

**Investigating discriminant validity and  
explained variance of burnout, depressive  
symptoms, job demands and satisfaction  
with life**

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## COMMENTS

The reader is reminded of the following:

- The editorial style of this manuscript follows the guidelines of the South African Journal of Industrial Psychology (SAJIP). The referencing in this mini-dissertation follows the format prescribed by the Publication Manual (6<sup>th</sup> edition) of the American Psychological Association (APA). These practices are in line with the policy of the Programme in Industrial Psychology of the North-West University (Potchefstroom) to use the APA style of referencing in all scientific documents as from January 1999.
- The mini-dissertation is presented in the form of a research article.
- Chapter two has been submitted for publication in the South African Journal of Psychology.

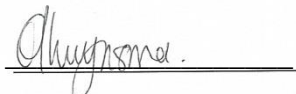
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## DECLARATION

I, **Cara Thuynsma**, hereby declare that “Investigating discriminant validity and explained variance of burnout, depressive symptoms, job demands and satisfaction with life” is my own work and that the views and opinions expressed in this work are those of the author and relevant literature references as cited in the manuscript.

I further declare that the content of this research was not and will not be submitted for any other qualification at any other tertiary institution.

A handwritten signature in cursive script, appearing to read 'Thuynsma', is written over a horizontal line.

Cara Thuynsma

November 2015

## DECLARATION OF LANGUAGE EDITING



28 September 2015

I, Ms Cecilia van der Walt, hereby confirm that I took care of the editing of the dissertation of Ms Cara Thuynsma titled *Investigating discriminant validity and explained variance of burnout, depressive symptoms, job demands and satisfaction with life.*

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## SUMMARY

**Title:** Investigating discriminant validity and explained variance of burnout, depressive symptoms, job demands and satisfaction with life

**Keywords:** Burnout, job demands, depression, satisfaction with life, emotional load, workload, depressive symptoms, variance explained, relative weight analysis, structural equation modelling

Burnout is accepted as a work-related phenomenon that impacts negatively on individuals and organisations. However, the conceptualisation of burnout is contested. Recent research challenge the distinction drawn between burnout and depression, due to the large overlap between these two constructs. Furthermore, research calls into question whether burnout can rightly be attributed exclusively to work-related factors, or whether factors outside the domain of work also contribute to burnout, indicating a multi-domain phenomenon.

The general objective of this study was to determine whether burnout can be discriminated from depressive symptoms, as well as to establish which factors explain the most variance in burnout, i.e. work-specific factors (job demands, more specifically emotional load and workload) or generic factors (depressive symptoms and satisfaction with life).

A quantitative, cross-sectional research design was implemented. Data was collected by means of convenience sampling amongst educators employed in the Gauteng Province of South Africa (N = 399). Confirmatory factor analysis was conducted within a structural equation modelling framework. Discriminant validity between burnout and depressive symptoms was determined by investigating correlation scores, average variance extracted, as well as shared variance between the constructs. Finally, the unique contribution to the variance explained in burnout by work-specific factors and generic factors respectively was determined through relative weight analysis.

The results revealed that, statistically, burnout could be distinguished from depressive symptoms. All variables significantly explained variance in burnout; depressive symptoms and emotional load explained equal amounts of variance in burnout and were the largest individual contributors to the explained variance in burnout – indicating a multi-domain phenomenon. Aggregated, work-specific factors explained the most variance in burnout.

Recommendations were made to be applied in practice, as well as for future research.



## OPSOMMING

**Titel:** Onderzoek na diskriminante geldigheid en verklaarde variansie van uitbranding, depressiesimptome, werkseise en lewensbevreeding

**Sleutelwoorde:** Uitbranding, werkseise, depressie, lewenstevredenheid, emosionele lading, werkslading, depressiesimptome, variansie verklaar, analise van relatiewe gewig, strukturele vergelykingsmodellering

Uitbranding word aanvaar as 'n werkverwante verskynsel wat negatief op individue en organisasies inwerk. Die konseptualisering van uitbranding word egter bevreagteken. Onlangse navorsing betwis die onderskeid wat getref word tussen uitbranding en depressie, weens die groot oorvleueling tussen hierdie twee konstrukte. Verder bevreagteken navorsing ook of uitbranding tereg uitsluitlik aan werkverwante faktore toegeskryf kan word, en of faktore buite die werksdomein ook tot uitbranding bydra, wat dan dui op 'n meervoudigedomein-verskynsel.

Die oorkoepelende doel van hierdie studie was om te bepaal of uitbranding van depressiesimptome onderskei kan word, asook om vas te stel watter faktore die meeste variansie in uitbranding verklaar, dit wil sê werkspesifieke faktore (werkseise, meer spesifiek emosionele lading en werkslading) of generiese faktore (depressiesimptome en lewensbevreeding).

'n Kwantitatiewe, dwarsnitnavorsingsontwerp is geïmplementeer. Data is aan die hand van gerieflikheid-steekproefneming onder onderwysers werksaam in die Gauteng-Provinsie van Suid-Afrika verkry (N = 399). Bevestigende faktoranalise is binne 'n strukturele vergelykingsmodelleringssraamwerk uitgevoer. Diskriminante geldigheid tussen uitbranding en depressiesimptome is bepaal deur korrelasietellings, gemiddelde variansie onttrek asook gedeelde variansie tussen die konstrukte te ondersoek. Ten laaste is die unieke bydrae tot die variansie wat in uitbranding verklaar word deur werkspesifieke faktore en generiese faktore bepaal deur relatiewe gewig analise te implementeer.

Die resultate het aan die lig gebring dat, statisties gesproke, uitbranding van depressiesimptome onderskei kan word. Alle veranderlikes het variansie in uitbranding

betekenisvol verklaar; depressiesimptome en emosionele lading het gelyke hoeveelhede variansie in uitbranding verklaar en was die grootste individuele bydraers tot die verklaarde variansie in uitbranding – wat dan dui op 'n meervoudigedomein-verskynsel. Saamgevoeg het werkspesifieke faktore die meeste variansie in uitbranding verklaar.

Aanbevelings is gemaak vir toepassing in die praktyk, asook vir verdere navorsing.

# **CHAPTER 1**

## **INTRODUCTION**

## **Introduction**

Many organisations recognise employees as their most valuable resource and due to this make an effort to enhance employees' well-being, yet burnout is still considered a current problem that affects individual and organisational outcomes negatively. Burnout has a wide range of negative consequences such as increased physical health problems (Armon, Melamed, Shirom & Shapira, 2010), decreased commitment (Levert, Lucas & Ortlepp, 2000) and increased absenteeism (Schaufeli, Bakker & Van Rhenen, 2009). Ultimately, burnout leads to reduced performance and thereby a less productive workforce (Taris, 2006). This has negative implications for the world of work. An employee is afflicted by burnout when he/she experiences a work-induced loss of energy and motivation (Bakker, Demerouti & Sanz-Vergal, 2014). Some authors challenge this statement, specifying that work-specific factors and generic factors (factors outside the work domain) both contribute substantially to the development of burnout (Bianchi, Truchot, Laurent, Brisson & Schonfeld, 2014). Even though an overlap between burnout and depression has been acknowledged (McKnight & Glass, 1995), recent research has continued to question the value of burnout as a diagnosis due to the various symptoms and etiological pathways between burnout and depression that overlap (Bianchi, Schonfeld & Laurent, 2014b).

The purpose of this mini-dissertation is first to determine whether burnout can be seen as a distinct entity from depression, and secondly to determine whether work-specific factors (represented by job demands) or generic factors (represented by depressive symptoms and satisfaction with life) explain more variance in burnout.

This chapter comprises the problem statement with regard to burnout, depressive symptoms, job demands and satisfaction with life. The research questions, research objectives and research hypotheses are then presented after which the research methodology is set out. Finally, the layout of the chapters and a summary of this chapter are provided.

## 1.1 Problem statement

Burnout is a popular concept and is considered a serious occupational health problem (Schaufeli & Buunk, 2004). The concept emerged four decades ago when Freudenberger observed a loss of motivation and emotional energy among volunteers working at free clinics (Freudenberger, 1974). Burnout was traditionally presented as a work-related phenomenon characterised by low levels of energy and motivation, brought on by too high an emotional load that affected human services workers (Maslach, 1982). However, burnout was then shown to exist in various occupations and not only confined to human services work (Demerouti, Bakker, Nachreiner & Schaufeli, 2001). Burnout within organisations has various undesired consequences, such as reduced commitment and job performance as well as increased turnover, absenteeism and ill health symptoms (De Beer, Rothmann Jr. & Pienaar, 2012; Rothmann, 2003; Swider & Zimmerman, 2010).

Maslach (1982) describes burnout as a psychological syndrome characterised by three components: emotional exhaustion, cynicism, and reduced professional efficacy. Exhaustion is apparent when an individual experiences work-induced loss of emotional resources, leaving the individual with low energy levels and feeling overly drained stressed and moody (Demerouti, Nachreiner, Bakker & Schaufeli, 2000). Cynicism occurs when an individual shows a lack of will to perform due to an increased intolerance to effort and experiences a lack of meaning in his/her work (Demerouti et al., 2001). Finally, reduced professional efficacy refers to the level of efficiency that the individual perceives him/herself to have in their work, the individual has a tendency to evaluate his/her own work negatively (Demerouti et al., 2000). However, research has also advocated for a two-core component solution (exhaustion and cynicism (Schaufeli, Bakker, Hoogduin, Schaap & Kladler, 2001; Schaufeli & Taris, 2005), and also for a one component solution for burnout (consisting of exhaustion and cynicism items) with professional efficacy as a separate additional factor (De Beer & Bianchi, 2015; Mészáros, Ádám, Szabó, Szigeti & Urbán, 2014).

Therefore the very conceptualization of burnout also remains unclear (Bianchi, Schonfeld & Laurent, 2015; Weber & Jaekel-Reinhard, 2000). Recently, questions have emerged regarding the nosological value of burnout, i.e. should burnout be considered as a distinct entity from depression (Chiu, Stewart, Woo, Yatham & Lam, 2015), or is it merely a subtype

of depression (Bianchi et al., 2014b)? Arguments have been advanced regarding which factors contribute more to burnout – i.e. work-specific factors (as implied by the definition of burnout) or generic factors from other domains of life such as satisfaction with life and depression indicating a multi-domain phenomenon (Bianchi, 2015). Without having a clear understanding and agreement of what burnout is and what factors evoke it, it is not possible to effectively intervene on individuals who suffer from burnout (Bianchi, Boffy, Hingray, Truchot & Laurent, 2013).

Generic factors (used here to describe general non-work-specific factors) have been shown to have an association with burnout levels, such as depression (Hakanen & Schaufeli, 2012) and satisfaction with life (Hombrados-Mendieta & Cosano-Rivas, 2011). Gruenberg and Goldstein (2003) describe depression as an individual's reaction to challenges that they perceive to be impossible to overcome. Depressive disorders are characterised by symptoms such as an irritable or sad mood together with cognitive and somatic changes within an individual that significantly inhibits his/her ability to function effectively (American Psychiatric Association, 2013). Furthermore, individuals who present with depressive symptoms may show decreased pleasure and less interest in activities (American Psychiatric Association, 2013).

The link between burnout and depression is still not completely clear (Bianchi, Schonfeld & Laurent, 2014a; Bianchi et al., 2013). There are various authors that argue the necessity for more research on the nosological status/value of burnout, as well as the extent to which the overlapping symptoms of burnout and depression indicate isomorphism (Bianchi et al., 2015; Bianchi et al., 2014b). Research has presented that burnout shares features with depression and that the symptoms of burnout and depression overlap (Bianchi et al., 2014a; Bianchi et al., 2013; Taris, 2006). It has also been reported that the core of burnout (emotional exhaustion) has a stronger relationship with depression than it does with cynicism (another dimension of burnout; Bianchi et al., 2014b). Freudenberger (1974) himself stated that an individual who is afflicted by burnout “looks, acts and seems depressed” (p. 161). Some authors now consider burnout to be no more than a subtype of depression (Bianchi et al., 2013), and consequently that burnout and depression essentially represent the same phenomenon with different labels.

With the advent of the Job Demands–Resources (JD-R) model, it was shown that job demands impact on individuals in a way that leads to burnout; job demands activate the health impairment process which erodes employees’ energetic capacity over time into burnout, and eventual psychological and physical ill-health symptoms (Bakker & Demerouti, 2007; Bakker, Demerouti & Sanz-Vergel, 2014; De Beer et al., 2012). Demerouti et al. (2001) describe job demands as any aspects of a job that require sustained psychological and physical effort, resulting in psychological and physical costs. Thus, from a work-related perspective, burnout is understood as the eventual outcome of chronic work stressors (Schaufeli & Enzmann, 1998) brought on by inordinate job demands, coupled with ineffective coping mechanisms and the need to constantly use resources to meet inordinate demands (Bianchi et al., 2013). As research has found that emotional load and workload (pace and amount of work) are important predictors of burnout (Bakker, Demerouti & Euwema, 2005), this study focused on these two job demands in particular.

Satisfaction with life indicates an overall evaluation of the quality of an individual’s life as a whole (McDowell, 2010). It is thus a subjective measure of well-being that denotes the individual’s perceived quality of life (Gündel & Herschbach, 2000). It is entirely possible that an individual may be dissatisfied with life, since satisfaction (or dissatisfaction) with life is the summary of how an individual evaluates aspects in his or her life that are both liked and disliked (Heller, Judge & Watson, 2002). Research on satisfaction with life and burnout has found that burnout and satisfaction with life have a negative relationship over time (Hakanen & Schaufeli, 2012; Hombrados-Mendieta & Cosano-Rivas, 2011), and that satisfaction with life in conjunction with global stress has accounted for 42% of the variance in burnout (Bianchi, 2015).

Summarily, while it is apparent that there is an association between burnout and depression, authors differ regarding their conclusions on what exactly this relationship is and whether the concepts differ at all (Bianchi et al., 2015; Weber & Jaekel-Reinhard, 2000). Furthermore, when job demands are too high it leads to an increase in burnout (De Beer, Pienaar & Rothmann Jr., 2013). Finally, it has also been shown that a negative relationship exists between satisfaction with life and burnout (Lambert, Hogan & Altheimer, 2010), and that satisfaction with life accounts for a large amount of variance in burnout. Hence, two broad categories of factors that can impact burnout are of interest in this study: the first is work-specific factors, i.e. job demands (emotional load and workload), and the second is generic

factors, which in this study refers to depressive symptoms and satisfaction with life. Having a better understanding of the extent to which different factors contribute to burnout, and how these variables interact, will aid practitioners in addressing and reducing burnout levels and symptoms. By using standardised questionnaires and applicable statistical methodology, this study intended to identify, within the South African context, the association and unique contribution of these factors to the explained variance in burnout – and whether burnout can be clearly distinguished from depressive symptoms.

This study will focus on burnout experienced by educators. Teaching has been described as being one of the hardest jobs; it has been suggested that teaching is more stressful than other academic and client related professions (Spilt, Koomen & Thijs, 2011; Shin, Noh, Jang, Park, & Leë, 2013). Various factors contribute to the high stress levels experienced by educators, such as relationship problems between co-workers, problematic student behaviour and constant adaption of teaching methods due to Government requirements (Skaalvik & Skaalvik, 2007). External pressures from parents, supervisors and policymakers add to these stress levels even more (Van Droogenbroeck & Spruyt, 2014). Furthermore, the role that educators must fulfil is ever expanding; educators are increasingly required to be involved in non-teaching related activities, such as large amounts of administrative duties and the expectation to be actively involved in finding solutions to various social problems (e.g. health education, drug abuse prevention and civic education) (Van Droogenbroeck Spruyt, & Vanroelen 2014), thus essentially requiring them to take over tasks that are traditionally the responsibility of parents. Within the South African context specifically, there are unique factors increasing the amount of stress educators experience even more, such as violence, racism and other anti-social behaviour and values taking place in schools (Jackson & Rothmann, 2005).

Teacher burnout is seen as being caused by a complex relationship between the working environment and personal characteristics (Pietarinen, Pyhältö, Soini & Salmela-Aro, 2013). Many teachers cope with the increasing amount of stress experienced by seeking social and emotional support from co-workers, active problem solving, reorganizing the teaching environment or cooperating with parents (Shin et al., & Leë, 2013). When these attempts to cope is not successful, it results in burnout (Pishghadam, Adamson, Sadafian, & Kan, 2014). When educators experience burnout it does not only effect their job satisfaction, motivation, health and length of their career, but also the behaviour of students and the quality of learning



students receive (Pietarinen et al., 2013; Jalongo & Heider, 2006). Burnout also cause educators communicate with students less frequently, thereby providing less praise and information to students (Pishghadam et al., 2014). It is thus clear that it is not only the educator that is negatively affected when he/she suffers from burnout, but students and the quality of education they receive suffer as well. When considering the influence that education has on economic growth (Hanushek & Wößmann, 2010), it becomes evident that burnout experienced by educators is a phenomenon that has far reaching effects for the individuals, their students, and eventually on the nation as a whole.

Based on the afore-mentioned research problem, the following research questions have been formulated:

Q1: How is burnout, depression, job demands and satisfaction with life conceptualised according to literature?

Q2: Do burnout and depressive symptoms show acceptable discriminant validity?

Q3: How much variance do depressive symptoms explain in burnout?

Q4: How much variance do job demands, as work-specific factors, explain in burnout?

Q5: How much variance does satisfaction with life explain in burnout?

Q6: When aggregated, do work-specific factors or generic factors explain more variance in burnout?

Q7: What recommendations can be made for future research and practice?

## 1.2 Expected contribution of the study

### **1.2.1 Contribution to the individual**

In order for burnout to be treated in the most effective way it is necessary to have a better understanding of which factors contribute to burnout as experienced by individuals in the first place. By determining whether work-specific factors or generic factors contribute more to burnout, this study will contribute to increasing the effectiveness of treatment for individuals afflicted by burnout.

### **1.2.2 Contribution to the organisation**

By shedding light on what factors contribute more to burnout (work-specific factors or generic factors); this study will enable organisations to more effectively intervene on organisational causes for burnout as well as on employees suffering from burnout. This will lead to a decrease in the negative organisational outcomes associated with burnout, and a more productive workforce.

### **1.2.3 Contribution to Industrial Psychology literature**

At present there is little consensus regarding whether or not burnout truly is an entity distinct from depression. Burnout is seen as being caused by work-related factors, as opposed to depression being the result of various factors from all domains of life. This study will use applicable statistical methods to determine whether work-specific factors contribute to burnout more than the generic factors. This study will therefore add to the literature aimed at shedding more light on this subject, specifically also for the first time within the South African context.

## **1.3 Research objectives**

The research objectives are divided into a general objective and specific objectives.

### **1.3.1 General objective**

The study sought to determine whether burnout can be seen as an entity separate from depression, as well as to determine which of work-specific factors or generic factors contribute more to burnout.

## 4.2 Specific objectives

The specific objectives of this research are:

- To determine how burnout, depression, job demands and satisfaction with life are conceptualised in the literature.
- To determine whether burnout and depressive symptoms show acceptable discriminant validity.
- To determine how much variance depressive symptoms explain in burnout.
- To determine how much variance job demands, as work-specific factors, explain in burnout.
- To determine how much variance satisfaction with life explains in burnout.
- To determine whether when aggregated, work-specific factors or generic factors explain more variance in burnout.
- To make recommendations for future research and practice.

## 1.4 Research hypotheses

The following hypotheses are presented:

*H<sub>1</sub>*: Burnout and depressive symptoms show acceptable discriminant validity.

*H<sub>2a</sub>*: Depressive symptoms contribute to the variance explained in burnout.

*H<sub>2b</sub>*: Job demands contribute to the variance explained in burnout.

*H<sub>2c</sub>*: Satisfaction with life contributes to the variance explained in burnout.

*H<sub>3</sub>*: The work-specific factors, i.e. job demands, contribute to more explained variance in burnout than will the generic factors, i.e. depressive symptoms and satisfaction with life.

## 1.5 Research method

### **1.5.1 Literature Review**

A thorough literature review was conducted regarding burnout, depression, job demands and satisfaction with life. Various sources were consulted to gather information. Several research engines were used, namely Google Scholar, EbscoHost (Academic search premier, Business source premier, E-Journals, CINAHL with full text, EconLit, ERIC, PsychARTICLES, PscyINFO) and LexisNexis. As part of this search the following journals were used: *South African Journal of Industrial Psychology, Stress & Health, Burnout Research, Work & Stress, Journal of Occupational Health Psychology, The International Journal of Human Resource Management, International Journal of Stress Management, Journal of Occupational and Organisational Psychology, Journal of Organisational Behaviour, Organizational Psychology and Organizational Behavior, Journal of Applied Psychology, Journal of Personality Assessment, Journal of Psychosomatic Research Journal of Social Issues, Journal of Occupational and Environmental Hygiene, Psychology & Health and Journal of Health Psychology*. Keywords used were *burnout, job demands, depression, life satisfaction, emotional load, workload, depressive symptoms*. Various books were also consulted, including: *Understanding burnout: Definitional issues in analysing a complex phenomenon, Maslach Burnout Inventory manual, Job stress and burnout and The handbook of work and health psychology*.

### **1.5.2 Research design**

A quantitative, cross-sectional design was used for this study. This implies that the research is an objective, systematic process that involves a large number of participants whereby data is gathered at one point in time (Struwig & Stead, 2001; Welman & Kruger, 2001). In quantitative research, a larger number of participants are required than do qualitative studies. No experimental or control groups were included in this study, therefore a non-experimental research design was followed (De Vos, Strydom, Fouche & Delpont, 2012). Within this design, primary data was used through distributing surveys to collect data from the participants.

### 1.5.3 Research participants

Convenience sampling was used to gather data amongst educators working at primary or secondary schools in the Gauteng Province. The sample includes individuals that vary in terms of age, ethnicity, marital status, and gender. All participants had to be proficient in English in order to be able to complete the questionnaire. A final sample of 399 participants was obtained for use to analyse and interpret the data, and to draw conclusions from it.

### 1.5.4 Measuring instruments

**Biographical questionnaire:** A standard biographical questionnaire was used to determine the biographical characteristics of the participants such as year of birth, gender, home language, ethnicity, level of education and length of employment.

**Burnout** was measured using the Maslach Burnout Inventory (MBI; Maslach & Jackson, 1981). This measure consists of 22 items concerning perceptions related to work which are scored on a 7-point frequency-rating scale ranging from 0 (Never) to 6 (Every day). This study, however, subscribed to the one-factor model of burnout, consisting of emotional exhaustion (9 items, e.g. “I feel emotionally drained from my work”) and cynicism (5 items, e.g. “I’ve become more callous toward people since I took this job”); 14 items in total). Aguayo, Vargas, de la Fuente and Lozano (2011) examined the Cronbach’s alphas for the dimensions over 45 empirical studies and found the average Cronbach’s alpha for the dimensions to be 0.88 and 0.71 for emotional exhaustion and cynicism respectively.

**Depressive symptoms** were measured by the Depression Anxiety Stress Scale 21 (DASS-21). DASS-21 is a shortened version of Lovibond and Lovibond’s (1995) original 42-item self-report measure (DASS). The DASS-21 is not a clinical diagnostic tool; its function is to assess the severity of the core symptoms of depression, anxiety and stress – and therefore does not replace a clinical interview. The scale consists of three seven-item subscales, but the Depression subscale specifically was used. There are thus 7 items in total, for example “I felt that I had nothing to look forward to”. The participant indicates the presence of the symptom depicted in the item on a scale from 0 (Did not apply to me at all over the last week; Never) to 3 (Applied to me very much or most of the time over the past week; Almost Always). The

Cronbach's alpha for the DASS-21 total scale is 0.93 and 0.88 for the Depression subscale (Henry & Crawford, 2005).

*Job demands* were measured by means of scales from the Job Demands-Resources Scale (JDRS) developed by Jackson and Rothmann (2005). Items were measured on a four-point scale ranging from 1 (Never) to 4 (Always). *Emotional load* (e.g. "Does your work put you in emotionally upsetting situations?") and *workload* (pace and amount of work; e.g. "Do you have too much work to do?") were measured by means of three items each. Rothmann, Mostert and Strydom (2006) found that the JDRS had reliable scales ( $\alpha$ 's > 0.70) for measurement in South Africa.

*Satisfaction with life* was measured with the Satisfaction with Life Scale (SWLS) developed by Diener, Emmons, Larsen and Griffin (1985). This scale has five items measured on a 7-point Likert scale, ranging from 1 (Strongly disagree) to 7 (Strongly agree). An example item is: "In most ways my life is close to my ideal". This scale has reported Cronbach's alpha coefficients in studies ranging between 0.79 and 0.89 (McDowell, 2010).

### **1.5.5 Research procedure**

After receiving ethical approval from the North-West University (NWU) Faculty of Economic and Management Sciences' ethics committee, permission was sought from Gauteng's Education Department (GDE) before the data collection could commence. Principals were then met in person and received documentation explaining the overall goal of the study, proof of permission from the GDE to do research in Gauteng schools and proof of ethical clearance from the NWU; he or she then gave permission to conduct the research at the school. Informed consent was obtained from the participants; participants were informed about the voluntary nature of the study and assured of confidentiality and anonymity. Participants received the questionnaire in hard copy (delivered by hand) and were given seven continuous days to complete the booklet. The purpose of the study was explained on the front page and it took approximately 15 minutes to complete the questionnaire. The questionnaire was also accompanied by an empty envelope; after completing the questionnaire, participants sealed the booklet in the envelope and returned it to the school's administrative office. The data was then collected, captured in a spread sheet and statistical

analyses commenced. Of the 670 booklets distributed, 399 were returned, indicating a response rate of 59.60%.

### 1.5.6 Statistical analysis

Mplus 7.31 was used to investigate the research questions (Muthén & Muthén, 2015). Structural equation modelling methods were implemented in order to specify a measurement model (confirmatory factor analysis). Considering the categorical nature of the data (Rhemtulla, Brosseau-Liard & Savalei, 2012), the mean- and variance-adjusted weighted least squares was used as estimation method (WLSMV; Muthén, Du Toit & Spisic, 1997). The fit of the measurement model was studied by considering the Comparative fit index (CFI), Tucker-Lewis index (TLI), and Root mean square error of approximation (RMSEA). Acceptable values for the CFI and TLI are considered to be 0.90 and above, and 0.08 or below for the RMSEA (Van de Schoot, Lugtig & Hox, 2012). Alpha and omega reliability coefficients were calculated for the scales, as recent research has shown the problematic nature of coefficient alpha and have requested that alternate forms of reliability be introduced in psychological research, such as coefficient omega (Peters, 2014; Revelle & Zinbarg, 2009). Since acceptable fit and reliability was present, the correlation matrix was investigated to ascertain the convergent validity of burnout; if correlations between burnout and the other factors (e.g. depressive symptoms) are too high ( $r > 0.84$ ) – it would indicate an issue with discriminant validity between the constructs (Brown, 2015), basically indicating that the same phenomenon is being measured. The discriminant validity between burnout and depressive symptoms was investigated further by considering the average variance extracted (AVE) for each respective variable and the shared variance between the two constructs as per the guidelines of Farrell (2010). The shared variance between the variables should be smaller than the AVE of each variable for discriminant validity to exist. Overall statistical significance was set at the 95% level ( $p \leq 0.05$ ). Effect sizes for the correlation coefficients will be considered to be practically significant at  $r > 0.29$  for a medium effect, and  $r > 0.49$  for a large effect (Cohen, 1992).

Finally, relative weight analysis (also referred to as relative importance analysis) was conducted (Chao, Zhao, Kupper & Nylander-French, 2008; Johnson, 2000). With this technique, the correlation matrix is used as input and transformed into an Eigen matrix for regression analyses. The outcome is that the contribution of each respective predictor variable

is shown in terms a percentage out of 100% of the total variance explained (R-squared) in the dependent variable, i.e. burnout, by the model. This method is advantageous as it addresses the issue of correlated predictors that can potentially inflate or deflate the real contribution of predictor variables in the dependent variable (Johnson, 2000). This enables the researcher to determine the unique contribution of the each respective variable, and when aggregated, to determine which explained more variance in burnout: work-related factors (emotional load + workload) or generic factors (depressive symptoms + satisfaction with life).

### **1.5.7 Ethical considerations**

Considering the importance of ethical behaviour (Brinkmann & Kvale, 2008), ethical considerations guided this study at all times. After obtaining ethical clearance from the faculty research and ethics committee (Reference: EMS15/04/21-01/03) and the GDE, the study sought informed consent from all participants (Leedy & Ormrod, 2012). The researcher did not deceive participants by deliberately misinforming, misleading or withholding information (Struwig & Stead, 2001). Participants were informed of the voluntary nature of the study, and assured that all information will be kept confidential and anonymous (Ritchie, Lewis, McNaughton-Nicholls & Ormston, 2014). Care was taken to do no harm; the rights and dignity of participant were respected at all times (Salkind, 2009).

## 1.6 Overview of the chapters

This mini-dissertation consists of three chapters. Chapter 1 serves as the introduction that highlights the purpose and objectives of the study. Chapter 2 is presented in the form of a research article that discusses the research objectives and results. Finally, Chapter 3 consists of the conclusions, limitations and recommendations of the study.

## 1.7 Chapter summary

Chapter 1 presented the problem statement and research objectives of the study, followed by an explanation on the research method and the measuring instruments. Finally, a brief overview was presented of the chapters to follow.



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**CHAPTER 2**  
**RESEARCH ARTICLE**



# **Investigating discriminant validity and explained variance of burnout, depressive symptoms, job demands and satisfaction with life**

## **Abstract**

**Orientation:** Burnout is considered an occupational health concern. However, research questioning the distinction made between burnout and depression, as well as questions relating to whether burnout is solely a work-related phenomenon or a multi-domain phenomenon, has come to the fore.

**Research purpose:** To determine whether burnout can be discriminated from depressive symptoms, and whether work-specific factors (job demands) or generic factors (depressive symptoms and satisfaction with life) explain more variance in the burnout construct.

**Motivation for the study:** The burnout-depression overlap is an important area of research as the foundations of burnout and its diagnostic value have come under increasing scrutiny; calling for burnout not to be classified as an independent disorder but rather as a sub-type of depression. Furthermore, workplace factors have been argued to be the only contributors to burnout, as burnout is defined as a work-specific syndrome in current literature. This study seeks to establish the overlap of burnout with depression, and whether burnout is in fact a multi-domain phenomenon.

**Research design, approach and method:** A cross-sectional research design was used. A convenience sample of educators from the Gauteng Province of South Africa was collected ( $N = 399$ ). Confirmatory factor analysis was applied in a structural equation modelling framework. Discriminant validity analysis was implemented by investigating the average variance extracted and the shared variance between constructs. Finally, relative weight analysis was conducted to ascertain the unique contribution made by the work-specific and generic factors to burnout.

**Main findings:** Results showed that burnout could be distinguished from depressive symptoms. Depressive symptoms, job demands and satisfaction with life all explained significant amounts of variance in the burnout construct. Relative weight analysis revealed that emotional load and depressive symptoms explained the most, and equal amounts, of variance in burnout, as well as that that the aggregated work-specific factors explained the most variance in burnout.

**Practical/Managerial implications:** Organisations should still consider burnout a problem, even though the overlap of burnout with depression is extensive. If organisational surveys are continued it is important for individuals identified as burnout risks to be sent for clinical depression screening and that the focus should not remain on addressing work-specific factors only.

**Contribution/Value-add:** This study indicates that burnout is a multi-domain phenomenon and not isolated to the domain of work. Further research studies are needed in this regard.

**Keywords:** Burnout, depression, job demands, emotional load, work overload, depressive symptoms, satisfaction with life, confirmatory factor analysis, relative weight analysis

## Introduction

Work has become increasingly demanding (Nieuwenhuijsen, Bruinvels & Frings-Dresen, 2010), and the line between work-life and home-life more blurred (Olson-Buchanan & Boswell, 2006). Work stress is prevalent and has been found to affect about 30% of the general working population (Dewa, McDaid & Ettner, 2007). Prolonged work stress has been found to lead to burnout (Steinhardt, Smith-Jaggars, Faulk & Gloria, 2011). Burnout is an occupational health problem which implicates negative consequences for employees and organisations (Fernet, Guay, Senécal & Austin, 2012). Burnout is commonly understood as a psychological syndrome brought on by prolonged work-related stress and classically consists of three dimensions, namely: emotional exhaustion, cynicism (depersonalisation) and reduced professional efficacy (Maslach & Jackson, 1981). More specifically, work stress results in the gradual erosion of emotional resources within an individual (leading to emotional exhaustion), mental distancing from one's work (cynicism) and finally the tendency to evaluate the quality of work done negatively (reduced professional efficacy) (Maslach, 1982; Maslach & Leiter, 1997).

Studies have reported teaching to be one of the more stressful occupations (Akca & Yaman, 2010; Hakanen, Bakker & Schaufeli, 2006; Spilt, Koomen & Thijs, 2011). There is consensus that the large number of educators suffering from burnout is problematic (Loonstra, Brouwers & Tomic, 2009; Pietarinen, Pyhältö, Soini & Salmela-Aro, 2013; Van Droogenbroeck, Spruyt & Vanroelen, 2014). Educators play a critical role in the quality and effectiveness of the learning process for students, and thereby students' eventual achievements (Scheopner, 2010). Burnout impedes educators' health (psychological and physical) and reduces their ability to perform quality work; as a result they cannot perform their duties effectively and consequently inhibit students from receiving quality education (Yong & Yue, 2014). Educators being burned out does not only impact on students' learning and behaviour (Dorman, 2003), but on the education system and society as a whole (Pishghadam, Adamson, Sadafian & Kan, 2014).

However, burnout is not unique to the education sector, since the factors that lead to burnout are not only found within the teaching context; the Job Demands–Resources (JD-R) model (Demerouti, Bakker, Nachreiner & Schaufeli, 2001) indicates that burnout is caused by job

demands, such as workload and emotional load (Chang, 2009; Hakanen et al., 2006), regardless of what the specific occupation might be. When burnout is indicated, it can result in increased ill-health symptoms, absenteeism, turnover and turnover intention as well as decreased productivity, effectiveness, job satisfaction, commitment and dedication to the job (Bakker, Demerouti, De Boer & Schaufeli, 2003; Levert, Lucas & Ortlepp, 2000; Maslach, Schaufeli & Leiter, 2001; Riolli & Savicki, 2014). In essence, burnout leaves employees less capable of effectively executing their jobs, solving complex tasks, concentrating, and with a tendency to be more forgetful (Hoogduin, Schaap, Methorst, Peters van Neyenhof & Van de Griendt, 2001). By having a direct effect on employees' performance, burnout has an indirect effect on the eventual profits of the organisation (Welthagen & Els, 2012). Therefore, it is not only the individual employee who is adversely affected when he/she suffers from burnout, but the organisation where the individual is employed as well.

It should be mentioned, however, that not all researchers believe job demands to be the only contributors to burnout and partly attribute burnout to generic factors, such as depressive symptoms and satisfaction with life (Anand & Arora, 2009). In a study regarding satisfaction with life and the risk of developing burnout conducted by Śliwiński et al. (2014), it was found that when individuals are satisfied with their children, marriage/partnership, health, sexuality and relations with friends/acquaintances and family, they are less prone to develop burnout. Similarly, not being satisfied with one's current financial situation and the amount of free time available can induce burnout (Śliwiński et al., 2014). Moreover, the nosological value of burnout has been questioned, since burnout is known to share common symptoms and etiological pathways with depression (Van Dam, Keijsers, Verbraak, Eling & Becker, 2013).

There are three main schools of thought regarding the relationship between burnout and depression (a) those that believe burnout and depression develop in tandem, or that the one leads to the other (Ahola & Hakanen, 2007; Iacovides, Fountoulakis, Kaprinis & Kaprinis, 2003), (b) those who believe burnout is actually a form of depression (Bianchi, Boffy, Hingray, Truchot & Laurent, 2013), and (c) those that believe burnout and depression are distinct nosological entities (Plieger, Melchers, Montag, Meermann & Reuter, 2015).

Therefore, this study set out to determine burnout's distinctiveness from depressive symptoms by investigating whether discriminant validity could be established between the two constructs in the sample. Secondly, the study will investigate which of the factors explain

the most variance in burnout; work-specific factors were represented by job demands, more specifically emotional load and workload, whereas generic factors were represented by depressive symptoms and satisfaction with life. Next, the operationalisation of burnout will be presented, followed by a discussion of how burnout relates to depression, job demands and satisfaction of life respectively. Finally questions relating to the causes of burnout are discussed – is burnout solely caused by work-related factors, or do generic factors also contribute to the experience of burnout.

## Literature review

### **The operationalisation of burnout**

Burnout was initially presented as a three-factor structure comprising emotional exhaustion, cynicism and reduced professional efficacy (Maslach & Jackson, 1981). However, disagreements regarding the foundation and structure of burnout have added to the arguments for burnout to be accepted as a form of depression, as the conceptualisation of burnout as comprising three dimensions has been repeatedly questioned (Kristensen, Borritz, Villadsen & Christensen, 2005; Shirom & Melamed, 2006). For example, emotional exhaustion (the core dimension of burnout) has been found to have a stronger association with depressive symptoms than with the other dimensions of burnout (see Bianchi, Schonfeld & Laurent, 2014a). Bianchi, Schonfeld and Laurent (2015) therefore question why cynicism and reduced professional efficacy are included as dimensions of burnout, while depressive symptoms are not. Researchers have also advocated for a two-dimensional model of burnout, consisting of emotional exhaustion and cynicism (Kalliath, O'Driscoll, Gillespie & Bluedorn, 2000), and others for a bi-factor solution consisting of a general burnout factor and professional efficacy (Mészáros, Ádám, Szabó, Szigeti & Urbán, 2014). This study subscribes to the one-factor latent variable model of burnout consisting of the core components emotional exhaustion and cynicism items (De Beer & Bianchi, 2015; Schaufeli & Taris, 2005); this single factor isolates and reflects all the shared variances between the specific core items.

## **Depression and burnout: Two distinct nosological entities?**

According to the World Health Organisation (2012), depression affects more than 350 million people globally and is one of the most common and costly problems (McIntyre & O'Donovan, 2004). A recent study reported the lifetime prevalence of major depressive episodes in South Africa as 9.7% (Tomlinson, Grimsrud, Stein, Williams & Myer, 2009).

Depression is primarily characterised by anhedonia (the inability to experience pleasure), dysphoric mood (a state of dissatisfaction or unease) and the inability to take action; depressed individuals are not in control of their lives and cannot act in ways that lead to gratification (American Psychiatric Association, 2013; Beck & Alford, 2009). Depression can also lead to changes in body weight (weight gain or loss), changes in sleeping patterns (hypersomnia or insomnia), fatigue, psychomotor agitation, inability to concentrate or indecisiveness, feelings of guilt or insufficiency and suicidal thoughts or actions (American Psychiatric Association, 2013). It is seen as a disabling disease that affects various domains of an individual's life, including his or her work (Welthagen & Els, 2012).

The South African Depression and Anxiety Group (SADAG) also urge to be cognisant of depression symptoms relating to how individuals think (SADAG, 2015). Within the workplace, depression symptoms include becoming easily distracted, poor concentration and memory, difficulty solving problems, thinking at a slower speed than normal, distorted thinking patterns, and difficulty finding the right words to express thoughts (SADAG, 2015). Symptoms that can easily be identified within the workplace also include fatigue, irritability, withdrawal and prolonged intense unhappiness (Wallace, 2013).

Depression has a direct medical cost for organisations do to mental health care expenditure, and increases both absenteeism and presentism substantially (Wang et al., 2014). Acute and chronic stress have also been shown to have a causal relationship with depression (Hammen, 2005; Harkness, Theriault, Stewart & Bagby, 2014; Pizzagalli, 2014).

There are various symptoms and etiological pathways between burnout and depression that overlap (Ahola, Hakanen, Perhoniemi & Mutanen, 2014). Whether or not burnout should be seen as a distinct entity or rather as a depressive syndrome is a highly debated subject (see Bianchi et al., 2015; Plieger et al., 2015). Studies also differ in their conclusions with regard

to the causal relationship between burnout and depression; despite various reported findings, there is still no accepted consensus regarding a causal direction of the association between burnout and depression (Hakanen, Schaufeli & Ahola, 2008).

It has been reported that burnout precedes depression, or that burnout is a phase in the development of depression (Hakanen & Schaufeli, 2012; Hakanen et al., 2008; Hillhouse, Adler & Walters, 2000; Kaschka, Korczak & Broich, 2011; Leiter & Durup, 1994; Toppinen-Tanner, Ahola, Koskinen & Väänänen, 2009). Tennant (2001) stated that, if burnout is not dealt with in an effective and timely manner, it can very likely lead to depression. This was echoed by Ahola et al. (2006) who specified that burnout can be a phase in the development of depression, given that the stressor leading to depression is work-related. Tourigny et al. also state that the cause and effect relationship of burnout and depression is logical and sequential; burnout is induced by work-related stressors and, during the state of burnout, the symptoms of depression increase.

Contrastingly, Nyklíček and Pop (2005) reported that, not only were current depressive symptoms the largest predictors of burnout (after controlling for background variables), but individuals that had a previous depressive episode or a family history of depression, had significantly higher burnout levels than those without a previous depressive episode or family history of depression. On the other hand, other authors state that burnout and depression may develop in tandem (Ahola & Hakanen, 2007; Ahola et al., 2014; Appley & Trumbull, 1986). It is said that symptoms of depression often accompany burnout. Depressive symptoms seem to increase when high levels of emotional exhaustion are present (Tourigny, Baba & Wang, 2010).

However, Bianchi, Schonfeld and Laurent (2014b) challenge the idea that burnout can lead to depression (or vice versa), since when accepting a causal relationship between burnout and depression one is ignoring the fact that, currently, there is still no clear distinction between the two constructs and no final academic consensus regarding the validity of burnout as a separate pathological category. This argument is supported by an earlier study conducted by Bianchi et al. (2013) who found that burned out and depressed individuals report similar depressive symptoms. Bianchi et al. (2014b) found that almost 9 out of 10 participants experiencing burnout can provisionally be diagnosed with depression. However, the research conducted by Ahola et al. (2005) yielded different results, reporting that approximately half

of participants with severe burnout meet the diagnostic criteria for a depressive disorder. Bianchi et al. (2014b) explained the difference between these findings in that Ahola et al. used a lower than recommended cut-off score for burnout (Maslach, Jackson & Leiter, 1996), increasing the risk of a false-positive result. The outcome was that Ahola et al.'s results indicated a limited overlap between burnout and depression, whereas Bianchi et al.'s results indicated a substantial overlap. All three of the above-mentioned studies used the DSM-IV to determine whether participants met the criteria to be diagnosed as depressed (American Psychiatric Association, 2000). Furthermore, an eye-tracking found that behavioural and attentional changes are predicted interchangeably by burnout and depression; a decrease in attention to positive stimuli and an increase in attention to dysphoric stimuli takes place regardless of whether participants suffer from burnout or depression; thus no clear distinction was found between the two states in this study (Bianchi & Laurent, 2015).

Yet various authors support the argument that burnout and depression are in fact distinct phenomena and have found acceptable discriminant validity between the two constructs (Bakker, Schaufeli, Demerouti, Janssen, Van der Hulstn & Brouwer, 2000; Brenninkmeyer, Van Yperen & Buunk, 2001; Glass, McKnight & Valdimarsdottir, 1993; McKnight & Glass, 1995; Plieger et al., 2015). Toker, Shirom, Shapira, Berliner and Melamed (2005) found that burnout and depression have different physical effects on individuals; e.g. c-reactive protein and fibrinogen react differently when an individual experiences burnout compared to when an individual experiences depression. After reviewing various studies, Glass and McKnight (1996) concluded that burnout and depression are not different terms being used to describe the same state, but in fact represent two distinct dysphoric states.

H<sub>1</sub>: Burnout and depressive symptoms show acceptable discriminant validity.

H<sub>2a</sub>: Depressive symptoms contribute to the variance explained in burnout.

### **Job demands and burnout**

Maslach's (1982) original definition of burnout limited the syndrome to individuals who perform some kind of "people work"; these employees are affected based on their interaction with people and then experience emotional exhaustion, depersonalisation and reduced personal efficacy. Therefore, initially, burnout was believed to be the result of prolonged

emotional and inter-personal work-related stressors, only influencing individuals in the human service industry. Later, however, it was shown that this is not the case; with the development of the JD-R model it came to light that the factors responsible for burnout are not isolated to those employees who work with people, but are generic and can affect individuals regardless of the type of occupation investigated (Demerouti et al., 2001). Two of the three burnout dimensions were then renamed; ‘depersonalisation’ changed to ‘cynicism’, to reflect a general detached attitude towards work and not only towards people, and ‘reduced personal accomplishment’ changed to ‘reduced professional efficacy’ to allow the inclusion of both non-social and social achievements (Bakker, Demerouti & Sanz-Vergal, 2014).

According to the JD-R model, while every occupation has unique characteristics, these characteristics are classified into two categories: job demands and job resources (Demerouti et al., 2001). Job demands (such as time pressure, shift work and physical environment) are described as physical, organisational or social facets of a job that necessitate physical or psychological effort, and therefore have a physical or psychological cost for the individual (Bakker et al., 2014). Job resources on the other hand are physical, organisational, social or psychological facets of a job that assist an individual in executing their job (Demerouti et al., 2001). Thus, according to the JD-R model, there are two processes at work, namely the health impairment (or energetic) and motivational processes. The health impairment process explains how job demands are not inherently negative, but can become stressors in the face of lacking job resources; this leads to the depletion of energy and eventual burnout (Demerouti et al., 2001). Adequate job resources on the other hand, foster work engagement and organisational commitment (De Beer, Rothmann Jr. & Pienaar, 2012), by what is called the motivational process (Bakker & Demerouti, 2007).

The current study specifically focused on the job demands and burnout aspects of the health impairment process. Studies have shown job demands to be the strongest contributor to burnout (Lee & Ashforth, 1996; Peeters, Montgomery, Bakker & Schaufeli, 2005). The job demands to be included in this study are workload and emotional load, as both these demands have been shown to have a causal relationship with burnout, specifically also within the teaching profession (Chang, 2009; Hakanen et al., 2006; Kyriacou, 2001).

*H<sub>2b</sub>*: Job demands contribute to the variance explained in burnout.



## **Satisfaction with life and burnout**

Home and work are the two primary domains of life for working adults. Therefore these domains have a significant impact on an individual's well-being (Lambert, Altheimer & Hogan, 2010). Satisfaction with life has been described as a key indicator of well-being and refers to the assessment of the quality of life according to one's own perspective (Anand & Arora, 2009). It is therefore subjective and cognitively oriented towards the current situation and how it compares with one's expectations (Corrigan et al., 2001). Satisfaction with life can be seen as a complex function of an individual's contentment with the different domains (such as family, work, leisure and health) within his or her life (Erdogan, Bauer, Truxillo & Mansfield, 2012). It is therefore an indicator of the degree of contentment based on a holistic evaluation of life (Lambert et al., 2010).

A negative relationship exists between satisfaction with life and burnout (Anand & Arora, 2009). Research reports a reciprocal relationship between satisfaction with life and burnout; when individuals are unhappy or dissatisfied with life, they may be disconsolate at work and therefore not perform effectively (Lambert et al., 2010). Similarly, when an individual experiences burnout, the effects may spill over into life outside the work domain and thereby affect his or her quality of life (Kantak, Futrell & Sager, 1992).

*H<sub>2c</sub>*: Satisfaction with life contributes to the variance explained in burnout.

## **Work-related versus generic factors**

A primary distinction drawn between burnout and depression has been that burnout occurs exclusively due to work-related factors, whereas factors from various other domains of life can lead to depression (Maslach et al., 2001; Plieger et al., 2015). However, this is contested (e.g. Bianchi, Truchot, Laurent, Brisson & Schonfeld, 2014; Cox, Tisserand & Taris, 2005). While some researchers still hold that burnout is a work-specific phenomenon (e.g., Schaufeli & Taris, 2005; Toppinen-Tanner, 2011), others posit that restricting burnout to the work domain is erroneous, and question the distinction drawn between burnout and depression (Bianchi & Laurent 2015). It has been found that the attention of individuals suffering from burnout is altered towards content unrelated to work; this indicates that burnout may be less

situation-specific (i.e. work-specific) than currently believed, and that it influences behaviour and cognition outside an individual's occupation (Bianchi & Laurent, 2015).

Further arguments to accept burnout as a form of depression are that, since the fundamental cause of burnout (prolonged, unresolvable stress) is not confined to the workplace, burnout cannot be confined to the work domain either (Bianchi et al., 2014). Some researchers assert that burnout is context-free (or cross-domain) and can therefore result from chronic stress from any domain of life (Pines & Aronson, 1981; Pines, Neal, Hammer & Icekson., 2011). Bianchi et al. (2014) therefore conclude that burnout must be considered a multi-domain syndrome. The basis on which a disease is classified as a distinct entity cannot only rest on where its stressors originate from, and even if it could be shown that burnout can be confined to the work domain, merely restricting burnout to one's work would not necessarily make it nosologically discriminant from depression (Bianchi et al., 2015).

*H<sub>3</sub>*: The work-specific factors, i.e. job demands, contribute to more explained variance in burnout than do the generic factors, i.e. depressive symptoms and satisfaction with life.

The remainder of the article is structured as follows: The methodology, results of the statistical analyses and discussion are presented in the context of relevant literature. Then the recommendations and implications for organisations and future researchers are provided.

## **Research design**

### **Research approach**

This study used a quantitative, cross-sectional design. Cross-sectional studies are studies carried out to estimate the prevalence of an outcome(s) of interest for a population at a specific point in time (Krickeberg, Pham & Pham, 2012; Mann, 2003). These type of studies are considered to be both descriptive and analytical, it was therefore deemed appropriate for this study since it allows for the collection of data amongst educators in the Gauteng Province (descriptive) and for the hypotheses generated to be tested (analytical; Pandis, 2014). In quantitative research, a larger number of participants are required than for qualitative studies (Struwig & Stead, 2001). No experimental or control groups were included in the study, thus

a non-experimental research design was used (De Vos, Strydom, Fouche & Delpont, 2012). This design was therefore deemed appropriate as participants are not purposely exposed or treated/not treated, which limits ethical dilemmas (Mann, 2003). Therefore primary data was collected and used; surveys were distributed to collect the data from the participants.

## Research method

### **Research participants**

Table 1 presents a breakdown of the participants for the current study.

Table 1

*Characteristics of the participants (N = 399)*

<b>Item</b>	<b>Category</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Gender	Male	78	19.50
	Female	311	77.90
	Missing	9	2.30
Ethnicity	Black people	69	17.30
	Coloured people	3	0.80
	Asian people	7	1.80
	White people	295	73.90
	Indian people	14	3.50
	Other	1	0.30
	Missing	10	2.50
Household	Single	89	22.30
	Married or living with a partner	238	59.60
	Living with parents	27	6.80
	Divorced or separated	35	8.80
	Missing	10	2.50
Education	Grade 12/ Matric	7	1.80
	Degree (Graduate or Honours)	268	67.20
	Post Graduate degree (Masters or PhD)	27	6.80
	Diploma	88	22.10
	Missing values	9	2.30

Home language	Afrikaans	281	70.40
	Sesotho	6	1.50
	Tshivenda	2	0.50
	isiZulu	8	2.00
	English	41	10.30
	Setswana	6	1.50
	isiNdebele	7	1.80
	isiTsonga	11	2.80
	Sepedi	22	5.50
	siSwati	1	0.30
	isiXhosa	2	0.50
	Other	3	0.80
	Missing	9	2.30
Type of school	Primary school	188	47.10
	Secondary school	209	52.40
	Missing	2	0.50
Teaching experience	Less than 1 year	18	4.50
	1-5 years	94	23.60
	5-10 years	71	17.80
	10-15 years	37	9.30
	15-20 years	39	9.80
	20-25 years	61	15.30
	More than 25 years	61	15.30
Missing	18	4.50	
Depressive symptoms	Normal	180	45.10
	Mild	61	15.30
	Moderate	87	21.80
	Severe	36	9.00
	Extremely severe	35	8.80

The final sample consisted of 399 educators from the Gauteng Province, which indicated a 59.60% response rate from the 670 booklets initially distributed. The mean age of the participants was 40.59 (SD = 12.65) and 209 (52.40%) educators were employed at secondary schools. The majority (77.90%) of the sample comprised female participants who were white (73.90%) or black (17.30%). The number of participants who spoke Afrikaans

were 281 (70.40%) and 41 spoke English (10.30%). Participants who were married or living with a partner contributed to 59.60% of the sample. Most of the respondents had a university degree (67.2%), followed by those who had a diploma (22.10%). It can further be seen that 23.6% of the participants have been teaching for 1-5 years, 17.8% have been teaching for 5-10 years and 15.3% have been teaching for 20-25 years, or for 25 years and longer. In terms of the severity of depression symptoms, the following was evident: 45.1% of participants experienced normal symptoms, 9.00% had severe symptoms and 8.80% had extremely severe symptoms.

### **Measuring instruments**

**Biographical questionnaire:** The biographical characteristics of the participants, such as year of birth, gender, home language, level of education and teaching experience were captured by means of standard questions.

**Burnout** was measured with the Maslach Burnout Inventory (MBI; Maslach & Jackson, 1981). There are 22 items contained in the MBI that concern the individual's perceptions regarding his or her work. The items are divided into the three components of burnout (emotional exhaustion, cynicism and reduced professional efficacy). However, the current study subscribed to the one-factor model of burnout consisting of the core emotional exhaustion and cynicism items (14 items in total; De Beer & Bianchi, 2015):

- Emotional exhaustion: 9 items, e.g. "I feel emotionally drained from my work"
- Cynicism: 5 items, e.g. "I've become more callous toward people since I took this job"

Items were rated on a 7-point scale that ranged from 0 (Never) to 6 (Every day). Cronbach's alpha coefficients of 0.87 and 0.82 respectively have been reported for the components within the South African context (Rothmann & Barkhuizen, 2008). After reviewing 45 empirical studies, Aguayo, Vargas, de la Fuente and Lozano (2011) determined the average Cronbach's alphas for the applicable components to be 0.88 and 0.71 respectively.

**Depressive symptoms** were measured by using the shortened version of the Depression Anxiety Stress Scale (DASS; Lovibond & Lovibond, 1995), namely the DASS-21. Specifically, the depression subscale was used. Only the severity of depression symptoms can

be determined. The DASS assigns labels (i.e. normal, mild, moderate, severe or extremely severe) to indicate severity level of symptoms experienced in relation to the population group. 'Mild' symptoms for example indicate that the individual experiences symptoms above the population mean, but these symptoms are far less severe and would not require the individual to seek professional help. The labels therefore do not indicate the level of the disorder experienced (i.e. mild depression), but rather the severity of symptoms experienced (i.e. mild symptoms). 'Normal' symptoms would therefore indicate that the symptoms experienced is within range of the population mean, i.e. average. The DASS-21 can therefore not be used to make a clinical diagnosis of depression and cannot replace a clinical interview. Depressive symptoms were measured with seven items, the participant indicated the presence of the symptom depicted in the item on a four-point scale ranging from 0 (Did not apply to me at all over the last week; Never) to 3 (Applied to me very much or most of the time over the past week; Almost Always). An example item is "I felt that I had nothing to look forward to". The Cronbach's alpha for the DASS-21 total scale is 0.93 and 0.88 for the depression sub scale (Henry & Crawford, 2005); Stoyanov (2011) also found acceptable internal consistency (0.91) for the depression subscale within the South African context.

**Job demands**, specifically *emotional load* (e.g. "Does your work put you in emotionally upsetting situations?") and *workload* (e.g. "Do you have too much work to do?") were each measured with three-item scales from the Job Demands-Resources Scale (JDERS) developed by Jackson and Rothmann (2005). Items were scored on a four-point scale ranging from 1 (Never) to 4 (Always). The JDERS was found to be reliable ( $\alpha$ 's > 0.70) within the South African context (Rothmann, Mostert & Strydom, 2006).

**Satisfaction with life** was measured with the Satisfaction with Life Scale (SWLS) developed by Diener, Emmons, Larsen and Griffin (1985). The scale used five items, for example "In most ways my life is close to my ideal". Items were rated on a 7-point scale that ranged from 1 (Strongly Disagree) to 7 (Strongly Agree). The SWLS has reported Cronbach's alpha coefficients in studies ranging between 0.79 and 0.89 (McDowell, 2010), including 0.85 within the South African context (Field & Buitendach, 2011).

## **Research procedure**

Ethical approval was gained from the North-West University's (NWU) Faculty of Economic and Management Sciences Research Committee before research could commence (ethical clearance/project number: EMS15/04/21-01/03). Following this, the Gauteng Department of Education (GDE) reviewed the proposed study and gave permission to conduct research within primary and secondary schools in the Gauteng Province of South Africa. Principals of potential schools (who supervise the educators who could potentially partake in the study) were met in person. The objectives of the study were explained to each principal. This included information regarding the confidential nature of the study – principals were further informed that no one could be forced to participate and that under no circumstances would any school or individual's identity be made known to any party, not even to the researcher. The principals also received a letter explaining the aims of the study, proof of ethical clearance from the NWU and proof of permission to do research in Gauteng schools from the GDE. Participants then received the questionnaire (booklet) in hardcopy format; confidentiality, anonymity, and the voluntary nature of the study were explained, and a basic overview of the study's purpose was given on the front page of the booklet. The booklet was accompanied by an empty envelope; participants completed the questionnaire, sealed the booklet in the envelope and returned it to the administrative office of the school. It took about 15 minutes to complete the questionnaire. One week (7 continuous days) after the booklets had been distributed they were collected again from the schools. A total of 670 booklets were distributed and 399 were returned, indicating a response rate of 59.55%. Data was then captured and statistical analysis could commence.

## **Statistical analysis**

Confirmatory factor analysis (CFA) was implemented in Mplus 7.31 (Muthén & Muthén, 2015). Due to the categorical nature of the data (Rhemtulla, Brosseau-Liard & Savalei, 2012), the estimation method applied was the mean- and variance-adjusted weighted least squares (WLSMV; Muthén, Du Toit & Spisic, 1997). To evaluate the fit of the CFA measurement model to the data, the following indices were considered: Comparative fit index (CFI), Tucker-Lewis index (TLI), and Root mean square error of approximation (RMSEA). For the CFI and TLI values of 0.90 and above are considered acceptable, and for the RMSEA values of 0.08 and below (Van de Schoot, Lugtig & Hox, 2012). To calculate the Cronbach's alpha

coefficients for the variables SPSS was used (IBM Corp, 2013). The practical significance of correlation coefficients were set at 0.30 and above for a medium effect, and 0.50 and above for a large effect (Cohen, 1992). The cut-off for discriminant validity concerns in terms of correlations was set at 0.85 (Brown, 2015). However, to investigate the discriminant validity between burnout and depressive symptoms the average variance extracted (AVE) for each variable and the shared variance between burnout and depressive symptoms were considered as per the guidelines of Farrell (2010). This was achieved by providing a covariance table with AVE's for all variables on the diagonal (see Table 3). For discriminant validity to exist, the AVE of each variable should be larger than the shared variance between the variables. Overall statistical significance was set at the 95% level ( $p \leq 0.05$ ).

The concern with structural equation modelling, in the context of this study, and multiple predictors in general, is that the predictors are correlated and might inflate or deflate the true estimates between variables. Furthermore, the explained variance in a normal structural model in the outcome variable(s) by the predictors cannot truly be considered aggregated out of 1.00 (i.e. 100%) – and the unique contribution of each individual predictor cannot be accurately given due to this. However, other techniques are available that address these concerns. One such technique is *relative weight analysis* (RWA) which is also referred to as relative importance analysis (Johnson, 2000). With this technique the explained variance in the outcome variable by multiple predictors is considered out of a total of 100% of the total variance that can be explained by the predictors and criterion variable in the model. One would thus be able to determine the unique contribution of each individual variable, or when aggregating them, if the work-related factors (emotional load + workload) or the generic factors (depressive symptoms + satisfaction with life) explain more variance in burnout.

To implement RWA, the guidelines and web-based application (RWA-Web) created by Tonidandel and LeBreton (2014) were used. This implementation of RWA also tests statistical significance by generating bias-corrected confidence intervals at the 95% level (95% CI's) for the calculated weights, based on 10 000 bootstrapped resampling replications of the data (Tonidandel, LeBreton & Johnson, 2009). As this study only requires one criterion variable (burnout) with multiple predictors, and not multiple outcomes, the multiple regression option was selected in RWA-Web and the factor scores of the CFA model were used as raw input into RWA-Web to perform the analysis. Furthermore, within RWA-Web, the option was also selected to compare the depressive symptoms variable as predictor to all



of the remaining predictors in order to determine any significant difference that could exist, i.e. if the explained variance is significantly larger or smaller when comparing depressive symptoms and the other remaining variables in the explained variance of burnout. Therefore, even though the beta coefficients are important and also reported in this study – the focus to answer the research questions is on the explained variances and discriminant validity.

Figure 1 below presents the research model that was applied in the RWA in order to determine the amount of variance explained in burnout by each respective variable.

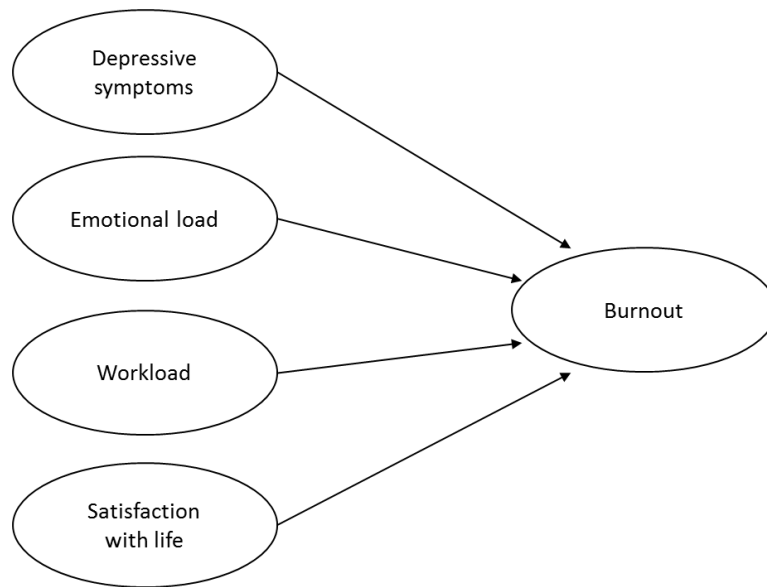


Figure 1. Multiple regression model of the RWA to obtain the explained variances

## Results

### Confirmatory factor analysis, correlations and reliability

The specified CFA model revealed the following fit indices: CFI = 0.95; TLI = 0.94; and RMSEA = 0.07, based on the WLSMV estimation process. The measurement model was therefore an acceptable fit to the data and it was considered appropriate to continue with interpretation of the results and further analyses based on the factor scores of the latent variables.

Table 2 presents the correlation matrix for the latent variables as well as Cronbach's alpha coefficient on the diagonal in brackets.

Table 2

*Correlation matrix for the latent variables with Cronbach's alpha coefficients*

Variables	1	2	3	4	5
1. Burnout	(0.92)				
2. Depressive symptoms	0.79 <sup>++</sup>	(0.91)			
3. Emotional load	0.77 <sup>++</sup>	0.71 <sup>++</sup>	(0.73)		
4. Workload	0.58 <sup>++</sup>	0.52 <sup>++</sup>	0.68 <sup>++</sup>	(0.70)	
5. Satisfaction with life	-0.54 <sup>++</sup>	-0.57 <sup>++</sup>	-0.44 <sup>+</sup>	-0.41 <sup>+</sup>	(0.89)

Notes:  $\alpha$  on the diagonal in brackets; all correlations statistically significant; + = medium practical effect; ++ = large practical effect

Table 2 shows that all the variables had acceptable internal consistencies ( $\alpha \geq 0.70$ ) and were statistically significantly correlated with at least medium practical effect sizes to each other. Specifically, burnout and depression symptoms were highly correlated ( $r = 0.79$ ; large effect). Burnout and emotional load were also highly correlated ( $r = 0.77$ ; large effect). Similarly, depressive symptoms and emotional load were correlated ( $r = 0.71$ ; large effect). Workload was positively correlated with burnout ( $r = 0.58$ ; large effect), depressive symptoms ( $r = 0.52$ ; large effect), emotional load ( $r = 0.68$ ; large effect) and negatively correlated to satisfaction with life ( $r = -0.41$ ; medium effect). Furthermore, satisfaction with life was negatively correlated with all the remaining variables as well: burnout ( $r = -0.54$ ; large effect), depressive symptoms ( $r = -0.57$ ; large effect) and emotional load ( $r = -0.44$ ; medium effect). None of the variables had correlations of 0.85 or higher and provided preliminary support for H<sub>1</sub>. However, the correlation between burnout and depressive symptoms was still relatively high, and investigation of discriminant validity continued.

### **Discriminant validity**

The covariance matrix (shared variances) with average variance extracted (AVE) for each variable is presented in Table 3 on the next page.

Table 3

*Covariance matrix for the latent variables with Average Variance Extracted on the diagonal*

Variables	1	2	3	4	5
1. Burnout	(0.72)	0.54	0.42	0.35	-0.39
2. Depressive symptoms		(0.64)	0.38	0.30	-0.39
3. Emotional load			(0.44)	0.32	-0.25
4. Workload				(0.51)	-0.25
5. Satisfaction with life					(0.73)

Notes: AVE on the diagonal in brackets; all shared variances below the AVE.

As can be seen from Table 3 above, the AVE of burnout (0.72) and depressive symptoms (0.64) was larger than the shared variance between them (0.54). This result provided support for H<sub>1</sub> – in that burnout could be distinguished from depressive symptoms.

### Relative weight analysis and explained variance

Results from the RWA-Web software are shown below in Table 4. This table includes the predictor variable labels, their raw relative weight with bias corrected bootstrapped intervals, and also the rescaled relative weight in terms of a percentage of explained variance in Burnout as the criterion.

Table 4

*Relative weight analysis results with Burnout as criterion variable*

Criterion = Burnout (R <sup>2</sup> = 80.64)					
Predictor	Beta (β)	Raw Relative Weight	Lower 95% CI	Upper 95% CI	Rescaled Relative Weight (%)
Depressive symptoms	0.50*	0.30	0.25	0.31	34.58
Emotional load	0.55*	0.26	0.26	0.32	35.91
Workload	0.24*	0.14	0.11	0.17	17.52
Satisfaction with life	-0.12*	0.10	0.07	0.13	11.99

Note: \* =  $p < 0.05$ ; All relative weight values were statistically significant and did not include zero.

As depicted in Table 4, a total of 80.64% of the total variance in burnout could be explained by the model and all of the explained variances were statistically significant (did not include zero; and supported H<sub>2</sub>). More specifically, the rescaled relative weights showed that emotional load (35.91%) and depressive symptoms (34.58%) explained the most variance in

burnout – supporting H<sub>2a</sub> and H<sub>2b</sub>, respectively. This was followed by workload (17.52%; also supporting H<sub>2a</sub>) and satisfaction with life (11.99%; supporting H<sub>2c</sub>).

Table 5

*Comparing depressive symptoms' difference from the other predictors*

Predictor	Lower 95% CI	Upper 95% CI	Result
Emotional load	-0.03	0.05	Not significant
Workload	-0.18	-0.10	Significant
Satisfaction with life	-0.23	-0.14	Significant

Furthermore, when aggregating the variances explained in burnout by the job demands (emotional load + workload), the variance explained totalled 53.43%, which supported H<sub>3</sub> – work-related factors explained more variance in burnout. Depressive symptoms and satisfaction with life, together, explained 46.57% of the variance in burnout. It is important to note from Table 5 above, that the comparison between depressive symptoms and the other predictors revealed that the variance explained in burnout by emotional load was not significantly different from that of depressive symptoms (95% CI [-0.03; 0.05] – crossed zero). This indicated that emotional load and depressive symptoms basically explained an equal amount of variance in burnout – and together a substantial 70.49%. Furthermore, it was also shown that depressive symptoms (34.58%) explained significantly more variance in burnout than did either workload (17.52%) or satisfaction with life (11.99%).

## Discussion

### Outline of results

The current study investigated whether burnout could be discriminated from depressive symptoms and whether work-specific factors or generic factors contributed more to the explained variance in burnout. This research was important as it contributes to literature on the general disagreement regarding burnout's overlap with depression (Plieger et al., 2015), and whether burnout should be isolated to the sphere of work as per its definition (Bianchi et al., 2014). Furthermore, within the South African context this question has garnered no attention and this study therefore also adds to the local literature on the issue.

In terms of the discriminant validity between burnout and depressive symptoms, it was found that burnout could be distinguished from depressive symptoms, statistically. Specifically, the correlation between burnout and depressive symptoms was below the set cut-off of 0.85 (Brown, 2015), and the shared variance between the two constructs was smaller than the average variance extracted in each individual construct (Farrell, 2010) - supporting H<sub>1</sub>. This result is in line with the findings of previous studies indicating acceptable discriminant validity between the burnout and depression constructs (Reime & Steiner, 2001; Melamed, Shirom, Toker, Berliner & Shapira, 2006). However, it should be noted that while this study's statistical results showed burnout and depressive symptoms to have acceptable discriminant validity, the overlap between the two constructs was still high; with the overlapping variance between the burnout and depressive symptoms being 62.41% (when the correlation coefficient is squared and converted to percentage) - indicating a large effect (Cohen, 1992). This overlap speaks to the concerns of authors who suggest burnout and depression to be representative of the same phenomenon (e.g. Bianchi et al., 2014b), and who have found a correlation of 0.87 between burnout and the Beck Depression Inventory-II (BDI-II) when correcting for attenuation (Bianchi et al., 2013).

Next, the study investigated whether depressive symptoms, job demands and satisfaction with life (respectively) significantly contributed to the explained variance in burnout. Relative weight analysis was implemented and it was revealed that all of the variables were significant predictors and contributors to the explained variance in burnout, supporting all of H<sub>2</sub>. Together, the predictors (depressive symptoms, emotional load, workload and satisfaction with life) explained 80.64% of the variance in burnout as the criterion variable. More specifically, at face value, emotional load (measured in the context of work) explained the most variance in burnout (35.91%; supporting H<sub>2b</sub>). This is in line with research that found the emotional nature of educators' work as a major contributor to burnout (Chang, 2009). Emotional load in educators can be explained by the argument that teaching and emotions are inextricably intertwined (Zembylas, 2004). Teaching is therefore considered an emotionally laden occupation as educators are subject to diverse emotions, ranging from elation to fury (see Schutz, Aultman & Williams-Johnson, 2009). Furthermore, research has shown that when educators experience inequity (feelings of investing more than what is returned) in their relationship with students, their colleagues or their school, it results in higher levels of burnout (Taris, Van Horn, Schaufeli & Schreurs, 2004).

Following emotional load, depressive symptoms explained the most variance in burnout (34.58%; supporting H<sub>2a</sub>) - this is in line with research that states that burnout and depression may develop in tandem (Ahola et al., 2014) or that depression can lead to burnout (Nyklíček & Pop, 2005). However, after statistical comparison of the relative weights between depressive symptoms and the other predictor variables, it was found that the variance explained in burnout by emotional load did not significantly differ from the variance explained by depressive symptoms. This implies that depressive symptoms and emotional load explained the same amount of variance in burnout even though the one is considered a work-specific variable, and the other encompassing a more general life domain. Within the South African context, it has been reported that almost half of educators have at least moderately depressive symptoms, and 1 in 10 educators have clinically severe depression levels (Van der Bijl & Oosthuizen, 2007). Similarly, the current study found educators with at least moderate depressive symptoms at 37.10%, and extremely severe depressive symptoms at 8.80%.

Furthermore, as specified by the JD-R model, workload leads to burnout via the health impairment process (Bakker et al., 2014). In this study, workload contributed significantly to the explained variance in burnout (17.52%; supporting H<sub>2b</sub>), but significantly less when compared to emotional load - indicating that emotional load was the job demand that explained the most variance in burnout. Additionally, as was found by Hayes and Weathington (2007), satisfaction with life had a negative relationship with burnout in this study and explained 11.99% of the variance in burnout, supporting H<sub>2c</sub>. Similarly, Anand and Arora (2009) and Lambert et al. (2010) also reported a negative relationship between burnout and satisfaction with life.

The final objective of the study was to determine whether the work-specific factors (emotional load and workload) contribute more to explained variance in burnout compared to the generic factors (depressive symptoms and satisfaction with life). By aggregating the rescaled values of the relative weight analysis, it was shown that the job demands explained a total of 53.43% of the variance in burnout, supporting H<sub>3</sub>. This is in line with the JD-R model's health impairment process that indicates that burnout develops due to inordinate job demands (Bakker et al., 2014). Conversely, generic factors explained nearly 50% of the variance in burnout, amounting to 46.57%. This provides support to authors (e.g. Bianchi et al., 2014; Bianchi et al., 2015; Pines et al., 2011) who advocate that burnout must be accepted

as a multi-domain phenomenon and context free, thereby acknowledging that factors from inside and outside the work domain can affect the burnout construct.

### Practical implications

The findings suggested that there was an overlap between burnout and depression, even though they could be statistically discriminated. Burnout amongst educators is known to be problematic; Education Departments and school governing bodies are therefore urged to consider the impact of burnout on individual, organisational, and societal outcomes due to its overlap with depression, and the negative outcomes it implicates.

While the majority of variance in burnout was explained by the aggregated job demands, the generic factors contributed to almost half of the explained variance in burnout. Therefore the assertion that burnout is also influenced by factors originating from areas other than work can no longer be ignored or denied. The domains outside the work sphere should also be considered to be contributing to experienced burnout and interventions for individuals identified as burnout risks should be adjusted accordingly; barring work-related interventions, interventions should include a clinical screening for gauging depression severity. This could be done by implementing departmentally approved employee assistance programmes which should include a clinical screening by a qualified professional for depression in order to provide the necessary assistance to individuals to offset negative outcomes for all stakeholders.

Emotional load and depressive symptoms contributed the most (70.49%) to burnout experienced by educators in this sample. Previous studies have shown that depression has a very strong association with emotional exhaustion (Bianchi, Schonfeld & Laurent, 2014a), and it is clear that the emotional aspects of educators' lives have a substantial impact on their well-being and contributes to experienced burnout. It is therefore important that educators be equipped with effective emotional regulation and coping strategies to decrease the toll that emotional demands have them. Coping is described as recognising and naming the emotions experienced, and then identifying appropriate strategies that will heighten or stifle what is being felt (Lazarus, 2000). There are two types of emotional regulation: (a) reappraisal, the process of changing how one thinks about a situation to minimize the emotional impact, and

(b) suppression, the process of preventing behaviour that would express an emotion (Gross, 2002). At present, research shows that educators tend to engage in the suppression of emotions (Näring, Briët & Brouwers, 2006), which can lead to higher burnout, specifically emotional exhaustion (Carson, 2007). Educators should therefore be assisted in adopting more effective coping strategies; this can be done in part by helping them better regulate their emotions (such as reappraisal rather than suppression of emotions) that will be more effective dealing with the emotional demands in their work and general life.

### Limitations and recommendations for future research

There are limitations to this study that should be mentioned in order to ensure transparency and to set the scene for future research. First and foremost, the participants consisted exclusively of educators, the majority of which were white females with Afrikaans as a home language; as such, generalisation is cautioned. Research has also reported that women are twice more likely than men to suffer from depression (Kessler, 2003; Nolen-Hoeksema, 1987; Weissman & Olfson, 1995); as the majority of this study's sample consist of women, it is possible that the results may reflect a slightly higher prevalence of depression than one would find if the study was replicated with equally stratified gender groups. Furthermore, this study also did not ask the participants whether they are currently receiving treatment for depression (medication or therapy) which might have been an interesting control variable. Therefore future studies should consider stratification of participants into an equal male and female sample of participants – and consider the potential treatment for depression these participants might be receiving.

Secondly, as convenience sampling (a non-probability sampling method) was employed; although participants differ in terms of schools of employment, they are from the same geographical location (Gauteng Province, South Africa), further limiting the external validity of the findings. Samples from other geographical areas are therefore also necessitated as each province has its own education department under the umbrella of the national Department of Education – indicating that the environmental conditions might vary.

Thirdly, as findings are the result of a cross-sectional research design, no causal conclusions could be drawn from the data - even though literature supporting these relationships already



exists. Therefore it is important to conduct longitudinal studies exploring not only the causal relationships but also the explained variance in both depression and burnout (with a statistical technique such as relative weight analysis), over time.

Lastly, since this study made use of self-report questionnaires it is potentially subject to common method variance and bias. However, this concern has been downplayed as only being an urban legend (Spector, 2006).

## Conclusion

This study found statistically acceptable discriminant validity between burnout and depression, but the overlap between the two constructs remained substantial. Of the predictor variables, emotional load and depressive symptoms individually accounted for the most variance in burnout, with no significant difference between the two values. Furthermore, when compared with generic factors, the aggregated job demands were the largest contributors to the explained variance of burnout. However, considering that generic factors also accounted for nearly half the explained variance in burnout, it is evident that job demands are in fact not the only contributors to the burnout construct as was previously believed – indicating that burnout is a multi-domain phenomenon that is not limited to the work domain.

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## **CHAPTER 3**

### **CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS**

### 3. Conclusions, limitations and recommendations

This chapter contains conclusions regarding the empirical study that are aligned to the general and specific objectives. The limitations of the study are also discussed, followed by recommendations for future research and practice.

#### 3.1 Conclusions

There is general consensus among researchers that burnout and depression are strongly related and overlap in various areas (Van Dam, Keijsers, Verbraak, Eling & Becker, 2013). Authors differ, however, on their conclusions as to whether or not burnout and depression represent two distinct psychological phenomena (Plieger Melchers, Montag, Meermann & Reuter, 2015). Furthermore, the conceptualisation of burnout as strictly a work-related phenomenon has been challenged since the conceptualisation of the term, with authors calling for burnout to be accepted as context-free (Bianchi, Truchot, Laurent, Brisson & Schonfeld, 2014; Pines & Aronson, 1981). The general objective of the study was to determine whether burnout could be discriminated from depressive symptoms, as well as to determine whether work-specific factors or generic factors contributed to more explained variance in burnout.

The first specific objective of this study was to determine how burnout, depression, job demands and satisfaction with life are conceptualised in the literature. *Burnout* was coined for the first time in the mid 1970's by Freudenberg when he observed loss of motivation and energy among volunteers working at free clinics (Freudenberg, 1974). Not long after this, burnout was established as a work-related psychological syndrome consisting of emotional exhaustion, cynicism and reduced professional efficacy, initially restricted to human services work, but later shown to afflict individuals regardless of their occupation (Demerouti, Bakker, Nachreiner & Schaufeli, 2001; Maslach & Jackson, 1981). *Depression* is seen as a disabling condition predominantly characterised by the inability to experience pleasure, a state of dissatisfaction and the inability to take action that leads to gratification (American Psychiatric Association, 2013). *Job demands* are understood - as set out by the Job Demands-Resources (JD-R) model - as those physical, psychological, social or organisational aspects that involve continuous physical or psychological effort resulting in costs to the individual (Bakker & Demerouti, 2007). Job demands thus drain individuals' energetic and motivational

resources and can lead to burnout through what is referred to as the health impairment process (Bakker, Demerouti & Sanz-Vergal, 2014). Finally, *satisfaction with life* is understood to be the assessment of the quality of life, or being content with one's life after a holistic evaluation of life (Lambert, Altheimer & Hogan, 2010).

The second objective of the study was to determine what discriminant validity burnout and depressive symptoms show. The process to determine discriminant validity between the two constructs was twofold; first a correlation coefficient was determined and had to be below the guideline of 0.85 (Brown, 2015). Next, the average variance extracted (AVE) of burnout and depressive symptoms had to be larger than the shared variance between the two constructs (Farrell, 2010). The correlation between burnout and depressive symptoms was found to be 0.79; below the set cut-off of 0.85. The shared variance (0.54) between burnout and depressive symptoms was also found to be smaller than the average variance extracted by each factor (0.72 and 0.64 respectively). However, while statistical discriminant validity was found between the two constructs, the overlap between burnout and depressive symptoms can still be considered high; when the correlation coefficient is squared and transformed to a percentage, overlapping symptoms reach 62.41%. This overlap adds to the concerns of authors who regard burnout and depression to be nosologically equivalent (Bianchi, Boffy, Hingray, Truchot & Laurent, 2013; Bianchi, Schonfeld & Laurent, 2015; Plieger et al., 2015).

Objectives three to five related to the variance explained in burnout by each individual predictor variable, and relative weight analysis (RWA) was implemented to investigate each respective variable's unique contribution to the explained variance in burnout. Specifically, the third objective of this study was therefore to determine how much variance depressive symptoms explained in burnout. RWA revealed that depressive symptoms explained the second to most variance in burnout, accumulating to 34.58%. This result supports previous studies that concluded that depression and burnout may develop in tandem (Ahola & Hakanen, 2007), or that depression can lead to burnout (Nykliček & Pop, 2005). The fourth objective was to determine how much variance job demands, as work-specific factors, explained in burnout. Aggregated, job demands (represented by emotional load and workload) explained 53.43% of the variance in burnout. More specifically, emotional load explained the most variance in burnout (35.91%); supporting authors stating that teaching cannot be disentangled from emotions (Zembylas, 2004), and that teachers engage in emotional labour (Isenbarger & Zembylas, 2006). However, it should be noted that when



comparing the relative weights between depressive symptoms and the other predictor variables, the variance explained by emotional load in burnout was not significantly different from that which was explained by depressive symptoms - indicating that emotional load and depressive symptoms explained the same amount of variance in burnout. Workload was found to explain 17.52% of the variance in burnout and is in line with the specifications of the health impairment process of the JD-R model (Bakker et al., 2014). The fifth objective of this study was to determine how much variance satisfaction with life explained in burnout. Satisfaction with life was found to have a negative relationship with burnout in line with previous research (e.g. Lambert et al., 2010), and explained 11.99% of the variance in burnout.

The sixth objective was to determine whether work-specific factors (emotional load + workload) or generic factors (depressive symptoms + satisfaction with life) explained more variance in burnout. By aggregating the explained variance of each predictor variable as determined by means of RWA, it was found that work-specific factors contributed most to the variance in burnout (53.43%). This is consistent with the JD-R model that specifies that burnout is the result of excessive job demands coupled with ineffective coping mechanisms and lacking job resources (Demerouti et al., 2001). However, it should be noted that the aggregated generic factors explained 46.57% of the variance in burnout - nearly half of the explained variance. This gives substantial support to authors who argue that burnout should be considered context free and a multi-domain phenomenon (Bianchi et al., 2015; Pines, Neal, Hammer & Icekson, 2011).

The final objective of the study was to present recommendations for future research and practice. This objective was achieved by presenting these considerations in the remaining sections of the manuscript below.

### 3.2 Limitations

The first limitation lies in the fact that the sample consisted exclusively of educators, the majority of which were white females with Afrikaans as a home language. While this allowed for valuable information regarding the teaching profession to be obtained, generalisation to other occupations is cautioned. It should also be noted that research has reported females to be twice more likely than men to suffer from depression (e.g. Kessler, 2003). Additionally, current treatment (therapy) or medication for depression was not included as a control variable.

Secondly, a non-probability sampling method (convenience sampling) was used in this study. While it was ensured that educators from different schools were included in the study, participants are still homogeneous in terms of geographical location (Gauteng Province, South Africa), limiting the external validity of the findings.

Thirdly, a cross-sectional research design was employed; even though already shown to exist (Ahola, Hakanen, Perhoniemi & Mutanen, 2014; Hakanen & Schaufeli, 2012), no causal conclusions could be drawn from the data. However, it is important to conduct longitudinal studies in order to not only explore causal relationships, but also the explained variance in both depression and burnout (with statistical techniques such as relative weight analysis), over time.

Finally, this study made use of self-report questionnaires - it is therefore potentially subject to common method variance and bias. However, the concern with this issue has been argued to be urban legend (Spector, 2006).

Despite the above-mentioned limitations, the findings hold valuable implications for educational institutions and future studies.

### 3.3 Recommendations

#### **3.3.1 Recommendations for practice**

Burnout amongst educators is considered a global concern (Van Droogenbroeck, Spruyt & Vanroelen, 2014), and depression has been shown to afflict one in every ten educators both in South Africa and internationally (Van der Bijl & Oosthuizen, 2007; Wulsin, Alterman, Bushnell, Li & Shen, 2014). Even though burnout and depressive symptoms could be statistically discriminated from each other in this study, the findings indicate that there is a large overlap between the two constructs – indicating a more multi-domain phenomenon. Furthermore, it was shown that job demands contribute to the most explained variance in burnout, but the consideration of the contribution of generic factors is also important. Education Departments and school governing bodies are urged to consider the impact of burnout, its overlap with depression, and the negative outcomes it implicates. The Department of Education could implement employee assistance programmes that include a clinical screening by a registered professional to decrease the negative outcomes of burnout for all parties involved. Burnout prevention and intervention should not only focus on work-related factors that induce burnout, but attention should also be given to assisting employees with contributing factors that originate from outside the work sphere. It is possible that, from a clinical perspective, employees who suffer from burnout can benefit from treatments for depression (Bianchi et al, 2015).

Educators need to be equipped with effective emotional regulation and coping strategies to decrease the effect the emotional load inherent to their work has on them. Emotional exhaustion and depression have a strong association (Bianchi, Schonfeld et al., 2014); in this study, emotional load and depressive symptoms contributed the most to the explained variance in burnout. The emotional aspects of educators work and general life therefore greatly impact their overall well-being, and more specifically, their experienced burnout. Research shows that, currently, educators tend to cope through suppression, i.e. preventing oneself from exhibiting behaviour that will express emotion (Näring, Briët & Brouwers, 2006), which has been shown to lead to emotional exhaustion and depression (Carson, 2006). Since emotional load and depressive symptoms explained a combined 70.49% of the variance in burnout in this study, helping educators to effectively cope with the emotional demands in

their work and general life are important to offset negative outcomes. It is therefore important for educators to receive assistance in learning more effective emotional regulation and coping mechanisms. Unlike other caring professions, educators do not receive training to effectively deal with the emotions inherent to their job (Chang, 2009), and by amending this (perhaps at University level), a pro-active stance can be taken.

The South African National Treasury (2014) reported that the Department of Education received the highest percentage of the government's consolidated expenditure (20%; R254 billion) compared to any other sector. During the 2015 national budget speech by Nhlanhla Nene (minister of finance), the South African National Treasury (2015) also made it known that R640 billion would be allocated to basic education over the next three years. It is advised that future budgets consider these interventions and that any surplus to the current budget be allocated to programmes that can equip educators with the necessary life skills (such as knowledge and practical skills regarding emotional regulation and coping) to help them more effectively deal with the emotional demands in their work and non-work lives in order to effectively address burnout and its related outcomes.

### **3.3.2 Recommendations for future research**

It is recommended that future research consider a longitudinal approach to further validate the findings of this study. A longitudinal approach will also be useful to gain insight into and understanding of the relationship (causality and distinctiveness) between burnout and depression, as researchers still vary on their conclusions on the matter.

As this study consisted solely of educators, it is recommended that future research also consider adding other industries and occupations to their samples, to allow for more effective generalisation of results. Also, ensuring more equal male and female representation is recommended, as females are twice more likely than males to suffer depression (Kessler, 2003). Future studies should also consider the potential treatment for depression that participants may be receiving (e.g. therapy or medication).

Finally, it is recommended that future studies examine other generic contributors to burnout (e.g. anxiety) in relation to work-related contributors to propose integrative views regarding

burnout and depression in the hope of eventually finding definitive answers regarding a diagnostic category for burnout.

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