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Personality, job burnout, and somatic complaints: A structural model in a South African sample

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Orientation: Research indicates that personality strengths and weaknesses can be a good starting point in reducing burnout risk and the resulting somatic symptoms that lower employee health and organisational outcomes.

Research purpose: The current study investigated the relationship between burnout, personality traits, and somatic symptoms in a South African sample.

Motivation for the study: Despite burnout's influence on employee health and organisational outcomes, no study has been conducted within the South African context investigating these phenomena together. Knowledge of the specific personality traits that increase burnout risk and somatic symptoms is essential, as it can help create interventions to prevent and lower burnout risk for South African employees.

Research approach/design and method: A quantitative cross-sectional design was followed by a purposive sample (N = 249) of South African employees who were at least 18 years old. They completed a short form Big Five personality traits and the Burnout Assessment Tool.

Main findings: The results indicate a strong link between burnout and somatic symptoms, but that increased emotional stability and openness lowered burnout risk. Extraversion and emotional stability also lowered employees' experiences of somatic symptoms, whereas conscientiousness increased somatic symptoms.

Practical/managerial implications: The results inform South African organisations on possible personality traits that increase burnout risk and can inform practice and create interventions and training for employees.

Contribution/value-add: The results contribute to burnout research in South Africa and create a basis for future research.

Keywords: Africa; Big Five personality; burnout; Burnout Assessment Tool (BAT); personality; somatic symptoms.

Introduction

Orientation

Burnout, a syndrome, is seen as an occupational phenomenon in the International Classification of Diseases (ICD-11) and is caused by exposure to prolonged chronic interpersonal and emotional stress at work (Maslach et al., 2001; World Health Organization [WHO], 2019). This can debilitate employees and their organisations (Edú-Valsania et al., 2022). Moreover, burnout is a risk factor for disease and somatic symptoms, increasing pressure on health services and lowering employees' health statuses (Madigan et al., 2023; WHO, 2019). Somatic symptoms because of burnout can cause significant distress to employees and negatively affect their productivity (Chakravorty & Singh, 2022). Thus, understanding and managing the antecedents of burnout to devise interventions to counter the adverse outcomes of burnout is in the interest of all organisations (Marshal & Stephenson, 2020; Maslach & Leiter, 2008). An antecedent that has been shown to be a significant contributor and buffer against burnout risk and resulting somatic symptoms in employees is their set of unique personality traits (Bianchi, 2018; Grigorescu et al., 2018; Kipman 2021; Prins et al., 2019), as personality can impact employees' perceptions and experiences of work-related stressors (Angelini, 2023).

A high prevalence of burnout risk has been found globally (Calitz 2022), as well as in South Africa, and merited research attention to the antecedents and outcomes of this phenomenon to create

interventions for employee and organisational outcomes (Morar & Marais, 2022; O'Connor et al., 2022). Research on various sectors of South African workers indicates that they are overwhelmed by burnout (Oosthuizen et al., 2023) and that personality can influence their experience of burnout (Louw, 2014) and lead to somatic symptoms, such as diabetes, hypertension, and irritable bowel syndrome (De Beer et al., 2016). This research is echoed by that found in Western countries (for example, Kim et al., 2019) and Africa (Agoha et al., 2022).

Research purpose and objectives

Despite the impact of burnout on employees and research efforts, little is known about burnout (Schaufeli, 2023) and related somatic diseases (Von Känel et al., 2020), especially in the South African work context (Payne et al., 2020). Furthermore, the relationship between personality, burnout, and the somatic symptoms associated with burnout (Edú-Valsania et al., 2022; Melchers et al., 2015; Von Känel et al., 2020) has not been investigated as a central theme in South African research. Previous research on South African samples has followed international trends and focused on burnout and personality (Louw, 2014; Morgan & De Bruin, 2010) and burnout and somatic symptoms (De Beer et al., 2016; Khamisa et al., 2017; Rothmann et al., 2008), but not on these three concepts together. Moreover, current overviews of burnout indicate overwhelmingly broad indications of the syndrome's antecedents (Angelini, 2023), and more studies are thus needed that look at specific antecedents of burnout, such as personality. Such investigations are imperative to devise interventions to target the somatic outcomes of burnout that impact employee health and organisational performance.

Therefore, more information is needed on the unique individual personality traits and contexts to inform appropriate future interventions and policies (Edú-Valsania et al., 2022). According to research, assisting employees in identifying personality strengths and weaknesses in relation to burnout can be an effective burnout intervention (Roloff et al., 2022). Thus, the current study aims to fill this gap in the literature regarding the relationship between personality (Big Five personality traits), burnout (the Burnout Assessment Tool [BAT]), and the resulting somatic symptoms and contribute to the information on burnout in the South African work context to assist companies in addressing this phenomenon.

Literature review

Burnout

Burnout represents a work-related condition of exhaustion experienced by employees in which they may feel drained, find it hard to focus on their work, may overreact emotionally, and might even feel detached or disinterested in what they are doing (Schaufeli, 2023). This state of exhaustion and mental strain can significantly impact employees' overall well-being and job performance. A multitude of systematic reviews and meta-analyses have thoroughly investigated how prevalent burnout risk is across a wide range of jobs and occupations, such as the medical profession (Pradas-Hernández et al., 2018; Woo et al., 2020), the mental health profession (O'Connor et al., 2018; López-López et al., 2019), students (Frajerman et al., 2019; Kaggwa et al., 2021), managers (Membrive-Jiménez et al., 2020), and educators (García-Carmona et al., 2019; Urbina-Garcia, 2020). That these reviews cover such a variety of occupations serves as solid evidence of the pervasiveness of the burnout experience across a diverse spectrum of occupational contexts.

According to the job demands-resources model (JD-R), burnout is caused by an imbalance between job demands and resources because of chronic stressors (Bakker & Demerouti, 2017). Job demands encompass the emotional or physiological tolls associated with the psychological, physical, organisational, or social facets of a job that requires continuous mental or physical skills or exertion (Bakker & Demerouti, 2017). Emotional demands can include dealing with difficult clients or patients (Andela, 2020; Chou et al., 2012; Kim & Wang, 2018), resolving conflict in the workplace (Hall et al., 2010; Heuven et al., 2006), or continually showing empathy and compassion towards clients or patients (Heuven et al., 2006; Le Blanc et al., 2001). Physical demands can refer to hazardous work (Li et al., 2023; Nahrgang et al., 2011), repetitive tasks (MacDonald, 2003; Sharp et al., 2021), heavy lifting (Wemken et al., 2021; Ziaei et al., 2019), or prolonged standing (Apple & Letvak, 2021). Job resources include a job's social, organisational, and psychological or physical aspects that assist employees in reaching work goals, promoting personal growth, and lowering job demands or physical and psychological costs (Bakker & Demerouti, 2017; Bakker et al., 2023). Examples of job resources include collegial and supervisory support (Crawford et al., 2010; Singh et al., 2020), digitalisation and automation (Demerouti, 2022), autonomy in decision-making (Naidoo-Chetty & Du Plessis, 2021), and fair and authentic management (Broetje et al., 2020). Research has found that job resources can act as a buffer against the impact of job demands that lead to burnout (Bakker et al., 2005).

Burnout has far-reaching implications for both organisations and individuals (see Salvagioni et al., 2017). In the workplace, organisations with burned-out employees have increased work interruptions and conflict and lower productivity and production time (Bakker et al., 2023; Maslach & Leiter, 2016). On an individual level, burnout can manifest as lower professional efficacy, emotional exhaustion, and negative attitudes towards work (Maslach et al., 2001). Individuals experiencing burnout can also have impaired cognitive or physical abilities and work potential, exhaustion and increased anxiety, suicidality, substance abuse, and turnover intention (Dyrbye et al., 2014; Golonka et al., 2017; Jackson et al., 2016; Marshal & Stephenson, 2020; Schaufeli & Enzmann, 2020). However, the subsequent effects of burnout also include various somatic and physiological effects. These may include cardiovascular disease, systemic inflammation,

structural and functional brain changes, allostatic load, excitotoxicity, immunosuppression, metabolic syndrome, musculoskeletal pains, hyperhidrosis, and premature death (Bakker et al., 2023; Bayes et al., 2021; Chakravorty & Singh, 2022; Salvagioni et al., 2017; Shirom et al., 2005).

Burnout and somatic symptoms

The correlation between burnout and somatic symptoms is an area of growing concern in the field of occupational health. Prolonged work-related stress can trigger a neurochemical response in the body, which may lead to various somatic and physical complaints (Nixon et al., 2011). Research by Von Känel et al. (2020) in Switzerland shows that burnout dimensions, especially high levels of exhaustion, are significantly associated with somatic diseases, such as high blood pressure, chronic lung disease, and skin diseases. Hammarström et al. (2023) add that their Swedish sample of burnout participants also experienced pain, fatigue, and gastrointestinal symptoms. Agoha et al. (2022) noted a significant relationship between somatisation, hostility, personal achievement, and emotional exhaustion. In South Africa, De Beer et al. (2016) found that burnout risk has been associated with increased employee experiences of hypertension, depression, irritable bowel syndrome, and diabetes. Employees who suffer from ill health because of burnout, such as those discussed earlier in the text, can become absent from work or exhibit presenteeism and impact organisational productivity (Fouad et al., 2017). It is therefore imperative to investigate the potential impact of burnout on employee health. As such, the following hypotheses were examined:

- **H_1:** Burnout will have a positive effect on somatic complaints (somatisation).
- **H_2:** Emotional stability (neuroticism) will have a negative effect on somatic complaints.
- **H_3:** Extraversion will have a negative effect on somatic complaints.
- **H_4:** Conscientiousness will have a positive effect on somatic symptoms.

Big Five personality traits and burnout

The relationship between personality and burnout has been extensively researched. Individuals exhibit a range of inherent personality traits, and these traits can notably impact their susceptibility to burnout and influence somatic symptoms, as they impact the perception of job demands and resources that play a role in burnout (Angelini, 2023; Hye-Suk & So-Hee, 2019; Korkmaz et al., 2020; Prins et al., 2007).

To synthesise these personality traits, the Big Five model of personality types was developed and has been proven to be a powerful personality tool (McCrae & Costa, 1999) globally and in South Africa (Van Aarde et al., 2017). According to the Big Five personality model, personality comprises the following traits: conscientiousness (self-discipline, planning and organisation), openness (preference for novelty, curiosity, and creativity), extraversion (being social, gaining energy from social interaction, positivity, and activity), agreeableness (cooperation and pro-social behaviour towards others), and neuroticism or emotional stability (vulnerability to negative emotions such as depression, anger or anxiety) (Mammadov, 2021). These Big Five personality traits' relation to burnout shows that certain personality traits may increase a person's susceptibility to burnout (see Angelini, 2023; Roloff et al., 2022).

For example, high levels of neuroticism can predispose employees to the consequences of burnout (Golonka et al., 2019; Prins et al., 2019). Angelini (2023) explains that some employees with high neuroticism may have a negative 'filter' in experiencing work stressors and can have increased levels of anxiety and emotional exhaustion (Semmer, 2006). Employees who experience anxiety may then have somatic symptoms, such as headaches, shakiness, and stomach pain (Harvard Health Publishing, 2020). Thus, those employees with lower neuroticism may experience fewer somatic symptoms associated with burnout.

Extraversion has also been reported as a protective trait against burnout (Prins et al., 2019), as extroverted employees tend to be more social and positive, which lowers emotional exhaustion at work compared to more introverted employees (Angelini, 2023). High openness is also seen as a protective trait, as employees face challenges as novel and may avoid the discomfort associated with stress experienced by employees with low openness (Angelini, 2023; Zimmerman, 2008). Lastly, agreeableness is seen as a protective trait as employees who score high are warm and compliant and are better able to constrain feelings of frustration and emotional exhaustion (Angelini, 2023; Zellars et al., 2000). However, some studies contradict the positive impact of agreeableness on burnout risk, and found it increases emotional exhaustion and lowers professional accomplishment (Bahadori et al., 2019; Castillo-Gualda et al., 2019).

Personality traits are an imperative employee aspect to consider in organisational research, as their influence on burnout has also been shown to influence employee effectiveness (Kim et al., 2019). An older South African study on university students concurs with these results that neuroticism, conscientiousness, and extraversion were related to cynicism, professional efficacy, and emotional exhaustion (Morgan & De Bruin, 2010). Therefore, the following hypotheses were investigated:

- **H_5:** Extraversion will have a negative effect on burnout.
- **H_6:** Agreeableness will have a positive effect on burnout.
- **H_7:** Conscientiousness will have a positive effect on burnout.
- **H_8:** Openness to experience will have a negative effect on burnout.
- **H_9:** Emotional stability (neuroticism) will have a negative effect on burnout.

Measuring burnout

When reviewing burnout research, it is important to consider how the construct is being measured. While various instruments and approaches measuring burnout have been used, the gold standard in research for burnout measurement has been the Maslach Burnout Inventory (MBI). However, research has identified various flaws in utilising the MBI for burnout measurement, namely, psychometric shortcomings (e.g., factor structure), conceptualisation (e.g., lack of accounting for cognitive impairment), and practical applicability (e.g., inability to present a valid total score) (see Bianchi et al., 2022; De Beer et al., 2024; Schaufeli et al., 2020a).

To address these shortcomings, the BAT was developed and validated in various European countries (De Beer et al., 2020, 2023) and also South Africa (De Beer et al., 2022) to determine burnout risk. In essence, the BAT is a scientifically validated tool that can identify burnout risk (Schaufeli et al., 2020a), and both an inductive and deductive approach were followed to create the instrument (see Schaufeli et al., 2020a for details). According to De Beer et al. (2022, 2023), the BAT performs well within the JD-R framework and defines burnout as employee exhaustion that comprises mental distancing and a lowered ability to regulate emotional and cognitive processes within a work-related mental state or context. An employee at risk of burnout may experience a depressed mood and non-specific psychological and psychosomatic complaints (Schaufeli et al., 2020b). Thus, the BAT consists of four components, namely, exhaustion (depletion and inability to exert effort), mental distance (cynicism and unwillingness to exert effort), cognitive impairment (lack of capacity to regulate cognitive processes), and emotional impairment (lower capacity to regulate emotions). Considering the BAT's definition of burnout and the focus of this article on somatic complaints associated with burnout, the BAT's definition of burnout served as the theoretical context of the study.

Research design

Research approach

A quantitative method with a cross-sectional research design was followed to conduct this study (Maree & Pietersen, 2016). Positivism served as the philosophical underpinning to test hypotheses on a single reality through objective study (Davies & Fisher, 2018).

Research method

Research participants

A purposive sample of South African employees aged 18 years or older (N = 249) took part in this study. The age distribution among the respondents was categorised as follows: 18 years – 25 years old (Category 1; 21.69%), 26 years – 37 years old (Category 2; 45.38%), 38 years – 45 years old (Category 3; 17.27%), 46 years – 60 years old (Category 4; 12.45%), and over 60 years old (Category 5; 3.21%). Regarding gender, 74 participants were men (29.72%), and 175 were women (70.28%). Reflecting the demographic designations in line with the *Employee Equity Act*, the sample comprised 73 African employees (29.32%), 41 Indian employees (16.47%), 123 white employees (49.40%), 3 Asian employees (1.20%), and 9 Coloured employees (a term used officially to describe individuals of mixed ethnic origin; 3.61%).

Measuring instruments

Big Five Personality Domains: The Ten-Item Personality Measure (TIPI) was used to score the five personality traits (Gosling et al., 2003). We followed the scoring instructions for this scale by recoding the reversed items (one per trait) and then creating an average score with its counterpart item.

The BAT-23 (Schaufeli et al., 2020a) was used to measure burnout risk. The BAT has shown valid and reliable properties in measuring burnout by focusing on an overall burnout score (burnout as a syndrome) comprising four components, namely, exhaustion (e.g., 'At work, I feel mentally exhausted'), mental distance (e.g., 'I'm cynical about what my work means to others'), cognitive impairment (e.g., 'At work I struggle to think clearly'), and emotional impairment (e.g., 'At work I may overreact unintentionally') in the South African and other contexts (De Beer et al., 2020, 2022; Hadžibajramović et al., 2022). Furthermore, somatic complaints were also measured with an extended version of the BAT, which includes five somatic complaint items as part of its secondary symptoms (e.g., 'I have trouble falling or staying asleep') (see Schaufeli et al., 2020b).

Research procedure

A purposive sampling strategy was used to collect the data. To be eligible to be a respondent in the study, persons had to be; (1) at least 18 years of age, (2) a South African citizen currently working within the country, and (3) employed in the formal sector. The study was advertised on social media platforms (e.g., Facebook and LinkedIn) with a hyperlink to an electronic questionnaire. Information required for consent was presented first and accepted by potential respondents before they could complete the online survey (Hill et al., 2021).

Statistical analysis

Structural equation modelling methods were implemented within Mplus 8.9 (Muthén & Muthén, 2021). Mplus is a popular package that allows for estimating models that combine continuous (personality components' mean scores) and categorical data (the items of the latent variables) in one model. To this end, the mean- and variance-adjusted weighted least squares (WLSMV) estimator was chosen, as the BAT was used to measure burnout, it was important to model burnout as a total latent score in line with the propositions of the measure. This was done by specifying a high-order burnout latent variable explaining the four first-order components of BAT-defined burnout (De Beer et al., 2020). To consider the fit of this model, standard fit indices would be used, that is, comparative fit index (CFI $\geq$ 0.95),

Tucker–Lewis index (TLI ≥ 0.95), root mean square error of approximation (RMSEA < 0.08), and standardised root mean square residual (SRMR < 0.08) (Hoyle, 2023).

Once a suitable model was obtained, the factor loadings and correlation matrix were inspected. Specifically, the factor loadings had to be above 0.50 (Hair, 2010) and the correlations below 0.85 (Brown, 2015). For the correlations, the conventional effect sizes were used, that is, small ($r \geq 0.10$), medium ($r \geq 0.30$), and large ($r \geq 0.50$). We also calculated the average variance extracted (AVEs) for the latent variables, which should be above 0.50, as well as the MacDonald's omega coefficient, which should be at least 0.70 or above.

Then, we considered the statistical significance ($p < 0.05$; significant), size, and direction of the standardised beta coefficients for the model's structural paths to consider meaningful results. Furthermore, the model was bootstrapped with a request for 10 000 draws to test for potential indirect effects and retrieve lower and upper 95% confidence intervals for all the parameters. Results were considered meaningful in line with the conventional interpretation that the confidence interval should not include zero, that is, the estimate should remain the same sign for its lower and upper values.

Ethical considerations

An application for full ethical approval was made to University of Johannesburg Department of Industrial Psychology and People Management (IPPM) Research Ethics Committee. The ethics approval number is IPPM2020-464.

Results

Model fit and measurement properties

The model was found to be an excellent fit to the data $\chi^2 = 878.33$; $df = 475$; CFI = 0.96; TLI = 0.96; SRMR = 0.06; RMSEA = 0.06. All the standardised factor loadings of the specified model were above the 0.50 zero cut-off value set for this study. Similarly, all the AVEs were above 0.50 and all omega coefficients were above 0.70. Table 1 presents the correlation matrix, AVEs and omega reliability coefficients.

As can also be seen (Table 1), all the components of the BAT were correlated with another with large effect sizes ($rs > 0.50$). All personality traits, except for conscientiousness ($r = -0.07$, $p > 0.05$), were statistically significantly correlated with burnout, with at least small effect sizes. Finally, burnout was largely positively correlated with somatic complaints ($r = 0.67$; large effect size).

Structural paths and indirect effects

The standardised path results are provided in Table 2 and significant results are shown in Figure 1.

As can be seen from Table 2, two of the personality traits had statistically significant negative paths to burnout: emotional stability (β = −0.34; SE = 0.07; $p < 0.001$ – supporting hypothesis 2) and openness (β = −0.12; SE = 0.06; $p = 0.048$ – supporting hypothesis 8). Conversely, three personality traits had statistically significant paths to somatic complaints, two negative paths and one positive. The two negative paths to somatic complaints were extraversion (β = −0.13; SE = 0.06; $p = 0.026$ – supporting hypothesis 5) and emotional stability (β = −0.16; SE = 0.07; $p = 0.024$ – supporting hypothesis 2), whereas conscientiousness contributed to somatic complaints (β = 0.16; SE = 0.06; $p = 0.009$ – supporting hypothesis 3). Furthermore, burnout had a strong path to somatic complaints (β = 0.61; SE = 0.06; $p < 0.001$ – supporting

TABLE 2: Path results for the structural model.

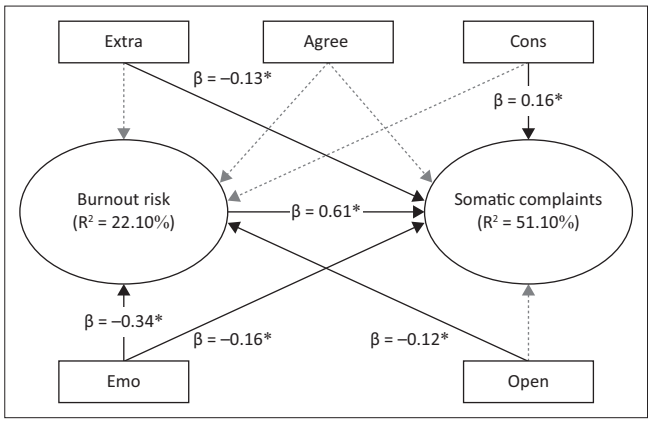
Structural path	β	SE	*p*
Extraversion → Burnout	-0.08	0.07	0.214
Agreeableness → Burnout	-0.10	0.06	0.094
Conscientiousness → Burnout	0.04	0.07	0.550
Emotional stability → Burnout	-0.34*	0.07	< 0.001
Openness → Burnout	-0.12*	0.06	0.048
Extraversion → Somatic complaints	-0.13*	0.06	0.026
Agreeableness → Somatic complaints	-0.02	0.07	0.796
Conscientiousness → Somatic complaints	0.16*	0.06	0.009
Emotional stability → Somatic complaints	-0.16*	0.07	0.024
Openness → Somatic complaints	0.09	0.07	0.180
Burnout → Somatic complaints	0.61*	0.06	< 0.001

β, Standardised beta coefficient; SE, Standard error; *p*, Two-tailed statistical significance.
*, $p < 0.05$.

TABLE 1: Correlation matrix for the different burnout components.

Variable	AVE	1	2	3	4	5	6	7	8	9	10
EX	0.66	(0.92)	-	-	-	-	-	-	-	-	-
MD	0.61	0.78§	(0.85)	-	-	-	-	-	-	-	-
CI	0.70	0.73§	0.72§	(0.74)	-	-	-	-	-	-	-
EI	0.60	0.67§	0.66§	0.62§	(0.84)	-	-	-	-	-	-
Burnout	0.58	0.89§	0.88§	0.82§	0.76§	(0.94)	-	-	-	-	-
Somatic	0.70	0.60§	0.59§	0.55§	0.51§	0.67c	(0.83)	-	-	-	-
Extra	n/a	-0.19†	-0.19†	-0.18†	-0.16†	-0.21†	-0.29†	n/a	-	-	-
Agree	n/a	-0.22†	-0.21†	-0.20†	-0.18†	-0.24†	-0.20†	0.10¶	n/a	-	-
Cons	n/a	-0.07¶	-0.07¶	-0.06¶	-0.06¶	-0.07¶	0.10†	-0.09¶	0.16†	n/a	-
Emo	n/a	-0.39‡	-0.38‡	-0.36‡	-0.33‡	-0.44‡	-0.38‡	0.24†	0.37‡	0.26†	n/a
Open	n/a	-0.27†	-0.27†	-0.25†	-0.23†	-0.30‡	-0.19†	0.33‡	0.16†	0.14†	0.44‡

Note: Omega coefficients in brackets on the diagonal; n/a, not applicable as calculated as mean score in line with instructions.
EX, exhaustion; MD, mental distance; CI, cognitive impairment; EI, emotional impairment; Somatic, Somatic complaints; Extra, Extraversion; Agree, Agreeableness; Cons, Conscientiousness; Emo, Emotional stability; Open, Openness to experience.
†, small effect size; ‡, medium effect size; §, large effect size; ¶, not significant ($p > 0.05$).



β, Standardised beta coefficient; R², Proportion variance explained.
*, Does not include zero.

FIGURE 1: The significant direct path coefficient results are presented graphically.

TABLE 3: The indirect paths for the model.

Indirect path	Estimate	L 95% CI	U 95% CI
Extraversion → Burnout → Somatic complaints	-0.05	-0.13	0.03
Agreeableness → Burnout → Somatic complaints	-0.06	-0.13	0.01
Conscientiousness → Burnout → Somatic complaints	0.02	-0.06	0.10
Emotional stability → Burnout → Somatic complaints	-0.21*	-0.30	-0.12
Openness → Burnout → Somatic complaints	-0.07*	-0.15	-0.01

L 95% CI, Lower 95% confidence interval; U 95% CI, Upper 95% confidence interval.
*, Does not include zero.

hypothesis 1). Moreover, as can be seen from Figure 1, the model explained 22.10% of the variance in burnout risk and 51.10% of the variance in somatic complaints.

Table 3 reflects the indirect effects tested in the model.

There were two meaningful indirect effects present in the model. The first was the relationship from emotional stability to somatic complaints through burnout (β = –0.21; 95% CI [–0.30, –0.12]), and the second from openness to somatic complaints through burnout (β = –0.07; 95% CI [–0.15, –0.01]).

Discussion

The current study investigated the relationships between the Big Five personality traits, burnout, and somatic symptoms in South Africa. Overall results indicated a strong relationship between burnout and somatic symptoms concurring with previous South African research (e.g., De Beer et al., 2016). The manifestation of health consequences and somatic symptoms because of burnout has been well-established (Bayes et al., 2021; Hammarströmm et al., 2023) and may differ between individuals (Edú-Valsania et al., 2022).

In the current sample of South African individuals, emotional stability and openness indirectly and negatively influenced employees' experience of somatic symptoms through burnout, indicating a protective effect for individuals who score higher on these traits. This result is in line with Roloff et al. (2022), who found that individuals in the teaching profession with higher neuroticism levels may be more vulnerable to experiencing emotional exhaustion, depersonalisation, and reduced personal accomplishment. Similarly, Hendrix et al. (2024) found that emotional stability translates into fewer burnout experiences. Furthermore, a review by Angelini (2023) supports openness's negative effect on burnout by helping employees see changes and setbacks as opportunities. In contrast, lower levels of openness may lead to adopting suboptimal coping mechanisms to cope with stress at work, such as depersonalisation (Swider & Zimmerman, 2010). In practical terms, individuals with a strong ability to remain emotionally resilient and adaptable may find themselves better equipped to handle the stresses of their work environment. For instance, those who are emotionally stable are less likely to feel overwhelmed or drained by the demands of their job, which can reduce the likelihood of experiencing physical manifestations of stress like tension headaches or gastrointestinal issues. Similarly, individuals who are open-minded and adaptable may find it easier to cope with challenges, thereby experiencing fewer somatic complaints, such as fatigue or muscle aches.

Higher levels of extraversion and emotional stability lowered somatic symptoms, consistent with research by Bianchi (2018) and Zimmerman (2008). This supports the notion that personality traits, especially high levels of neuroticism (i.e., low levels of emotional stability), contribute to burnout risk, as it acts as a negative filter through which daily work activities are viewed (Semmer, 2006). Furthermore, extroverts, with their outgoing and sociable nature, may also experience lower levels of somatic complaints, because of their strong social support networks and positive coping strategies (Swickert et al., 2002). To this effect, the current results support Roloff et al. (2022) and suggest that interventions should take a preventative approach when considering personality traits and burnout. Based on the current study's results, an intervention will focus on promoting extraversion as a tool and training employees to manage negative effects to combat low emotional stability in the workplace (Jackson et al., 2012; Roloff et al., 2022). Lastly, the increase of conscientiousness in personality types heightened somatic symptoms. This finding is in contrast with older research that showed conscientiousness may reduce the stress that leads to somatisation (Kirmayer et al., 1994). However, more recent research shows that conscientiousness increased burnout, which may support its link with somatic symptoms. Salami (2011) found that higher levels of conscientiousness increased depersonalisation and emotional exhaustion, and Gan and Gan (2014) indicate that it lowered professional accomplishment, which may be because of conscientious employees' greater commitment and effort to their work (Salami, 2011). These ambiguous findings indicate the need for future researchers to consider a more representative sample of the populations under study, as this may be the reason for divergent findings. Of course, the cross-cultural meanings may also differ.

Practical implications

The current study adds to burnout research in South Africa. Results indicate the specific personality traits within the South African context that organisations can consider when determining burnout risk and designing interventions or training. The findings underscore the importance of considering personality traits, such as emotional stability and openness, which offer protection against burnout and its associated somatic symptoms in the recruitment process. These traits could be leveraged in designing workplace strategies to reduce burnout risk.

However, it is crucial to recognise that personality represents a relatively stable set of psychological characteristics, typically evaluated during the recruitment and selection phases. Thus, based solely on this study, it would be simplistic and inaccurate to suggest that individuals with lower levels of openness are inherently at greater risk of burnout. Instead, personality traits should be viewed as components of a broader personality profile, not in isolation. Considering our findings, interventions might beneficially focus on fostering traits such as extraversion and emotional stability or developing coping strategies that mitigate their absence. This could involve training programmes designed to enhance self-regulation and personal resilience, potentially lowering burnout and its physical manifestations among employees.

Moreover, while the link between conscientiousness and increased somatic symptoms presents a more complex picture, it suggests the need for a nuanced approach to managing high-conscientiousness individuals in the workplace – who may develop perfectionistic or workaholic tendencies. Such strategies could balance their work commitment with measures to prevent overexertion and burnout, thereby addressing the dual challenge of maintaining high performance without compromising well-being.

Limitations and recommendations

The following limitations should be considered when interpreting the results of this study. Firstly, the sample consisted of a majority of female participants; future research should endeavour to conduct a similar study with a different South African sample with a stratified sample of males and females. Secondly, a cross-sectional design was used to conduct this study; other research using different designs is therefore encouraged to determine causal evidence. Future research is also suggested to determine the effectiveness of personality trait interventions in limiting burnout risk and somatic symptoms for the chosen South African sample. Moreover, the usefulness of such interventions based on the current results as preventative training during orientation and university should also be investigated.

Conclusion

The current study provides insights into personality traits, burnout, and somatic symptoms in a South African sample. Our results concur with previous research that more attention should be paid to personality's role in burnout theory and adds that certain personality traits, such as conscientiousness and low emotional stability, contribute to the experience of somatic symptoms in South African employees, but that extraversion and openness may play protective roles.

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Competing interests

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Authors' contributions

S.E.S., C.H. and L.T.d.B. contributed towards the conceptualization, C.H. and L.D.B. contributed towards the methodology, C.H. and L.T.d.B. contributed towards the project administration, L.T.d.B. contributed towards the analysis, S.E.S. and C.H. contributed towards the writing of the original draft and C.H. and L.T.d.B. contributed towards the writing of the original draft and editing.

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Data availability

The data that support the findings of this study are available from the corresponding author, S.E.S., upon reasonable request.

Disclaimer

The views and opinions expressed in this article are those of the authors and are the product of professional research. It does not necessarily reflect the official policy or position of any affiliated institution, funder, agency, or that of the publisher. The authors are responsible for this article's results, findings, and content.

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