficient
Personality set		
Neuroticism	0,91	1,16
Extraversion	-0,27	0,52
Openness to experience	-0,11	-0,27
Agreeableness	-0,33	-0,01
Conscientiousness	-0,48	-0,10
Percent of variance	0,25	
Redundancy	0,07	
Coping set		
Seeking social support for emotional reasons	0,32	-0,12
Denial	0,65	0,44
Focus on venting of Emotions	0,90	0,84
Percent of variance	0,45	
Redundancy	0,13	
Canonical correlation	0,53	

Regarding the canonical analysis of relationship between personality traits and burnout the first set of personality traits included Neuroticism, Extraversion, Openness to Experience, Agreeableness and Conscientiousness. The burnout set included Emotional Exhaustion, Depersonalisation and Personal Accomplishment. The results of the canonical analysis of personality traits and burnout are shown in Table 5.

TABLE 5
RESULTS OF THE CANONICAL ANALYSIS: NEO-PI-R AND BURNOUT

	First Canonical Variate	
	Correlation	Coefficient
Personality set		
Neuroticism	-0,61	-0,17
Extraversion	0,82	0,47
Openness to experience	0,62	0,48
Agreeableness	0,40	0,20
Conscientiousness	0,58	0,24
Percent of variance	0,38	
Redundancy	0,08	
Burnout set		
Emotional exhaustion	-0,64	-0,42
Depersonalisation	-0,54	-0,16
Personal accomplishment	0,85	0,76
Percent of variance	0,47	
Redundancy	0,10	
Canonical correlation	0,46	

The first canonical correlation was 0,46 (22% overlapping variance); the second was 0,29 (9% overlapping variance). The other canonical correlation was 0,10. With all three canonical correlations included, $F (15, 328, 91) = 2, 91$, $p < 0,0002$. Subsequent F-tests were not statistically significant ($p < 0,01$).

The first pair of canonical variates, therefore, accounted for the significant relationships between the two sets of variables. Data on the first pair of canonical variates appear in Table 5. Total percent of variance and total redundancy indicate that the first pair of canonical variates was moderately related.

With a cut-off correlation of 0,30 the variables in the personality traits set that correlated with the first canonical variate were Neuroticism, Extraversion, Openness to Experience, Agreeableness and Conscientiousness. Among the coping variables, Emotional Exhaustion, Depersonalisation and Personal Accomplishment correlated with the first canonical variate. The first pair of variates indicates that Emotional Stability (low Neuroticism) (-0,61), Extraversion (0,82), Openness to Experience (0,62), Agreeableness (0,40) and Conscientiousness (0,58) are associated with low Emotional Exhaustion (-0,64), low Depersonalisation (-0,54) and Personal Accomplishment (0,85).

Regarding the canonical analysis of relationship between coping strategies and burnout the first set of coping strategies included Problem-solving, Seeking Social Support for Instrumental Reasons, Seeking Social Support for Emotional Reasons, Positive Reinterpretation and Growth, Acceptance, Turning to Religion, Denial and Focus on and Venting of Emotions. The burnout set included Emotional Exhaustion, Depersonalisation and Personal Accomplishment. The results of the canonical analysis of personality coping strategies and burnout are shown in Table 6.

TABLE 6
RESULTS OF THE CANONICAL ANALYSIS: COPE AND BURNOUT

	First Canonical Variate	
	Correlation	Coefficient
Coping set		
Problem-solving	0,56	0,09
Seeking support for instrumental reasons	0,51	0,68
Seeking support for emotional reasons	-0,11	-0,46
Positive reinterpretation and growth	0,72	0,65
Acceptance	0,30	-0,08
Turning to religion	0,04	-0,28
Denial	-0,48	-0,30
Focus on and venting of emotions	-0,22	0,10
Percent of variance	0,18	
Redundancy	0,04	
Burnout set		
Emotional exhaustion	-0,15	-0,11
Depersonalisation	-0,03	0,17
Personal accomplishment	0,99	0,99
Percent of variance	0,34	
Redundancy	0,08	
Canonical correlation	0,49	

The first canonical correlation was 0,49 (24% overlapping variance); the second was 0,34 (12% overlapping variance). The other canonical correlation was 0,13. With all three canonical correlations included, F (24, 339, 94) = 2, 19, p < 0,0012. Subsequent F-tests were not statistically significant (p < 0,01). The first pair of canonical variates, therefore, accounted for the significant relationships between the two sets of variables. Data on the first pairs of canonical variates appear in Table 6. Total percent of variance and total redundancy indicate that the first pair of canonical variates was moderately related.

With a cut-off correlation of 0,30 the variables in the coping strategies set that correlated with the first canonical variate were Problem-solving, Seeking Support for Instrumental Reasons, Positive Reinterpretation and Growth and Denial. Among the burnout variables, Personal Accomplishment correlated with the first canonical variate. The first pair of canonical variates indicates that Problem-solving (0,56), Seeking Support for Instrumental Reasons (0,51), Positive Reinterpretation and Growth (0,72) and low Denial (-0,48) are associated with Personal Accomplishment (0,99).

DISCUSSION

The analysis of Pearson correlations in this study showed that Extraversion is negatively related to emotional exhaustion. This result suggests that introversion is associated with susceptibility to experience emotional exhaustion (eight months after the personality trait has been measured). Furthermore, Openness to Experience was associated with personal accomplishment at a later stage. Only one coping strategy, namely positive reinterpretation and growth was significantly related to a component of burnout, namely personal accomplishment.

The results of the canonical analysis showed that emotional stability (the opposite of Neuroticism), Extraversion, Openness to Experience and Conscientiousness are associated with constructive coping strategies, such as active problem solving, seeking social support (for instrumental reasons), positively reinterpreting stressful situations and acceptance of stressors. Agreeableness and Conscientiousness were associated with acceptance of stressors and turning to religion. On the other hand, passive coping strategies, such as focus on the venting of emotions, denial and seeking social support for emotional reasons were associated with Neuroticism, low Agreeableness and low Conscientiousness.

The findings of this study confirm the results of previous studies (Hooker et al., 1994; Martin, 1989; McCrae & Costa, 1986; Parkes, 1986) that low Neuroticism is associated with active coping and that individuals higher on Extraversion engage in higher levels of problem-focused coping than those low on Extraversion. It seems that individuals who measured high on Neuroticism, and low on Agreeableness and Conscientiousness rely on emotion-focused coping strategies, especially seeking social support for emotional reasons, focus on and venting of feelings and denial. This confirms the findings of Endler and Parker (1990), McCrae and Costa (1986) and O'Brien and DeLongis (1996).

The results showed that all the personality traits measured by the FFM are related to burnout. More specifically, it was clear that low Neuroticism, Extraversion, Openness to Experience, Agreeableness and Conscientiousness were associated with lower emotional exhaustion and depersonalisation and higher personal accomplishment. This finding implies that a pattern of Neuroticism, low Extraversion, low Openness to Experience, low Agreeableness and low Conscientiousness probably contributes to burnout, which confirms the findings of researchers elsewhere in the world (e.g. Deary et al., 1996; Grundy, 2000; Hills & Norval, 1991; Mills & Huebner, 1998).

Regarding coping strategies and burnout, the results showed that personal accomplishment was the only component of burnout associated with coping strategies. It was clear that higher scores on active coping strategies (including problem solving, seeking support for instrumental reasons, positive reinterpretation and acceptance) and a lower score on denial (an emotion-focused coping strategy) were associated with personal accomplishment.

It must be kept in mind that these results were obtained from a sample of employees in a corporate pharmaceutical group and with specific paper-and-pencil measures, which would probably limit the generality of the findings. Therefore, these findings need

to be replicated with other samples and measuring instruments before drawing conclusions about the relationships between burnout, personality traits and coping strategies in South Africa. However, the results of this study provide some data on the relationships between burnout, personality traits and coping.

The relationship between coping and burnout should be interpreted carefully for two reasons. Firstly, Lazarus and Folkman (1984) have argued that coping is a state (a situation-specific response) rather than a personality trait. Therefore, correlations between ways of coping and burnout could indicate that burnout is related to particular situations that are perceived as being stressful, which in turn stimulate a person to cope in a particular way. Secondly, withdrawal from work or from clients, which closely resembles avoidance coping, has been regarded as a core symptom of burnout (Cherniss, 1980a). Depersonalisation is also characterised by behaviour that includes mental or behavioural withdrawal (Maslach, 1982a). Accordingly, avoidance coping and burnout overlap conceptually.

RECOMMENDATIONS

Firstly, managers and employees should become aware of the causes and symptoms of burnout. This could help them become aware of their own and others' emotional exhaustion, depersonalisation and low personal accomplishment, and intervene before the effects of burnout are too serious. Secondly, individuals could be selected who have constructive coping strategies and are not too neurotic, but who are more open, agreeable and conscientious. However, before individuals are selected on the basis of these characteristics, more research is required, especially because these characteristics were not studied in a selection context. Thirdly, the pharmacy group can consider practices to prevent or cope with stress and burnout, such as the implementation of programmes directed at the stimulation of personal growth, coping and effective stress management.

Future research needs to explore the underlying mechanisms of personality that produce different coping preferences. Future research also needs to focus on improving the construct validity and measurement of role stressors in some job environments, such as pharmacy. The relationship between burnout, personality traits and coping strategies should be investigated in a wider variety of organisations, using larger samples. Further research is necessary to better understand the antecedents and correlates of burnout in South African organisations.

REFERENCES

Alsoofi, M.A., Al-Heeti, K.N. & Alwashli, A. (2000, July). *Burnout and its relationship with job stress and coping with stress for Yemeni teachers*. Paper presented at the 28th International Congress of Psychology, Stockholm, Sweden.

Amirkhan, J.H., Risinger, R.T. & Swickert, R.J. (1995). Extraversion: A "hidden" personality factor in coping? *Journal of Personality*, 63, 189-212.

Bishop, G.D., Tong, E.M.W., Diong, S.M., Enkelmann, H.C., Why, Y.P., Khader, M. & Ang, J.C.H. (2001). The relationship between coping and personality among police officers in Singapore. *Journal of Research in Personality*, 35, 353-374.

Brill, P.L. (1984). The need for an operational definition of burnout. *Family and Community Health*, 6, 12-24.

Carver, C.S., Scheier, M.R. & Weintraub, J.K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56, 267-283.

Cherniss, C. (1980). *Professional burnout in the human service organizations*. New York: Praeger.

Clark, L.A. & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, 7, 309-319.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (Rev. ed.). Orlando, FL: Academic Press.

Costa, P.T. & McCrae, R.R. (1985). *The NEO Personality Inventory manual*. Odessa, FL: Psychological Assessment Resources.

Costa, P.T. & McCrae, R.R. (1992). Revised *NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FRFI) professional manual*. Odessa, FL: Psychological Assessment Resources.

Deary, I.J., Blenkin, H., Agius, R.M., Endler, N.S., Zealley, H. & Wood, R. (1996, February). Models of job-related stress and personal achievement among consultant doctors. British *Journal of Psychology*, 87 (1), 3-29.

De Rijk, A.E., Le Blanc, P.M. & Schaufeli, W.B. (1998). Active coping and need for control as moderators of the job demand-control model: Effects on burnout. *Journal of Occupational and Organizational Psychology*, 71, 1-18.

Duquette, A., Kerouac, S., Sandhu, B.K., Ducharme, F. & Saulnier, P. (1995, October). Psychosocial determinants of burnout in geriatric nursing. *International Journal of Nursing Studies*, 32, 443-456.

Endler, N.S. & Parker, J.D.A. (1990). Multidimensional assessment of coping: A critical evaluation. *Journal of Personality and Social Psychology*, 58, 844-854.

Etzion, D. (1984). Moderating effect of social support on the stress-burnout relationship. *Journal of Applied Psychology*, 69, 615-622.

Etzion, D. & Pines, A. (1986). Sex and culture in burnout and coping among human service professionals: A social psychological perspective. *Journal of Cross-Cultural Psychology*, 17, 191-209.

Folkman, S. Lazarus, R.S., Gruen, R.J. & DeLongis, A. (1986). Appraisal, coping, health status, and psychological symptoms. *Journal of Personality and Social Psychology*, 50, 571-579.

Freudenberger, H.J. & Richelson, G. (1990). *Burn-out: How to beat the high cost of success*. New York: Bantam Books.

Grundy, S.E. (2000, September). Perceived work-related stressors, personality, and degree of burnout in firefighters. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 61 (3B), 1685.

Gupchup, G.V., Singhal, P.K., Dole, E.J. & Lively, B.T. (1998). Burnout in a sample of HMO pharmacists using the Maslach Burnout Inventory. *Journal of Managed Care Pharmacy*, 4, 495-503.

Hills, H. & Norvell, N. (1991, Spring). An examination of hardiness and neuroticism as potential moderators of stress outcomes. *Behavioral Medicine*, 17 (1), 31-38.

Hooker, K., Frazier, L.D. & Monahan, D.J. (1994). Personality and coping among caregivers of spouses with dementia. *The Gerontologist*, 34, 386-392.

Lahoz, M.R. & Mason, H.L. 1989). Maslach Burnout Inventory: Factor structures and norms for USA pharmacists. *Psychological Reports*, 64, 1059-1-63.

Lauzon, L. (1991). *Coping strategies, burnout, and intent to leave among critical care nurses*. Unpublished masters' dissertation, Dalhousie University, Canada.

Lazarus, R.S. & Folkman, S. (1984). Coping and adaptation. In W.D. Gentry (Ed.), *Handbook of behavioral medicine* (pp. 282-325). New York: Guilford.

Leiter, M.P. & Maslach, C. (1988). The impact of interpersonal environment on burnout and organizational commitment. *Journal of Occupational Behaviour*, 9, 297-308.

Leiter, M.P. & Meechan, K.A. (1986). Role structure and burnout in the field of human services. *Journal of Applied Behavioural Science*, 22, 47-52.

Levert, T., Lucas, M. & Ortlepp, K. (2000). Burnout in psychiatric nurses: Contributions of the work environment and a Sense of Coherence. *South African Journal of Psychology*, 30, 36-43.

Martin, P. (1989). Personality and coping in survivors of a myocardial infarction. *Journal of Social Behavior and Personality*, 4, 587-601.

Maslach, C. (1982). *Burnout: The cost of caring*. Englewood Cliffs, NJ: Prentice-Hall.

Maslach, C. & Jackson, S.E. (1981). *Maslach Burnout Inventory*. Research edition. Palo Alto, CA: Consulting Psychologists Press.

Maslach, C. & Jackson, S.E. (1982). Burnout in health professions: A social psychological analysis. In G. Sanders & J. Suls (Eds.), *Social psychology of health and illness*. Hillsdale, NJ: Erlbaum.

Maslach, C. & Jackson, S.E. (1986). *MBI: Maslach Burnout Inventory: Manual research edition*. Palo Alto, CA: Consulting Psychologists Press.

McCrae, R.R. & Costa, P.T., Jr. (1986). Personality, coping, and coping effectiveness in an adult sample. *Journal of Personality*, *54*, 385-405.

McCrae, R.R. & Costa P.T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology*, *52*, 81-90.

McCrae, R.R. & John O.P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality*, *60*, 175-216.

Mills, L.B. (1995). A longitudinal analysis of burnout among school psychologists. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, *56* (6B), 3456.

Mills, L.B. & Huebner, E.S. (1998). A prospective study of personality characteristics, occupational stressors, and burnout of school psychology practitioners. *Journal of School Psychology*, *36*, 400-405.

Moos, R.H. (1994, July). *Conceptual and empirical advances in stress and coping theory*. Paper presented at the 23rd International Congress of Applied Psychology, Madrid, Spain.

Nunnally, J. & Bernstein, I.H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.

O'Brien, T.B. & DeLongis, A. (1996, December). The interactional context of problem-, emotion-, and relationship-focused coping: The role of the big five personality factors. *Journal of Personality*, *64*, 775-813.

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*, 1277-1292.

Pines, A., Aronson, E. & Kafry, D. (1981). *Burnout: From tedium to personal growth*. New York: Free Press.

Rim, Y. (1987). A comparative study of two taxonomies of coping, personality and sex. *Personality and Individual Differences*, *8*, 521-526.

Rowe, M.M. (1997). Hardiness, stress, temperament, coping, and burnout in health professionals. *American Journal of Health Behavior*, *21*, 163-171.

Rowe, M.M. (2000, Fall). Skills training in the long-term management of stress and occupational burnout. *Current Psychology: Developmental, Learning, Personality, Social*, *19*, 215-228.

Sammut, R.G. (1997). Psychiatric nurses' satisfaction: The effect closure of a hospital. *Journal of Advanced Nursing*, *26*, 20-24.

SAS Institute. (2000). *The SAS System for Windows: Release 8.0*1. Cary, NC: SAS Institute Inc.

Schaufeli, W.B. & Buunk, B.P. (1996). Professional burnout. In M.J. Shabracq, J.A.M. Winnubst & C.L. Cooper (Eds.), *Handbook of work and health psychology* (pp. 311-346). New York: Wiley.

Schaufeli, W.B. & Enzmann, D. (1998). *The burnout companion to study and practice: A critical analysis*. London: Taylor & Francis.

Scheier, M.F., Carver, C.S. & Bridges, M.W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology*, *67*, 1063-1078.

Shaddock, A.J., Hill, M. & Van Limbeek, C.A.H. (1998). Factors associated with burnout in workers in residential facilities for people with an intellectual disability. *Journal of Intellectual and Developmental Disability*, *23*, 309-318.

Shaughnessy, J.J. & Zechmeister, E.B. (1997). *Research methods in psychology* (4th ed.). New York: McGraw-Hill.

Shinn, M., Rosario, M., Morch, H. and Chestnut, D.E. (1984). Coping with job stress and burnout in the human services. *Journal of Personality and Social Psychology*, *46*, 864-876.

Tabachnick, B.G. & Fidell, L.S. (2001). *Using multivariate statistics* (4th ed.). Boston, MA: Allyn & Bacon.

Teague, J.B. (1992). *The relationship between various coping styles and burnout among nurses*. Unpublished doctoral dissertation, Ball State University.

Van Dierendonck, D., Schaufeli, W.B. & Buunk, B.P. (1993). The evaluation of an individual burnout intervention program: The role of inequity and social support. *Journal of Applied Psychology*, *83*, 392-407.

Vickers, R.R., Jr., Kolar, D.W. & Hervig, L.K. (1989). *Personality correlates of coping with military basic training* (Rep. No. 89-3). San Diego, CA: Naval Health Research Center.

Watson, D. & Hubbard, B. (1996, December). Adaptational style and dispositional structure: Coping in the context of the five-factor model. *Journal of Personality*, *64*, 737-774.

Zeidner, M. & Endler, N.S. (1996). *Handbook of coping: Theory, research, applications*. New York: Wiley.