Personality profile and coping resources of family medicine vocational trainees at the University of Limpopo, South Africa

[a] **Pretorius D,** BSocSc(SW)(UOVS), MSc(Psych)(UL) [b] **Basson WJ,** D Litt et Phil (Psychology) RAU
[a] **Ogunbanjo GA,** MBBS, FCFP(SA), MFamMed(Medunsa), FACRRM, FACTM, FAFP(SA)
[a] Department of Family Medicine and PHC, University of Limpopo (Medunsa Campus), Pretoria
[b] Department of Psychology, University of Limpopo (Medunsa Campus), Pretoria
Correspondences to: Deidre Pretorius, e-mail: deidre@ul.ac.za
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Abstract

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Background: Doctors are exposed to various stress factors in their personal and family lives, as well as in the workplace. Stress inherent to the responsibilities and challenges of the medical field may become a health hazard and threaten the well-being of the medical practitioner.

Methods: The aim of this study was to investigate the personality traits and coping resources that contribute to the well-being of medical practitioners. A cross-sectional study of 44 out of 45 (98% response rate) family medicine vocational trainees at the Medical University of Southern Africa (now known as the University of Limpopo) was conducted. A biographic questionnaire was utilised to obtain specific information regarding the participants. The principal researcher used the Coping Resources Inventory (CRI) questionnaire to assess coping resources, and the 16PF personality analysis (16PF) to establish a personality profile of the participants.

Results: The majority of participants (81.8%) indicated that they mainly experienced work-related stress. Thirty-two participants (72.72%) self-medicated. Fourteen participants (31.81%) claimed to experience burn-out and twenty (45.45%) reported fatigue. In terms of their coping resources, 24 male participants (54.54%) did not cope socially ($p \leq 0.008$) and eight (18.18%) also did not cope physically ($p \leq 0.024$).

Conclusions: The medical practitioners had a universal personality profile. They lacked insight regarding the symptoms they were experiencing that warranted management, e.g. depression and anxiety. The medical practitioners in this study did not utilise their social and physical coping resources optimally and reported poor help-seeking behaviour.

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Introduction

Heavy workloads, after-hour calls, conflicts between work and personal lives, and dealing with life and death situations are stressors that form part of the daily routine of medical practitioners.[1] In addition, financial pressures, insufficient budgets, a challenging working environment, information overload and threats of litigation can threaten the health and well-being of the medical practitioner.[1-3]

A survey in Buckinghamshire, United Kingdom, concluded that general practitioners experienced a high level of anxiety and depression and often reported impaired quality of life.[4] Lower quality of life can predispose the individual to decreased emotional well-being. Zadow reported the prevalence of depression among South African health professionals to be 10 to 20%, and an unknown number contemplated suicide.[5] Twenty-one per cent of doctors reported work-related stress. Ellis described depression in doctors as "a secret affair", which implies that they do not disclose it.[6] Van der Bijl and Oosthuizen found that one in ten doctors in Cape Town prescribed antidepressants for themselves.[7] It can be concluded that medical practitioners, like their patients, are prone to experiencing depression and anxiety.

In addition to stress, risk-taking behaviour and negative coping strategies have also been documented in healthcare professionals. The UK Registrar General indicated in 1978 that doctors were three times more likely to die through suicide than the general population.[8] At the international level, small-scale drug use is common as a coping strategy among doctors[9,10] In healthcare, doctors were three times more likely to die of liver cirrhosis and twice as likely to die from road accidents compared to the general population.[9,10] Gastfriend reported that there was a 10 to 15% prevalence of substance abuse disorders among physicians.[11]

In South Africa, research suggests a similar trend. In 2004, 50% of junior doctors (it was not specified at which level) in South Africa indicated that they used alcohol excessively and 10% used illegal drugs.[5,8] The reported rate of alcoholism in a survey done among medical practitioners in different settings suggested that 3% abused alcohol, 1% used other substances, 2% used self-prescribed narcotics and 45% used non-narcotic analgesics.[7,8] Only 12% of doctors surveyed in Cape Town had a general physician.[7] This suggests a low level of professional help-seeking behaviour.

Unresolved stress results in a range of conditions, such as physical illness, depression and other mental illnesses, suicide, alcoholism and drug abuse, and social isolation.[3] To deal with unresolved stress, medical practitioners need to cope and therefore it is important to determine the precursor to and/or nature of coping.

The aim of the study was to investigate the personality traits and coping resources that contribute to the well-being of medical practitioners enrolled as vocational trainees at Family Medicine and Primary Healthcare, Medical University of Southern Africa (now University of Limpopo – Medunsa Campus).

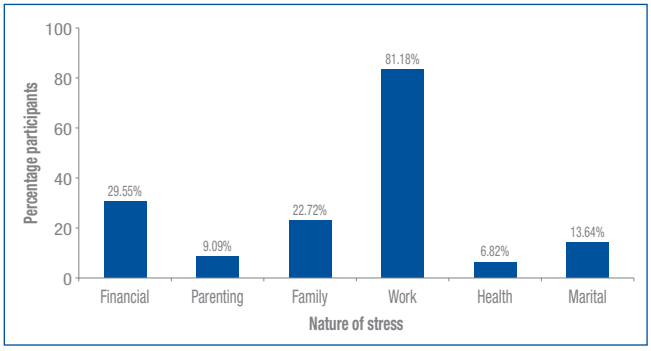
Methods

The aim of this study was to investigate the personality traits and coping resources that contribute to the well-being of medical practitioners. The Medunsa Research and Ethical Committee (MREC) approved the study protocol. A cross-sectional study was conducted with a convenience sample of 45 family medicine vocational trainees at the Medical University of Southern Africa. The research coordinator explained the study to the prospective participants, after which 44 gave written consent to take part in the study. They were requested to complete a biographic questionnaire (covering demographic information, potential stressful aspects and their opinion on personal health and health-compromising behaviour), the Coping Resources Inventory (CRI) questionnaire (an assessment of coping resources available to the participants for managing stress), and the 16PF personality analysis (16PF).[12,13] The CRI and 16PF are both well-known standardised questionnaires in psychology. The cultural diversity of the sample complicated psychometric testing and therefore it was recommended that Form A of the 16PF be used.[13] The participants completed the questionnaires anonymously and confidentiality was ensured. Data were collected and exported to Statistica Version 4.1 and later SAS Release 9.1 software for statistical analysis. Results were presented using descriptive statistics and stepwise linear regression analyses.

Results

The response rate was 98% (44/45). The sample consisted of 44 participants between the ages of 27 and 51 years, with a mean age of 40 years. The participants indicated that they experienced mainly work, financial and family stress (see Figure 1). Five doctors (11.36%) used analgesics and three (6.81%) used alcohol regularly. Three doctors (6.81%) were on chronic medication, two (4.54%) were on antidepressants and one (2.27%) was on medication for hypothyroidism. Thirty-two participants (72.72%) self-medicated, while three participants (6.81%) reported that they ignored signs of illness and four participants (9.09%) claimed to have no time to be sick. (NB: The questionnaire did not differentiate between being sick or taking time to be absent from work). Fourteen participants (31.81%) claimed to experience burnout and twenty (45.45%) reported fatigue. Six participants experienced depression and/or anxiety (13.62%), but only two of them received treatment for it.

Figure 1: Perceived stressors in participants



16PF personality analyses

The 16PF personality profile consists of primary personality traits and two supplementary scales, namely the second-order factor scales and the motivational distortion scale. Form A consists of 187 items representing 16 primary personality traits, described as factors, measured by allocated sten values from 1 to 10.[13] Each primary factor is defined in Table I.

The primary personality trait determines the personality profile of the participant (see Figure 2). The 16PF traits prominent in terms of number of participants sharing the trait in this study were warm-heartedness, low intelligenc e/reasoning ability, emotional instability, dominance, desurgency and shrewdness. High levels of tender-mindedness, suspiciousness, high strength of self-sentiment, superego strength and group dependency were also aspects of concern. The second factor results (based on a mathematical calculation of primary traits) provided interesting findings:

Factor I: Extraversion. Thirty-four participants (77.27%) tested high average or high on extraversion.

Table I: 16PF personality analyses

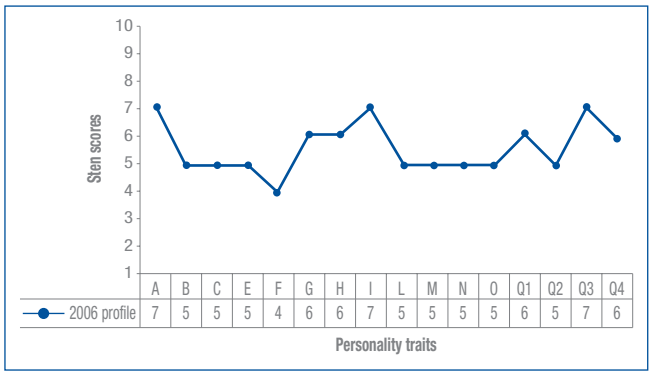
16PF TRAIT	DESCRIPTION OF LOW SCORE				MEAN	DESCRIPTION OF HIGH SCORE				
A	**Reserved**, detached, cool, critical, stiff, prone to sulk					**Warm-hearted**, outgoing, warm hearted, easy-going, participating, trustful				
Sten of A	1	2	3	4	5	6	7	8	9	10
Participants	0	0	3	1	11	8	5	7	7	2
B	**Low intelligence**, crystallised, dull, concrete-thinking, less intelligent, poorer judgement					**High intelligence**, bright, abstract-thinking, crystallised, persevering, fast-learning, intellectually adaptable				
Sten of B	1	2	3	4	5	6	7	8	9	10
Participants	1	2	5	15	2	5	8	3	0	3
C	**Emotional instability**/ego weakness, affected by feelings, emotionally labile or less stable, easily upset, lower ego strength, changeable, worrying, evasive of responsibilities, tend to give up					**Higher ego strength**, emotionally stable, calm, faces reality, higher ego strength, mature, calm, show restraint in avoiding difficulties, adjust to facts				
Sten of C	1	2	3	4	5	6	7	8	9	10
Participants	4	2	10	9	7	6	4	1	0	1
E	**Submissiveness**, humble, obedient, easily led, docile, submissive, mild, accommodating, dependent, conventional, conforming, easily upset by authority					**Dominance**/ascendance, assertive, independent, aggressive, stubborn, dominant, competitive, stern, expressive, headstrong, demanding admiration				
Sten of E	1	2	3	4	5	6	7	8	9	10
Participants	2	2	3	6	9	12	4	5	0	1
F	**Desurgency**, soberness Sober, serious, taciturn, silent, introspective, concerned, reflective, sticks to inner values, cautious					**Surgency**, care freeness Enthusiastic, heedless, happy-go-lucky, carefree, frank, expressive, quick, alert				
Sten of F	1	2	3	4	5	6	7	8	9	10
Participants	2	1	10	14	9	3	4	0	1	0
G	**Low superego strength**, opportunistic, expedient, self-indulgent, independable, frivolous, disregards rules or obligations, lower super ego strength					**Superego strength**, persisting, conscientious, moralistic, staid, higher super ego strength, determined, responsible, dominated by a sense of duty, concerned about moral standards and duty, emotionally disciplined				
Sten of G	1	2	3	4	5	6	7	8	9	10
Participants	0	1	1	3	11	12	11	5	0	0
H	**Shy**, withdrawn, emotionally cautious, rule-bound, careful, quick to see dangers, timid, restrained, sensitive to threats					**Socially bold**, venturesome, uninhibited, spontaneous, thick-skinned, responsive, carefree, friendly				
Sten of H	1	2	3	4	5	6	7	8	9	10
Participants	0	2	2	5	8	8	11	4	2	2
I	**Tough-minded**, self-reliant, realistic, having no illusions, unsentimental, acts on practical logical evidence, keeps to the point, does not dwell on physical disabilities					**Tender-minded**, dependent, overprotected, sensitive, fidgety, expecting affection and attention, clinging, kind, gentle, hypochondriacal, anxious about self, attention-seeking				
Sten of I	1	2	3	4	5	6	7	8	9	10
Participants	0	1	2	1	6	9	6	15	1	3
L	**Trusting**, adaptable, free of jealousy, easy to get on with, conciliatory, accepts personal unimportance, understanding, permissive, tolerant					**Suspicious**, sceptical, hard to fool, jealous, dogmatic, tyrannical, irritable, dwelling upon frustrations				
Sten of L	1	2	3	4	5	6	7	8	9	10
Participants	2	5	1	6	4	11	8	4	3	0
M	**Practical**, careful, conventional, regulated by external realities, proper, earnest, prosaic					**Imaginative**, bohemian, absent-minded, wrapped up in inner urgencies or ideas, careless of practical matters				
Sten of M	1	2	3	4	5	6	7	8	9	10
Participants	0	1	1	10	8	15	5	3	1	0
N	**Forthright**, natural, unpretentious, sentimental, artless, genuine but socially clumsy, lacking self-insight, content					**Shrewd**, calculating, worldly, insightful, socially aware, ambitious, smart, cut corners, aesthetically fastidious				
Sten of N	1	2	3	4	5	6	7	8	9	10
Participants	3	0	5	4	6	16	4	4	2	0
O	**Untroubled adequacy**, placid, self-assured, confident, serene, unperturbed, self-sufficient, cheerful, resilient, placid, expedient					**Guilt proneness**, worrying, apprehensive, self-reproaching, depressive, guilt prone				
Sten of O	1	2	3	4	5	6	7	8	9	10
Participants	3	1	8	7	11	6	4	3	1	0

Q1	**Conservatism** of temperament, conservative, respecting established ideas, tolerant of tradition					**Radicalism**, critical, liberal, experimenting, analytical, free-thinking radical				
Sten if Q1	1	2	3	4	5	6	7	8	9	10
Participants	1	0	4	3	14	7	3	11	0	1
Q2	**Group dependency**, socially group-dependent, "a joiner" and sound follower					**Self-sufficiency**, resourceful, prefers own decisions				
Sten of Q2	1	2	3	4	5	6	7	8	9	10
Participants	2	4	5	9	7	8	7	0	1	1
Q3	**Low sentiment** integration, casual, careless of protocol or social rules, undisciplined, follows own urges, low self-sentiment, uncontrolled, lax					**High strength of self-sentiment**, controlled, socially precise, self-disciplined, compulsive, strong will-power, strong self-sentiment				
Sten of Q3	1	2	3	4	5	6	7	8	9	10
Participants	0	0	3	5	7	9	8	4	7	1
Q4	**Low ergic tension**, relaxed, tranquil, torpid, unfrustrated, composed					**High ergic tension**, tense, driven, overwrought, irritable, fretful				
Sten of Q4	1	2	3	4	5	6	7	8	9	10
Participants	1	2	7	4	9	4	10	3	2	2

Factor II: Anxiety (high score) is the principal indicator of pathology, but a low score is not necessarily indicative of mental health. Twelve participants (27.27%) experienced high anxiety levels.

Factor V: In compulsivity, the major primaries are group conformity and ability to bind anxiety. Eleven participants (25%) scored average and higher.

Figure 2: Personality traits of participants



Results of the CRI

The CRI[12] is a standardised 60-item instrument that measures resources in five domains, namely cognitive, social, emotional, spiritual/philosophical and physical. On the CRI, an average score for a resource is 50. The higher the scale score, the higher the resource.[12] The male participants scored low in social, physical and total coping resources (see Table II). The sample of female participants was too small and did not render any statistically significant results.

With the male participants, the cognitive coping resource was the only coping resource tool that tested average ($p \leq 0.631$). This means that the participants maintained a positive sense of self-worth, a positive outlook toward others, and optimism about life in general.[12]

Table II: Coping resource scores of male participants

	n	Mean	Minimum	Maximum	SD	P-value
Cognitive	44	52.93	34	64	8.73	0.631
Social	44	49.66	30	64	6.74	0.008*
Emotional	44	50.55	34	72	8.48	0.279
Spiritual	44	52.45	31	65	8.71	0.076
Physical	44	49.00	21	66	9.19	0.024*
Total score	44	51.07	30	66	8.71	0.026*

SD: standard deviation

The emotional coping resource is the degree to which individuals are able to accept and express a range of affect, based on the premise that a range of emotional response aids in ameliorating long-term negative consequences of stress.[12] This coping resource was adequate ($p \leq 0.279$).

The spiritual or philosophical coping resource was also intact. This indicates that participants guide their actions by stable and consistent values derived from a religious, familial or cultural tradition or personal philosophy ($p \leq 0.076$). The social coping resource is the degree to which an individual is imbedded in social networks that are able to provide support in times of stress.[12] Twenty-four male participants (54.54%) did not cope socially ($p \leq 0.008$). Eight (18.18%) also did not cope physically ($p \leq 0.024$). This implies that they seldom enacted health-promoting behaviours, which decrease the level of negative response to stress and limit fast recovery. According to Hammer and Marting, it may also help to attenuate potentially chronic stress-illness cycles resulting from negative physical responses to stressors that by themselves become major stressors.[12]

The total coping resource is the overall ability to apply coping resources and to deal with stressful circumstances.[12] Thirty-nine participants (88.63%) did not have sufficient coping resources available to deal with stress ($p \leq 0.026$).

Interesting statistical correlations were found: Personality traits such as extraversion, submissiveness, radicalism, group dependency and independence correlated significantly with the lack of cognitive coping resources ($p \leq 0.009$) and physical coping resources ($p < 0.0001$). A significant correlation also existed between coping resources and fatigue ($p \leq 0.019$) and extraversion and financial stress ($p \leq 0.002$).

Discussion

The medical practitioners had a universal personality profile with average scores (sten scores between 4 and 6). The medical practitioners did not utilise their social and physical coping resources optimally and they reported poor help-seeking behaviour. They lacked insight regarding the symptoms they were experiencing that warranted management, e.g. depression and anxiety. When the self-perceived pathology was statistically correlated with the 16PF results, it suggested that the participants were in "denial". What they experienced as burn-out and fatigue were more likely depression and anxiety, as suggested by the 16PF analysis. This, and the perception of high work-related stress, could explain the low scores for reasoning ability and high scores for tender-mindedness.

Limitations of the study

It is possible that selection bias influenced the results, as the sample consisted of medical practitioners who attended the specific MMed contact session and did not represent the total group of trainees. Cross-cultural use of psychometrics might have influenced the results due to cultural interpretations of the questionnaire statements.[13,14,15] The sample size represented 95% confidence level and a confidence interval of 10.62.

Conclusions

The medical practitioners in this study had a universal personality profile and one can assume that their personalities represent the population they serve. They lacked insight regarding the symptoms they were experiencing that warranted management, e.g. depression and anxiety. The medical practitioners did not utilise their social and physical coping resources optimally and they reported poor help-seeking behaviour. They relied on cognitive, emotional and spiritual coping resources to cope with daily challenges.

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