Pressure, emotional demands and work performance among information technology professionals within South Africa: The role of exhaustion and depersonalisation

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COMMENTS

The reader is reminded of the following:

- The editorial style in the first and last chapters of this mini-dissertation follows the format prescribed by the Programme in Industrial Psychology of the North-West University.

- The references and page numbers in this mini-dissertation follow the format prescribed by the Publication Manual (6th edition) of the American Psychological Association (APA). This practice is in line with the policy of the Programme in Industrial Psychology of the North-West University to use the APA referencing style in all scientific documents.

- The mini-dissertation is submitted in the form of a research article. The editorial style as specified by the South African Journal of Industrial Psychology (which loosely agrees with the APA style used) is used in Chapter 2.

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I further declare that this work will not be submitted to any other academic institution for qualification purposes.

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SUMMARY

Title: Work pressure, emotional demands and work performance among information technology professionals within South Africa: The role of exhaustion and depersonalisation

Key terms: Job demands, task performance, counterproductive work behaviour, indirect effect.

The Fourth Industrial Revolution, known as the digital revolution, is posing many challenges to organisations that find it hard to keep up with the rate at which the technological world is expanding and transforming. Organisations are relying more and more on information technology (IT) professionals in order to keep abreast of technological advancements. More specifically, IT professionals play an important role in organisations as they are at the core of organisational operations. The rapid rate of technological transformation and the reliance on these professionals have led to high work demands (i.e. work pressure and emotional demands), which may impact their performance and well-being.

The aim of this study was to identify whether work pressure and emotional demands have an impact on individual work performance through exhaustion and depersonalisation among IT professionals within South Africa. Research on the individual work performance of IT professionals, specifically in South Africa, is limited in number and scope. In this study, a cross-sectional survey design was utilised with 296 IT professionals in South Africa. The Job Demands-Resource Scale (JDRS), the Maslach Burnout Inventory (MBI) and the Individual Work Performance Questionnaire (IWPQ) were used. Results from structural equation modelling (SEM) indicated that emotional demands and depersonalisation impacted task performance, positively and negatively respectively. Depersonalisation positively impacted counterproductive work behaviour and work pressure positively impacted exhaustion.

However, the results indicated that there were no significant relationships between work pressure and task performance and counterproductive work behaviour. Additionally, the results indicated that there were no significant relationships between work pressure and depersonalisation or between emotional demands and exhaustion and depersonalisation. Lastly, exhaustion did not have a significant relationship with task performance or counterproductive

work behaviour. Organisations and managers should design and implement interventions to optimise emotional demands; and to minimise work pressure and also depersonalisation which in turn can impact IT professionals' work performance.

CHAPTER 1

INTRODUCTION

This mini-dissertation explores the relationship between work pressure, emotional demands, exhaustion, depersonalisation, task performance and counterproductive work behaviour among IT professionals in South Africa. The specific focus is to determine the effect exhaustion and depersonalisation have in the relationship between work pressure and emotional demands (as antecedents) and task performance and counterproductive work behaviour (as outcomes).

The aim
of this chapter is to present the problem statement as well as the general and specific research objectives. The research design, data collection and analysis methods are explained, followed by an overview of the chapters.

1.1 Problem Statement

The Fourth Industrial Revolution is a digital revolution that is occurring at an exponential rate (Dutta & Bilbao-Osorio, 2012). Information technology (IT), in the Fourth Industrial Revolution, evolves at a rapid rate and most of the world is struggling to keep up with the advancements (Hooper, 2015; Stuart, 2019). The increasing pace of these technological advancements, such as the rapid combination of internet and other telecommunications found in our daily lives, has given rise to new ways of communicating, learning and conducting business (Elg, 2014; Globalisation101, 2014). More specifically, twenty first century organisations function within a global context where IT is a key component of success, as the world is adopting and consuming technology at an increasing rate (Atkinson & Stewart, 2013; MacKechnie, 2016); with IT enabling efficient integration and communication between people and organisations around the world (Murphy, 2018).

Within the South African context, information and technology services (such as internet connectivity at home), are proclaimed by the South African Government as an essential service which is comparable to that of water, sanitation and education (Sinofsky, 2014; Van Staden, 2018). From rural to urban areas and everywhere in between, all individuals should get an opportunity to benefit economically from decent national access and a high-speed internet

network (Nyirenda-Jere & Biru, 2015). Municipalities within South Africa have planned to invest in affordable broadband infrastructure (SAinfo Reporter, 2012). Additionally, the South African government aims to connect a large number of government facilities and schools to broadband networks; ensuring that the public has easy access to IT facilities (Pandor, 2017). Government has recognised this aim as a key strategic aspect to stimulate consumer spending, strategically investing billions of rand into rolling out IT (internet access through wireless channels) to various rural communities (Alfreds, 2015; Ramoroka & Jacobs, 2016; Sinofsky, 2014). According to Van Jaarsveldt (2010), the South African government is committed to improving IT services in South Africa – by means of project Isizwe – which helps deliver Wi-Fi to townships on behalf of municipalities (Abrantes, 2016). This raises the question as to who will be managing the increasing demand for IT on national and international levels?

IT professionals play a pivotal role in organisations' overall success and there is a high demand for optimally performing IT professionals for organisations to operate and compete on a national and global level (Alfreds, 2015; Groff, 2013). IT professionals are professionals that design, manage, support and/or implement client support and any IT-related systems or products. Due to the increased need for these professionals, the demand for has increased by 13% since the start of 2015 (Flinders, 2015). Despite the increasing demand for these professionals and their services, the supply has not increased, placing more demands on the available IT professionals that may influence their performance (Davenport, 2013; Shropshire & Kadlec, 2012).

Two job demands that are relevant in the IT context: work pressure and emotional demands. A typical IT professional experiences demands (work pressure), such as being on call, being available after hours during the week and even on weekends, working more hours than usual, upgrading and maintaining software and hardware, getting office computer networks functioning, and maintaining data bases (Deal, 2013; Kolakowski, 2015). IT professionals deal with emotional demands such as having to deal with difficult clients, face-to-face or remotely, where the professional needs to manage their emotions; professionals also need to perform monotonous and tedious tasks such as trouble shooting and data analyses (Doyle, 2019).

Consequently, this may lead to feelings of exhaustion and detachment from their work (Bradford, 2018), with detrimental consequences for performance. Waltz (2012), for example,

states that the more emails one handles, the longer employees work and the more exhausted these employees will feel, simultaneously detaching from their work and finding it challenging to remain focused throughout the completion of their tasks - leading to poor performance of tasks.

This study draws from the job demands-resources (JD-R) theory which proposes that every occupation is impacted by job demands and job resources which have unique pathways to individual outcomes (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). The JD-R theory is relevant to the study, because it explains the process of how job demands influence performance (De Beer, Pienaar, & Rothmann 2013).

Despite the increasing demands placed upon and the importance of optimally performing IT professionals, limited research in South Africa focuses on the determinants of their performance as well as the processes through which their increasing demands influence their performance. Hence, the aim of this study was to identify whether work pressure and emotional demands have an impact on individual work performance through exhaustion and depersonalisation as depicted in the hypothesised model below:

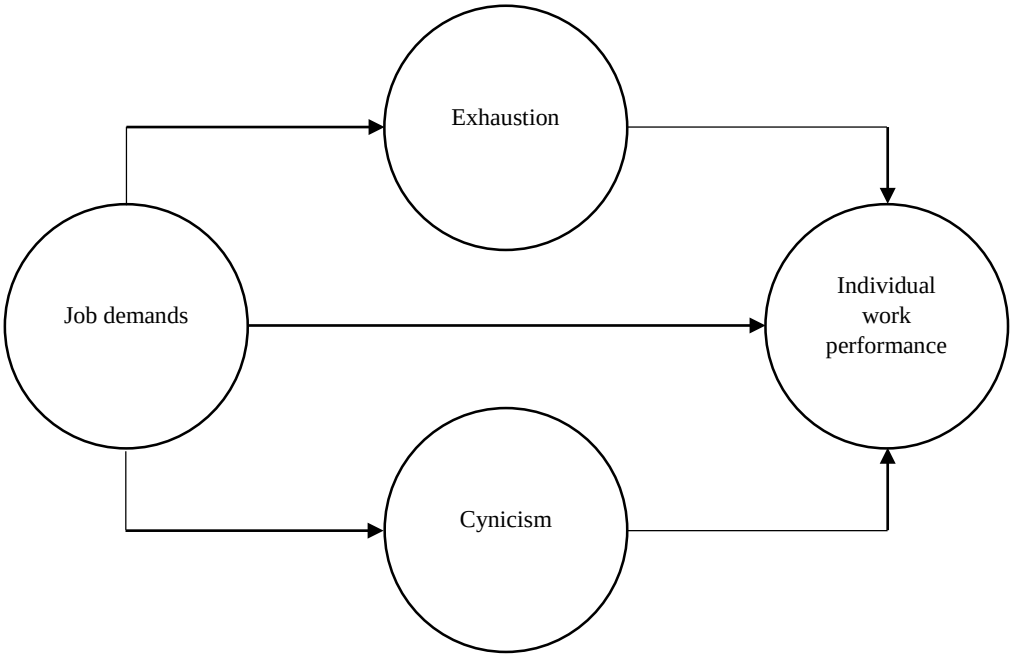


Figure 1. Conceptual model for the research

1.2 Literature Review

To aid in the conceptualisation of the study, a preliminary theoretical overview of the various components thereof (work pressure, emotional demands, exhaustion, depersonalisation, task performance and counterproductive work behaviour) is presented below. The JD-R theory was used as the theoretical framework for the relational assumptions between work pressure, emotional demands, exhaustion, depersonalisation and performance among IT professionals.

1.2.1 Work Pressure and Emotional Demands

The job demands-resources (JD-R) model is a theoretical framework used to understand the impact of demands and resources on the well-being of employees (Gauche, De Beer, & Brink, 2017). Job demands are work elements that deplete employees' mental and physical resources, leading to a reduction in energy over time (i.e. exhaustion) and mental distancing from the job (Bakker, Demerouti, & Verbeke, 2004; Bakker & Demerouti, 2016). Job demands can be sub-divided into challenge and hindrance demands. The former are those demands that require energy, yet are still stimulating and considered positive (Van den Broeck, De Cuyper, De Witte, & Vansteenkiste, 2010). Hindrance demands are those demands that impact well-being and hinder optimal functioning, as these demands exceed energetic capacity. Hindrance demands, as appose to challenge demands, interfere with work goal achievement and well-being (Cavanaugh, Boswell, Roehling, & Boudreau, 1998; Tadić, Bakker, & Oerlemans, 2014). When faced with hindrance demands, employees can also experience a lack of control and negative emotions (Schaufeli & Taris, 2014). These two different types of job demands are assumed to have a differential impact on exhaustion (González-Romá, Schaufeli, Bakker, & Lloret, 2006; Maslach, Schaufeli, & Leiter, 2001).

The two job demands pertaining to this study were work pressure and emotional demands.

Work Pressure

Work pressure is best described as pressure relating to an individual's work requirements or demands, such as having too much work to do, having to work extra hard to meet deadlines and working under time pressure (Khan & Sikes, 2014). In the context of this study, work pressure is known as the amount of work the employee is required to perform, meeting high

standards and the amount of time taken to complete tasks (Ahuja & Rathore, 2018). Among IT professionals, typical examples of work pressure are IT professionals having to be on call, being available after hours during the week and even during weekends, upgrading and maintaining software and hardware, getting office computer networks functioning, maintaining data bases, and working overtime (Deal, 2013; Koong, Liu, & Lui, 2015). Therefore, work pressure is best described as the amount of work and the time set aside to finish in relation to an employee's ability to cope with this pressure (Janse van Rensburg, Boonzaier, & Boonzaier, 2013).

Emotional Demands

Vammen (2016) describes emotional demands as demands that relate to the regulation of one's feelings (one's own, one's clients', or others' feelings). Emotional demands at work are best described as dealing with clients incessantly complaining, handling other people's emotions and/or disregarding one's own emotions (Dishman, 2015). Emotional demands in the context of this study were described as the aspects of a job that require sustained effort from the majority of IT professionals due to the nature of their job (Van Vegchel, De Jonge, Söderfeldt, Dormann, & Schaufeli, 2004). The majority of IT professionals are required to deal with the frustrations, struggles and clients that can drain their energy, leaving them feeling emotionally drained. Additionally, IT professionals need to provide a support function, whether it is face-to-face or remotely, which can also be emotionally draining. Job strain and stress are found to be related to emotional exhaustion and depersonalisation (De Beer & Bianchi, 2017; Hsu, 2019).

1.2.2 Exhaustion and Depersonalisation

Exhaustion

Maslach and Schaufeli (1993) describe exhaustion as feeling drained and emotionally exhausted. Similarly, emotional exhaustion is understood as a state of feeling worn out, loss of energy, depletion, debilitation, and fatigue (Demerouti et al., 2001). Emotional exhaustion is described as being emotionally over-extended, fatigued and psychologically drained of emotional energy (Tijdink, Vergouwen, & Smulders, 2014). Overall, exhaustion is a chronic

state of emotional depletion (Bakker, 2018). Maslach and Leiter (2016) indicated that this is a result of accumulated stress from one's personal or work life, excessive job and/or personal demands and continuous stress. Exhaustion was operationalised as feeling tired and strained after a full day's work and not feeling excited or energised to wake up for another day of work (Maslach, Jackson, Leiter, & Schwab, 2017).

Exhaustion occurs when IT professionals are faced with high or chronic work pressure and emotional demands. Research on employee burnout found that job demands and emotional exhaustion correlated positively (Leiter & Maslach, 1988; Van Jaarsveld, 2010).

Depersonalisation

According to Duffy and Lightner (2014), depersonalisation can be described as the systematic psychological withdrawal from work, characterised by cynicism or cynical attitudes towards functions of work. Pedersen (2016) elucidated that depersonalisation is characterised by an impaired and distorted perception of oneself in relation to work-roles and functional tasks. Furthermore, depersonalisation can be described as presenting a sustained and composite negative response towards different working conditions (e.g., working hours), which can cause a skewed perspective of one's work (Barker, 2016). Lastly, depersonalisation can be referred to as the detached attitude that employees develop towards others in order to protect themselves from psychological stress emanating from people with whom they interact at work (Sierra, Medford, Wyatt, & David, 2012).

Els, Mostert, and De Beer (2015) found that the variance in depersonalisation was significantly explained by job demands. Other studies found that high levels of job demands were related to higher incidences of depersonalisation and that the path from job demands to depersonalisation was positively significant (Bakker & Costa, 2014; Lourel, Abdellaoui, Chevaleyre, Paltrier, & Gana, 2008). Therefore, it is expected that they start feeling exhausted and so detached, that they feel more like a robot than a human being, detaching themselves from their work tasks and feeling exhausted more and more often (Bloom, 2015). Cropanzano, Rupp, and Byrne (2003) explained that exhaustion negatively predicts job performance. Therefore, if IT professionals deplete their energy, they will find it challenging to perform their basic job functions.

A study conducted by Gorji (2011) demonstrated that depersonalisation causes decreases in performance. When employees depersonalise themselves from their work, they are detaching themselves from their tasks; thus influencing their individual work performance (Bezzubova, 2012). The early stages of depersonalisation can be identified by noticing that employees are suffering, not completing all their work tasks, and deciding when and what area to perform (Jansen & Roodt, 2014). It was found that depersonalisation has a negative relationship with employee performance (Gandi, Wai, Karick, & Dagona, 2011). Additionally, IT professionals who were dealing with job demands such as work pressure and emotional demands, were found to experience strain in situations where these demands have an impact on their ability to perform optimally (Plaatjies & Mitrovic, 2014).

1.2.3 Individual Work Performance

Individual work performance is a term that is of importance to any organisation, yet many researchers have been unable to conceptualise it. Research found that individual work performance is a vital outcome measure for workplace studies (Koopmans et al., 2011). The profound dependence of current organisations on information technology and systems has extended job roles and increased work demands and pressure on information technology professionals (Setor, 2014). Individual work performance is defined as "employee behaviours or actions that are relevant to the goals of the organisation" (Koopmans et al., 2011, p. 856) and comprises various dimensions.

Task Performance

Task performance was found to be one of the most commonly researched dimensions that constitute individual work performance. Task performance can be defined as “the proficiency with which an employee performs central job tasks that are described within his/her job description” (Sonnentag, Volmer, & Spychala et al., 2010, p. 429). Task performance is a function of knowledge, skills, abilities and motivation directed at role-prescribed behaviour, such as formal job responsibilities (Ramalu, Wei, & Rose, 2011).

Counterproductive Work Behaviour

Counterproductive work behaviour (CWB) is described as behaviour which harms the operational well-being of an organisation (Koopmans et al., 2011). Additionally, counter-productive work behaviours are described as any intentional behaviour of an employee that is viewed by an organisation as contrary to its legitimate interests (Aftab, 2013). Counterproductive work behaviour forms part of the individual work performance measure. It is important to measure or include CWB for the purpose of this study as the IT profession and the nature of work of an IT professional may be conducive to counterproductive work behaviour (Spector et al., 2006).

Exhaustion does not only influence task performance negative, but it also has a significant positive relationship with CWB (Raman, Sambasivan, & Kumar, 2016). For example, feeling exhausted may lead to negative feelings toward one's role as service provider with negative consequences for one's performance. Individuals who suffer from depersonalisation are also likely to respond negatively to their work; thus exhibiting counterproductive work behaviours towards their colleagues and work (Bolton, Harvey, Grawitch, & Barber, 2012).

1.2.4 The Indirect Effect of Exhaustion and Depersonalisation

The JD-R theory comprises two processes, namely a health impairment and a motivational process (Van den Broeck, Van Ruysseveldt, Vanbelle, & De Witte, 2013). This study focuses on job demands which are relevant to the impairment process: employees' mental and physical resources are exhausted and may lead to the depletion of energy (i.e. a state of exhaustion) and performance problems (Bakker & Demerouti, 2007; Bakker, Demerouti, & Sanz-Vergel, 2014). If organisations do not support IT departments that are under pressure and that have to deal with difficult clients, it leaves them feeling emotionally exhausted. Eventually these employees start detaching themselves from the actual tasks (poor task performance), with some also displaying counterproductive behaviour (Bersin, 2015; Studebaker, 2017).

According to Brouwers, Tomic, and Boluijt (2011), organisations should be aware that demanding jobs are regarded to have a severe impact on an employee's level of

depersonalisation, which indirectly affects performance. Waltz (2012) elucidates that the more emails one handles, the longer IT professionals have to work and the more demands are placed upon them, causing them to become both exhausted and detached from their work. They will then find it challenging to remain focused throughout the completion of their tasks (Wadors, 2016). These high demands could also result in IT professionals creating emotional distance between themselves, others and their work, thus developing a cynical and emotional attitude at work due to aspects such as work pressure, emotional demands and the overall pressurizing environment (Kirby, 2015; Schreiner, 2011). The challenge for IT professionals is to deal with all the work pressure and emotional demands that come with their job which in turn hinder their performance.

Table 1 provides an overview of work performance literature that specifically focuses on IT professionals.

Table 1

Overview of Empirical Literature on the Work Performance of IT professionals

Author/s	**Definition or Operationalisation of Performance**	**Antecedent Variables**	**Results**
Schwab (1991)	Performance is described as a multidimensional concept to attain results, with employees applying their skills to perform.	- Compensation - Leadership - Working conditions	The antecedents had a positive impact on employee performance.
Biswas and Varma (2011)	Performance is a combination of in-role and extra-role performance.	- Psychological climate - Job satisfaction - Transformational leadership	All three variables significantly predicated employee performance.
Yusuf, Hamid, Liyana, Bahri, and Sudarisman (2012)	Employee performance was conceptualised as any behaviour that leads to an outcome, especially behaviour that can change the environment in certain ways.	- Work environment factors (situation) - Individual factors	Employee's performance is the result of a specific operational component or individual activity over an agreed period and not the personal characteristics of employees.
Saeed et al. (2013)	Performance was defined as the art of achieving a task.	- Manager’s attitude - Organisational culture - Personal problems - Job content - Financial rewards	All these variables, except personal problems, had a positive impact on employee performance.
Hernaus and Mikulić (2014)	Task performance or in-role performance are defined as the proficiency with which employees perform activities that contribute to the organisation’s technical core.	- Task characteristics	Task characteristics significantly influenced individual job performance.

Two observations can be made from literature, namely (1) studies focusing explicitly on IT professionals are limited; and (2) studies are limited in scope. The studies focus mainly on the positive side of performance, neglecting negative aspects such as CWB. As explained earlier, CWB may manifest in the IT context with negative consequences for the organisation. They also did not account for the role that exhaustion and depersonalisation play. It is important to understand the processes through which the determinants (work pressure and emotional demands) exert their influence on the outcomes, as these inform the design of interventions.

1.3 Research Questions

The following research questions emerged from the literature review:

- What is the relationship between work pressure, emotional demands, exhaustion, depersonalisation, task performance and counterproductive work behaviour according to literature?
- What is the relationship between work pressure, emotional demands, exhaustion, depersonalisation, task performance and counterproductive work behaviour amongst IT professionals within South Africa?
- Do work pressure and emotional demands have an indirect effect on task performance and counterproductive work behaviour through exhaustion?
- Do work pressure and emotional demands have an indirect effect on task performance and counterproductive work behaviour through depersonalisation?
- What recommendations can be made for future research and practice?

1.4 Research Objectives

The research objectives are divided into general and specific objectives.

1.4.1 General Objectives

The general aim of this research was to investigate the relationship between work pressure, emotional demands, exhaustion, depersonalisation, task performance and counterproductive work behaviour among IT professionals within South Africa.

1.4.2 Specific Objectives

The specific objectives of this study are to:

- conceptualise work pressure, emotional demands, exhaustion, depersonalisation, task performance and counterproductive work and the relationship between these constructs from literature;
- investigate the relationship between work pressure, emotional demands, exhaustion, depersonalisation, task performance and counterproductive work behaviour among IT professionals within South Africa;
- establish whether work pressure and/or emotional demands have an indirect effect on task performance and counterproductive work behaviour through exhaustion;
- establish whether work pressure and/or emotional demands have an indirect effect on task performance and counterproductive work behaviour through depersonalisation; and
- make recommendations for future research and practice.

1.5 Research Design

1.5.1 Research Approach

The research followed a quantitative approach as it aimed to estimate an occurrence from a larger number of individuals by using survey methods (Creswell, 2014; Venkatesh, Brown, & Bala, 2013). A cross-sectional, survey-based design was employed to investigate the relationships among the variables. The design, suitable for exploratory research, highlights the relationships and associations at a given moment in time in the sample concerned (Salkind, 2012). Primary data was collected and analysed in this study.

1.5.2 Research Method

The research method consisted of two phases, which included a literature review and an empirical study. The results were presented in the form of a research article**.**

1.5.2.1 Phase 1: Literature Review

In the first phase, a complete literature review on work pressure, emotional demands, exhaustion, depersonalisation, task performance and counterproductive work behaviour among IT professionals within a South African context was conducted in order to investigate possible relationships between the variables. The job demands-resource theory was used as the theoretical basis for the research. Articles relevant to the study that have been published between 1980 and 2019 were consulted from databases including, but not limited to *EBSCOHOST, Emerald, Science Direct, Google Scholar, Google, SAePublications, Reed Business Information, Integrate Immigrate Service Ltd, World Economic Forum.* Journals across various schools of thoughts were utilised.

1.5.2.2 Phase 2: Empirical Study

The empirical study comprised the research design, the participants, the measuring battery, the statistical analysis and the ethical considerations.

1.5.3 Participants

A convenience sample (n = 296) of IT professionals was collected from various organisations across South Africa. Convenience sampling was used to collect data and is best described as a non-probability type of sampling in which people are sampled because they are "convenient" sources of data for researchers (Saunders, Lewis, & Thornhill, 2012). First, in order to gather a sample, face-to-face meetings with managers across various organisations were held where the purpose of the study was explained and permission was gained to conduct the research. Managers gave their consent and an email was sent for distribution to the participants to participate voluntarily. Second, permission was granted by the Basic and Social Sciences Research Ethics Committee to source participants from LinkedIn - as the study focused on convenience sampling; IT professionals can be found across various organisations and not only from IT specific organisations. Last, an independent contractor known as iFeedback was used to gain more participants as a large number of participants were needed specifically in quantitative studies that utilised convenience sampling to generalise the findings to a wider population (Maree, 2011). The independent contractor followed the same process by

providing information and obtaining informed consent from the participants.

1.5.4 Measuring Instruments

Biographical Questionnaire

A *biographical questionnaire* was used to determine age, gender and years of experience within their current position.

Job Demands-Resource Questionnaire

The *Job Demands-Resource Scale* (JDRS) was developed by Demerouti et al. (2001) and further developed and improved within a South African context by Rothmann, Mostert, and Strydom (2006). For the purpose of this research, two subscales were used, namely work pressure (e.g., 'Do you work under time pressure?') and emotional demands (e.g., 'Is your work emotionally demanding?'). Work pressure had four items and emotional demands had six items. Participants were expected to rate their job demands (work pressure and emotional demands) on a five-point scale ranging from 1 (*never*) to 5 (*very often*). De Braine and Roodt (2011) reported reliability coefficients of .70 for both these subscales.

Maslach Burnout Inventory

Exhaustion and depersonalisation formed part of the sub-scales that made up the *Maslach Burnout Inventory – General Survey* (MBI-GS), developed by Schaufeli, Leiter, Maslach, & Jackson (1996). Exhaustion (e.g. 'I feel emotionally drained from my work') and depersonalisation (e.g. 'I have become less enthusiastic about my work') (Maslach & Leiter, 1997) each consisted of five items, where participants were required to rate themselves on a scale ranging from 1 (*never*) to 5 (*very often*). Exhaustion had an average reliability of .84 and within a South African sample exhaustion had an internal consistency of .89 (Naudé & Rothmann, 2004; Van Tonder & Colette, 2009). Depersonalisation was found to have a reliability coefficient of .77 (Prinz, Hertrich, Hirschfelder, & De Zwaan, 2012). Additionally, within a South African context depersonalisation was found to have internal consistency of .79 (Rothmann & Barkhuizen, 2008).

Individual Work Performance Questionnaire

Individual Work Performance Questionnaire (IWPQ) was developed by Koopmans et al. (2013) and is a reliable and valid instrument in all types of occupations. For the study, only two subscales were used, namely task performance and counterproductive work behaviour. Task performance consisted of five items (e.g., 'I kept in mind the results that I had to achieve in my work') and was measured on five-point frequency scale ranging from 1 (s*eldom*) to 5 (*always*) (Koopmans et al., 2011). Counterproductive work behaviour also consisted of five items (e.g., 'I made problems greater than they were at work') and was measured on a five-point frequency scale ranging from 1 (*never*) to 5 (*often*) (Koopmans, 2013). The instrument indicated acceptable construct and convergent validity (Koopmans et al., 2014a). These researchers determined the scales' reliability through the person separation index (PSI) which was similar to Cronbach's alpha, but it used the logit scale estimates as appose to the raw scores. The reliability of the measuring instrument for all four constructs was an estimated average of .82, more specifically, the internal consistency for task performance was .78 and for counterproductive work behaviour .79 (Koopmans et al., 2014b).

1.5.5 Research Procedure

Ethical approval was granted by an Ethics Committee of North-West University to conduct the proposed study. IT professionals, from South African organisations that granted permission to conduct the study, were contacted. This was done by emailing and/or calling the organisations as well as contacting IT professionals through LinkedIn. After permission had been granted by either the organisations' or LinkedIn members, arrangements were made with the individual and/or the organisations in terms of the distribution and completion of the questionnaires. With regards to the questionnaires, due to the nature of the study and the sample size, it was advisable to distribute and collect the questionnaires online through Google forms; a link was created that could be forwarded to relevant prospective participants (Delport & Roestenburg, 2011). It was imperative to ensure that the IT professionals' duties were not disrupted during the data collection procedures. It was also important to note that participation was voluntary.

1.5.6 Statistical Analysis

For the purpose of this study, both IBM SPSS 25 (IBM Corporation, 2016) and Mplus version 8.2 (Muthén & Muthén, 1998-2018) statistical packages were used for the statistical analyses. Structural equation modelling (SEM) was used to find the best fitting model and to test the hypotheses. To find the best fitting model for this study, competing measurement and structural models were tested with a maximum likelihood robust (MLR) estimator (Byrne, 2012). Confirmatory factor analysis (CFA) was used to determine the factor structure of the latent variables – work pressure, emotional demand, exhaustion, depersonalisation, task performance and counterproductive work behaviour. Next, a structural model was specified and its fit evaluated after introducing the hypothesised regression paths between the latent variables based on the best fitting measurement model. Several absolute and comparative goodness-of-fit statistics, recommended by Kline (2016), were used to evaluate the goodness of fit of both the measurement and structural models to the data, namely Chi-square (χ^2), degrees of freedom (df), root mean square error of approximation (RMSEA), Tucker-Lewis index (TLI), the comparative fit index (CFI), and the standardized root mean square residual (SRMR). The CFI and TLI values should exceed .95 in order to be acceptable (Hu & Bentler, 1999), but should only serve as guidelines in applied research (West, Taylor, & Wu, 2012). Wang and Wang (2012) consider .90 as more appropriate cut-off values. Furthermore, RMSEA values lower than .08 and SRMR values less than .10 indicate acceptable fit between the model and the data.

In order to make comparisons between different measurement and structural models, the Akaike information criterion (AIC) and the Bayes information criterion (BIC) were used (Byrne, 2012; Hair, Black, Babin, & Andersen, 2010). The AIC and BIC values should be small; thus, the lower the value, the better the model fits the data (Hair et al., 2010). The robust version of ML (MLR) was used as an estimation method as it is robust against the possibility of data non-normality (Kline, 2016). As the MLR estimation method was applied, direct comparison of chi-squared values is not feasible and therefore AIC and BIC values were preferred (Chakrabarti & Ghosh, 2011).

In accordance with Kline (2016), the threshold of statistical significance was set at the 95% level ($p \leq .05$). Effect sizes were utilised as indicators of practical significance where .30 represented

a medium effect and .50 represented a large effect (Cohen, 1988; Cohen, Cohen, West, & Alken, 2013). In order to determine the reliability of the measuring instruments, the reliability for each scale was computed using composite reliability coefficients (ρ) (Raykov, 2009) with a cut-off point of .70 (Wang & Wang, 2012). Composite reliability was used as it was more effective than Cronbach's alpha coefficients when using latent variable modelling (Raykov, 2009) to determine internal consistency of variables (Hair et al., 2010). Colwell's (2015) composite reliability calculator was employed to estimate composite reliability in Mplus. Based on the best-fitting structural model, the potential indirect effects of work pressure and emotional demands on task and counterproductive work behaviour through exhaustion and depersonalisation were tested. Indirect effects of work pressure and emotional demands were determined by bootstrapping and the construction of bias-corrected 95% confidence intervals (CIs) (Hayes, 2017).

1.6 Ethical Considerations

As the researcher, it was imperative to ensure that fair and ethical research was conducted, especially considering the importance of ethics in modern-day research. The absence of such behaviours could lead to ominous consequences, including but not limited to the exploitation of participants. It was also important that the stipulated guidelines of the Health Professions Act 56 of 1974 in the HPCSA (Health Professions Council of South Africa, 2015) were applied across this study.

This research ensured that quality and integrity characterised the whole research project. The research was an independent and impartial contribution to the field of Industrial Psychology. Informed consent was obtained from the participants in the study. Additionally, the research respected the confidentiality and anonymity of the research participants (Gray, 2013). The researcher ensured that participation was voluntary, and participants were made aware that they could withdraw from the process at any time.

It was important to consider the ethical implications that could arise in terms of the study design or the questions asked in the research, but any implications were accounted for. No distress was caused to the participants, as the time limit (i.e. 30 minutes) for completing the questionnaires was realistic. It was important to ensure that no harm was done to the

participants throughout the study and that the researcher remained unbiased. Any communication in relation to the research was honest and transparent. As the researcher, the works of other authors used within this study were acknowledged and the APA 6 referencing guidelines were used (Bell & Waters, 2014).

1.7 Contributions of the Study

The contributions of this study for the individual, the organisation as well as for Industrial-Organisational Psychology literature were as follows:

1.7.1 Expected Contributions to the Organisation

The study can raise awareness in terms of the (in)direct impact of work pressure and emotional demands on individuals' work performance and the overall organisational performance. This information can highlight the importance of managing work pressure and emotional demands to ensure the desired level of individual work performance. Additionally, the indirect effect may be an important avenue to facilitate performance in instances where demands cannot be minimised. This could include using the information to develop interventions to train current IT staff to cope better with high demands and providing relevant strategies to deal with exhaustion and depersonalisation.

1.7.2 Expected Contributions to the Industrial/Organisation Psychology Literature

There is a significant gap in South African literature in terms of individual work performance, as it is not being researched enough (Magada & Govender, 2017). In addition, there is also a significant gap in South African literature on exhaustion and depersonalisation as an explanatory factor of the relationship between work pressure, emotional demands and task performance and counterproductive work behaviour. This study will add to literature on individual work performance, work pressure and emotional demands in organisations. A few researchers did not account for the role that exhaustion and depersonalisation played in the relationship between demands and individual work performance. Most importantly, this study contributes to literature as it focused on IT professionals, with the relevant constructs being specific to IT professionals' nature of work and pressure. Job demands (work pressure and

emotional demands), for example, are the most common job demands experienced by IT professionals.

1.8 Chapter Division

The chapters in this research proposal are presented as follows:
Chapter 1: Research proposal and problem statement.
Chapter 2: Empirical study.
Chapter 3: Conclusions, limitations and recommendations.

1.9 Chapter Summary

This chapter provided the background and motivation for investigating individual work performance among IT professionals within a South African context. The theoretical relationships between work pressure, emotional demands, exhaustion and depersonalisation were discussed, along with their impact on task performance and counterproductive work behaviour. These theoretical relationships were supported with empirical evidence from other studies. As a result, research questions were developed, and research objectives were set for the study. To meet the objectives of the study, the research design, participants, collection of data, the measuring instruments, and ethical issues were outlined.

Chapter 2 will provide a brief overview of the study along with the statistical analyses and results of the study. This will be followed by a discussion of the results and the implications for management and future research.

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CHAPTER 2

ARTICLE

Work pressure, emotional demands and work performance among information technology professionals within South Africa: The role of exhaustion and depersonalisation

Abstract

Orientation: Technological advancements are increasing at a rapid rate and individuals working in information technology (IT) often work under challenging, and demanding circumstances. In addition, IT professionals also need to deal with the clients to whom they are delivering support services. These circumstances may result in exhaustion and depersonalisation that have negative consequences for the work performance of IT professionals.

Research purpose: The aim of this research was to investigate the relationships between work pressure, emotional demands, exhaustion, depersonalisation, task performance and counterproductive work behaviour among IT professionals within South Africa.

Motivation for the study: Research on the individual work performance of IT professionals, specifically in South Africa, is limited in number and scope.

Research approach/design and method: In this study, a quantitative approach was used to collect cross-sectional data from a convenience sample of 296 IT professionals in South Africa.

Main findings: Results from structural equation modelling (SEM) indicated that emotional demands and depersonalisation impacted task performance positively and negatively, respectively. Depersonalisation positively impacted counterproductive work behaviour and work pressure positively impacted exhaustion.

Practical/managerial implications: Organisations should aim to create awareness of IT professionals experiencing emotional demands, work pressure and depersonalisation as there are consequences for IT professionals who are experiencing high emotional demands, work pressure and/or depersonalisation. Beyond awareness creation, management should design and implement interventions to optimise emotional demands, and to minimise work pressure and depersonalisation.

Contribution/value-add: The study contributes to the limited literature on IT professionals' individual work performance within a South African context by providing insights on the role exhaustion and depersonalisation play (or the lack

thereof) in explaining the effect of work demands on individual work performance.

Keywords: Job demands, task performance, counterproductive work behaviour, indirect effects performance.

Introduction

The Fourth Industrial Revolution (IR) brings about digital revolution at an exponential rate (Marr, 2018). This digital revolution results in rapidly evolving information technology (IT) and most of the world is struggling to keep up with the technological advancements and pressure (Holly, 2018). IT broadly refers to anything related to computing technology, such as networking, hardware, software, the internet, or the people that work with these technologies (Rahman, 2016). This digital revolution impacts significantly on a local level as there is a gap between people with proper access to digital and information technology and those with very limited or no access in South Africa (Csorny, 2013). The impact is exacerbated by the shortage of skills needed to effectively participate as a digital citizen, organisation or country (Nkondo, Hart, & Nassimbeni, 2018).

Due to the impact, and despite the associated challenges, twenty first century organisations function within a global context where IT is a key component in the success of these organisations (Murphy, 2018). IT professionals play an important role in bridging the gap between the fourth IR and the practical reality thereof, such as poor infrastructure (Schwab, 2016). Consequently, the rapid increase and evolution in technology have placed additional demands and pressure on IT professionals (Anderson & Rainie, 2018; Sutton, 2013). IT professionals must cope with a growing list of challenges and job demands and managers will need to understand the nature of IT professionals' jobs (Wong, 2015). Looking at the increasing demands and the nature of IT professionals' jobs, their jobs can leave employees feeling exhausted and make solving complex data puzzles even more difficult and emotionally taxing (Bradford, 2018). Organisations across various sectors should establish a healthy working atmosphere to stimulate employee performance (Baptiste, 2008; Nielsen & Warr, 2018). Hence, it is important that organisations understand and explore the well-being of IT professionals and what impacts their well-being and performance at work (Singh & Junarkar, 2016).

Previous research found IT professionals' job demands have an impact on their well-being, which in turn influenced their performance (Tomo & De Simone, 2018). These studies are limited, especially in a South African context. Although previous research found that there is a relationship between job demands and performance, the relationship was weak. This might be due to the omission of potential intervening variables that mediate the demands-performance relationship (Hart & Cooper, 2001). Following the job-demands resources theory (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), these intervening variables could be exhaustion and depersonalisation (Lang, Thomas, Bliese, & Adler, 2007).

The current study investigates the relationship between job demands (i.e. work pressure and emotional demands) and performance of IT professionals. More specifically, this study will investigate the direct and indirect role of job demands in influencing performance through ill-being (i.e. exhaustion and depersonalisation). In doing so, this study will contribute to South African literature in terms of individual work performance, as it has not been researched enough (Magada & Govender, 2017) or is limited in scope. Organisations will benefit from steering their focus towards becoming aware of IT professionals' well-being and individual work performance. In this perspective, besides the financial return, people can have a positive psychological return of employees being aware of their work environment and its consequences (Agostini, Masiero, & Kanan, 2018; Snyder & Lopez, 2009).

Literature Review

Work Pressure

Work pressure is best described as pressure relating to an individual's work requirements or demands, such as having too much work to do, having to work extra hard to meet deadlines and working under time pressure (Khan & Sikes, 2014). It is problematic when pressure at work becomes so excessive that employees are regularly unable to meet their performance demands (Ratna & Kaur, 2016). In this study, work pressure was operationalised as the quantity of work, meeting high standards, the amount of time taken to complete work as well as how often an employee is stretched to meet deadlines (Ahuja & Rathore, 2018). In short, work pressure is best described as the amount of work and the time set aside to finish in

relation to an employee's ability to cope with this pressure (Janse van Rensburg, Boonzaier, & Boonzaier, 2013).

Derks and Bakker (2010) touched on a portion of IT job demands such as interpreting emails in order to show which aspects of e-mail communication can be considered as demands; hence complicating the working life of IT professionals. Increasing pressure in terms of excessive numbers of emails and prompt replies seems to be disproportionally loading the recipient, which in this case are the IT professionals. Additionally, the typical job demands experienced by an information technologist are being on call, being available after hours during the week and weekends, upgrading and maintaining software and hardware, ensuring office computer networks are functioning, maintaining data bases, and working overtime; therefore, IT professionals are faced with work pressure (Deal, 2013; Koong, Liu, & Lui, 2015).

Emotional Demands

Vammen (2016) describes emotional demands as demands that relate to the regulation of one's feelings (one's own, one's clients', or others' feelings). Furthermore, Johannessen (2013) explains that emotional demands are when an employee has to deal with strong feelings such as sorrow, anger, desperation, and frustration at work. Lastly, emotional demands at work are best described as dealing with clients' incessant complaints, handling other people's emotions and/or disregarding their own (Dishman, 2015). Emotional demands in the context of this study are described as a demand that requires sustained effort from the majority of IT professionals due to the nature of their job (Van Vegchel, De Jonge, Soderfeldt, Dormann, & Schaufeli, 2004). IT professionals may not have an emotional association with their work tasks as they simply regard performing tasks as part of their job; however, they experience emotional demands as they have to deal with client complaints and various emotions (Iyiola & Ibidunni, 2013). In this study emotional demands were operationalised by understanding how individuals are affected by the way their work confronts them with various scenarios that affect them personally. Additionally, emotional demands in this study focused on situations at work, interactions with clients and how clients treated the IT professional that caused the individual to experience such emotional demands.

IT professionals provide services such as designing, managing, supporting or implementing,

client support and any IT-related systems or products (Naidoo, 2018). IT professionals must deal with the frustrations and struggles of clients, which can drain their energy and exhaust them emotionally. Additionally, emotional demands are not only caused by dealing with clients, but can also be caused by an employee's workplace that places him/her into emotionally demanding situations such as unrealistic deadlines (Ceschi, Demerouti, Sartori, & Weller, 2017).

Exhaustion

Maslach and Schaufeli (1993) conceptualised exhaustion as a dimension of burnout. Exhaustion is described as feeling drained, emotionally worn-out and exhausted as a result of accumulated stress from an individual's personal or work life (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Similarly, exhaustion is described as a chronic state of emotional depletion, loss of energy, debilitation, and fatigue that results from excessive job and/or personal demands and continuous stress (Bakker, 2018; Maslach & Leiter, 2016). Exhaustion is therefore operationalised as individuals who experience feelings of tiredness, who are emotionally drained and strained from their work.

Due to the nature of an IT professional's work, emotional exhaustion - in the context of this study - occurs when employees feel overwhelmed and drained by the demands of their work, causing a loss of energy due to working long hours and long periods of concentration (Cafasso, 2018).

Depersonalisation

In various research studies the terms cynicism and depersonalisation were used interchangeably. Cynicism was originally known as depersonalisation because of the nature of human service occupations. It manifested as a negative or inappropriate attitude towards clients, denoting irritability, loss of optimism, and withdrawal (Schaufeli & Taris, 2014). Depersonalisation can be referred to as cynical or detached attitudes employees display towards others at work and serves as a protection mechanism against the psychological stress stemming from interactions with others (Gagne, 2014; Maslach & Leiter, 2016; Sierra, Medford, Wyatt, & David, 2012). Furthermore, depersonalisation can be described as

presenting a sustained and composite negative response towards different working conditions (e.g., working hours), which can cause a skewed perspective of one's work (Barker, 2016). Duffy and Lightner (2014) contextualised depersonalisation as systematic psychological withdrawal from work, characterised by cynicism, detachment or cynical attitudes towards functions of work, work tasks and colleagues (Schaufeli, Maslach, & Marek, 2017). In this study, depersonalisation is operationalised as a negative concept that incorporates cynical attitudes, losing interest at work and detachment.

The third conventional burnout symptom, reduced personal accomplishment (Maslach & Jackson, 1996), was excluded from this study for several reasons. First, there is accumulating evidence that exhaustion and cynicism constitute the core of burnout and reduced personal accomplishment plays a less significant role in constituting burnout (Maslach, Schaufeli, & Leiter, 2001). According to De Beer and Bianchi (2017), the factorial structure of the Maslach Burnout Inventory (MBI) indicated that a two-factor model - emotional exhaustion and depersonalisation as one factor and reduced personal accomplishment as the second - fitted the data best. Shih, Jiang, Klein, and Wang (2013) also concluded that emotional exhaustion and depersonalisation should be combined, and personal accomplishment should be treated as a separate factor. Additionally, Cook (2015) explains that personal accomplishment had a weak association with the other two components of burnout and with the hypothesised antecedents and outcomes.

Individual work performance

Individual work performance is a term that is of importance to any organisation, yet many researchers have struggled to conceptualise it (Koopmans, 2016). However, research found that individual work performance is an important outcome measure for studies in the workplace (Koopmans et al., 2011). Individual work performance is defined as "employee behaviours or actions that are relevant to the goals of the organization" (Koopmans et al., 2011, p. 856). Job performance has not been fully studied or understood in many industries and previous research conducted in work and organisational psychology has mainly focused on individual job performance and an individual's proficiency in performing tasks (Koopmans et al., 2014a).

Task performance

Task performance is one of the most commonly researched dimensions that constitute individual work performance (Hassan, Wright, & Park, 2015). Task performance can be defined as "the proficiency (i.e. competency) with which an individual employee performs central job tasks that are described within an employee's job description" (Pradhan & Jena, 2016, p. 72). These proficient behaviours include behaviours that contribute directly to the technical core and maintenance activities in an organisation (Sonnentag, Volmer, & Spychala, 2010). Task performance is also considered to be knowledge, skills, abilities and motivation focused at role-prescribed outcomes, such as prescribed job responsibilities (Ramalu, Wei, & Rose, 2011). Almost all frameworks mentioned task performance as an important dimension of individual work performance. In task performance the specific indicators are completing job tasks, work quality, monitoring, controlling and keeping knowledge up to date, especially working in a technology sector (Hosie & Nankervis, 2016). Despite the substantial amount of research generally conducted on task performance, very little has been focused on the information technology industry (Zakariah, Zainal, & Shariff, 2018; Zakaria, Abdulatiff, & Ali, 2014).

Counterproductive work behaviour

Aftab (2013) explained that in today's organisations, counterproductive behaviour at work is a huge issue which can have severe consequences. Counterproductive work behaviour (CWB) is any intentional, unacceptable or harmful behaviour that has the potential to have negative consequences for an organisation's operational and financial well-being and the staff members within that organisation (Koopmans et al., 2011; Marcus, Taylor, & Hastings, 2013). According to Vorster (2018), these negative consequences are behaviours that can harm any company directly, affecting the company's reputation, stakeholders and/or ethical culture. Furthermore, counterproductive work behaviour is known to be a conscious act of violating rules and procedures and "underworking", which is described as deliberately working slowly to avoid a full day of work (Taris & Schaufeli, 2015).

CWB has been studied across various industries, but the definition of CWB has been approached from various perspectives, all having a common thread such as that these behaviours are (a) intentional (as appose to accidental) and (b) harmful to organisations and

their stakeholders (i.e. clients, co-workers, customers, and supervisors) (Salami, 2010). Spector et al. (2006) categorised CWB according to the target - the organisation itself versus other persons in the organisation.

Job Demands-Resource (JD-R) Theory

The JD-R model has advanced in such a way that it is now considered a theory due to numerous meta-analytical studies conducted. The model forms a predominant classification that can be utilised to group job demands and resources into one model (Kim & Wang, 2018). The JD-R theory understands that every workplace has various work characteristics and the model refers to these characteristics as job demands and job resources (Bakker & Demerouti, 2014). Job demands have been described as those physical, social, and organisational aspects of the job that require sustained physical or mental effort and are therefore associated with certain physiological and psychological costs (e.g., work pressure and emotional demand) (Bakker & Demerouti, 2016). Overall, job demands are progressively draining a person's energy at work (Crawford, Lepine, & Rich, 2010) and negatively influencing performance and well-being (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). Job demands can further be divided into challenges or hindrances. Challenges could be employees having to deal with workload, pressure, time pressure, and cognitive demands and responsibility (Durksz, 2014). The consequences of having to deal with challenging demands may be more enhanced performance, but over time, those demands can turn into a job with negative outcomes (Schaufeli & Bakker, 2004). Job hindrances are best described as a work circumstance that involves excessive and undesirable constraints that interfere with an individual's ability to achieve personal and organisational goals (Schaufeli & Taris, 2014). Examples of job hindrances are role ambiguity, interpersonal conflicts, job insecurity, and constraints (Durksz, 2014).

The JD-R theory was used as the theoretical foundation for this research to conceptualise and operationalise the relationships between variables. More specifically, the theory provides a framework to investigate the impact that job demands (i.e. determinants) have on individual work performance (i.e. outcome) through exhaustion and depersonalisation (i.e. mediators) (Schaufeli & Bakker, 2004). The theory explains that the increase in demands may result in burnout (exhaustion and depersonalisation) which in turn may lead to negative well-being and

performance outcomes for the individual (Schaufeli, 2017). The theory explains that when there are long-term excessive job demands from which individuals do not recover fully, they become emotionally drained, exhausted and depersonalise themselves from work (Lexa, 2017).

The relations between work pressure and emotional demands and exhaustion, depersonalisation and performance

The JD-R theory postulates that there is a relationship between job demands (i.e. work pressure and emotional demands), exhaustion and depersonalisation. Empirical evidence supported the positive association between job demands and burnout (exhaustion and depersonalisation) across multiple organisational settings (Bakker & Demerouti, 2017). After prolonged exposure to work pressure and emotional demands, employees may become chronically exhausted and distance themselves psychologically from their work (Bakker, Schaufeli, Sixma, Bosveld, & Van Dierendonck, 2000). In other words, they may start experiencing burnout (and a lack of well-being) due to high job demands (Gauche, De Beer, & Brink, 2017). Studies have found that individuals, experiencing high demands at work as a job hindrance, were more likely to get tired and exhausted (Bakker & Demerouti, 2016).

Employers start noticing changes in employees' job performance, because employees are overworked and emotionally exhausted (Campbell, 2016). For example, employers might start noticing their employees displaying poor job performance such as failing to meet deadlines and employees may lower their commitment to the organisation (Haines & Saba, 2018). Employees who experience exhaustion and depersonalisation consequently experience a reduction in their self-confidence in solving work-related problems (Bakker, Demerouti, Taris, Schaufeli, & Schreurs, 2003), which results in diminished performance. Due to employees' energy being drained, they feel overextended, exhausted and depleted of emotional and physical resources (Wallgren, 2013). Additionally, individuals who are exhausted start to withdraw and conserve their energies; this withdrawal will impact their job performance (Tourigny, Vishwanath, Han, & Wang, 2012). IT professionals who were dealing with job demands such as work pressure and emotional demands, reported an inability to perform optimally (Plaatjies & Mitrovic, 2014). Emotional demands were found to have an impact on IT professionals' performance, as these professionals must spend their energy on

managing their feelings and emotions in terms of client interactions and support. The energy used to deal with emotional demands could be redirected and used to perform roles (Cafasso, 2018).

Many organisations do not focus on IT departments, leaving those IT professionals feeling emotionally drained. They eventually start detaching themselves from the actual tasks and can also display counterproductive work behaviours (Bersin, 2015; Studebaker, 2017). Various studies noted that employees' tendency to exhibit CWB is an indication of their growing inability to adequately manage their emotions and having to deal with other individuals, employees, colleagues and clients; this could lead to potential burnout. Burnout has been found to be positively associated with CWB (Ugwu, Enwereuzor, Fimber, & Ugwu, 2017). In a related study that investigated the relationship between emotional exhaustion and CWB, Krischer, Penney, and Hunter (2010) found that employees who reported being emotionally exhausted were more likely to display CWB, while Liang and Hsieh (2007) found that only depersonalisation, of the three dimensions of job burnout, significantly predicted CWB. Bolton et al. (2012) found that depersonalisation significantly influenced CWB. Cynicism (depersonalisation) is negatively associated with both types of job performance (Bang & Reio, 2017).

The indirect effect of work pressure and emotional demands

Lang, Thomas, Bliese, and Adler (2007) explain that numerous researchers have found a link between job demands and employee strain; however, not many studies have examined how job demands affect employees' individual performance. This is surprising, because Lang et al. (2007) also explained that the relationship between demands and performance is weak. A reason for the weak relationship may be that previous researchers studied the direct and not the indirect relationship that work pressure and emotional demands have on performance. Following the JD-R theory, job demands (work pressure and emotional demands) have a larger impact on performance when exerting its effect through burnout (exhaustion and depersonalisation) (Bakker & Demerouti, 2014).

The negative influence of emotional exhaustion on job performance can be explained, because it not only directly, but also indirectly influences job performance. The findings could be attributed to the assumption that the nature and type of work IT professionals do on a daily

basis is the cause of their having to work long hours, providing a service and support function that exhaust them and hamper their performance, also detaching them from work which can lead to CWB. The role exhaustion and depersonalisation play in IT professionals' day-to-day function is immense; hence the impact on task performance and counterproductive work behaviour. It was demonstrated that exhaustion partially mediated the relationship between emotional demands and performance (Mijakoski, Karadzinska-Bislimovska, Basarovska, Stoleski, & Minov, 2015).

Depersonalisation was found to mediate the relationship between job demands and individuals' work performance (Kar & Suar, 2014). Emotional demands often result in heightened levels of emotional exhaustion and decreased levels of performance (Onwezen, Van Veldhoven, & Biron, 2014). Exhaustion increases at a steeper rate when emotional demands are increased and an exhausted person is likely to decrease his/her performance (Tourigny, Vishwanath, Han, & Wang, 2012).

Aims and hypotheses

Based on the above discussion, the hypotheses of the study are outlined as follows:

Hypothesis 1: There is (a) a negative relationship between work pressure and task performance and (b) a positive relationship between work pressure and counterproductive work behaviour.

Hypothesis 2: There is (a) a negative relationship between emotional demands and task performance and (b) a positive relationship between emotional demands and counterproductive work behaviour.

Hypothesis 3: There is a positive relationship between work pressure and (a) exhaustion and (b) depersonalisation.

Hypothesis 4: There is a positive relationship between emotional demands and (a) exhaustion and (b) depersonalisation.

Hypothesis 5: There is (a) a negative relationship between exhaustion and task performance and (b) a positive relationship between exhaustion and counterproductive work behaviour.

Hypothesis 6: There is (a) a negative relationship between depersonalisation and task performance and (b) a positive relationship between depersonalisation and counterproductive work behaviour.

Hypothesis 7: Work pressure and emotional demands indirectly affect task performance through (a) exhaustion and (b) depersonalisation.
Hypothesis 8: Work pressure and emotional demands indirectly affect counterproductive work behaviour through (a) exhaustion and (b) depersonalisation.

Research design

Research approach

A cross-sectional survey design was used to achieve the research objectives. This design translates into the collection of data at a single point in time after which the data is analysed to detect patterns of association (Bryman & Bell, 2003).

Research method

Participants

The participants were sampled from various South African organisations. A convenience sample of (n = 296) IT professionals across various organisations was included. The sample consisted of both females (25.7%) and males (74.3%). The average age of the respondents was 37 years (SD = 9.81). The average tenure in the same position was six years (SD = 5.85).

Measuring instruments

A *biographical questionnaire* was used to determine age, gender and years of experience within their position. Work pressure and emotional demands are constructs that are derived from the *Job Demands-Resource Scale* (JDRS) was developed by Demerouti et al. (2001) and further developed and improved within a South African context by Rothmann, Mostert, and Strydom (2006). Participants were expected to rate their job demands (work pressure and emotional demands) on a five-point scale ranging from 1 (*never*) to 5 (*very often*). Work pressure had four items (e.g., ‘Do you work under time pressure?’) and emotional demands comprised six items (e.g., ‘Is your work emotionally demanding?’). Both constructs had reliability coefficients of 0.70 (De Braine and Roodt, 2011).

Exhaustion and depersonalisation formed part of the subscales that made up the *Maslach Burnout Inventory* (MBI), developed by Maslach and Jackson (1981). Exhaustion (e.g., 'I feel emotionally drained from my work') and depersonalisation (e.g., 'I have become less enthusiastic about my work') (Maslach & Leiter, 1997) were measured by five items for each construct. Participants were required to rate themselves on a scale ranging from 1 (*never*) to 5 (*very often*). Within South African samples, exhaustion had an internal consistency of 0.89 (Naudé & Rothmann, 2004; Van Tonder & Colette, 2009) and depersonalisation was found to have an internal consistency of 0.79 (Rothmann & Barkhuizen, 2008).

Task performance and counterproductive work behaviour are dimensions of the *Individual Work Performance Questionnaire* (IWPQ) which was developed by Koopmans et al. (2014a) and is a reliable and valid instrument in all types of occupations. Task performance consisted of five items (e.g., 'I kept in mind the results that I had to achieve in my work') and was measured on a five-point frequency scale ranging from 1 (s*eldom*) to 5 (*always*) (Koopmans et al., 2011). Counterproductive work behaviour also consisted of five items (e.g., 'I made problems greater than they were at work') and was measured on a five-point frequency-scale ranging from 1 (*never*) to 5 (*often*) (Koopmans et al., 2013a). The instrument indicated acceptable construct and convergent validity (Koopmans et al., 2014b). These researchers determined the scales' reliability through the person separation index (PSI) which was similar to Cronbach's alpha, but it used the logit scale estimates as appose to the raw scores. Internal consistency for task performance was 0.78 and for counterproductive work behaviour 0.79 (Koopmans et al., 2014b).

Procedure

The Basic and Social Science Research Committee (BaSSREC) of the North-West University granted ethics approval before commencing data collection (NWU-HS-2017-0046). Convenient sampling was used to collect data and is best described as a non-probability type of sampling in which people are sampled because they are "convenient" sources of data for researchers (Saunders, Lewis, & Thornhill, 2012). In order to gather a sample, face-to-face meetings with managers across various organisations were held where the purpose of the study was explained and permission was obtained. Managers gave their consent and an email

was sent for distribution to the participants, which included a short introductory summary of what the study entailed, a Google Forms link of the consent form, and the questionnaire. However, the study focused on IT professionals (and not an organisation) enabling recruitment of individual participants via other avenues. Therefore, permission was requested from the ethics committee to utilise a professional social media platform such as LinkedIn and a data collection and research solutions company called iFeedback. Upon gaining permission, contact was made with individual IT professionals on LinkedIn and, once connected, an email including a short introductory summary of what the study entailed, a Google Forms link of the consent form and the questionnaire, were sent. Regarding iFeedback - the data collection company - inclusion criteria for the sample were provided to source participants. Once the inclusion criteria were met, a similar process was followed where an email was sent to the participants that included a short introductory summary of what the study entailed, the Google Forms link of the consent form and the questionnaire for the agent to distribute.

The questionnaire consisted of 112 questions and took approximately 30 minutes to complete. Prior to participating in the study, all recruited participants had to fill out the consent form in which the confidentiality of the online questionnaires was emphasised. Once all data had been collected, it was submitted for statistical analysis. Participants were informed that their data would be used for research purposes only.

Statistical Analysis

For the purpose of this study both IBM SPSS 25 (IBM Corporation, 2016) and Mplus version 8.2 (Muthén & Muthén, 1998-2018) statistical packages were used for the statistical analysis. Structural equation modelling (SEM) was used to find the best fitting model for this research and to test the hypotheses. To find the best fitting model for this study, competing measurement and structural models were tested with a maximum likelihood robust (MLR) estimator, taking skewness and kurtosis into account when estimating standard errors of parameters (Byrne, 2012). In order to determine validity of the instruments, confirmatory factor analyses (CFA) were performed. The structural model was estimated by inserting the hypothesised regression paths based on the best fitting measurement model. The indices that were used to interpret the model's fit to the data included the chi-square (χ^2), degrees of freedom (*df*), root mean square

error of approximation (RMSEA), standardised root means square residual (SRMR) and incremental fit indices. The incremental fit indices included the Tucker-Lewis index (TLI) as well as the comparative fit index (CFI) which is the index selected, according to Byrne (2012). The CFI and TLI should yield values above 0.95 in order to be acceptable (Hu & Bentler, 1999), but should be treated as guidelines in applied research (West, Taylor, & Wu, 2012). Wang and Wang (2012) consider 0.90 as appropriate cut-off values for these two fit indices. Further, SRMR values closer to 0.10 indicate acceptable fit between the model and the data (Wang & Wang, 2012). The RMSEA values should be less than 0.08 in order to indicate an acceptable fit (Byrne, 2012; Hair, Black, Babin, & Andersen, 2010).

The Akaike information criterion (AIC) and the Bayes information criterion (BIC) were used to make a comparison between the different measurement and structural models. Smaller values are preferred; therefore, the lower the value, the better the model fits the data (Hair et al., 2010). In accordance with Kline (2016), the confidence interval of statistical significance was set at 95% ($p \leq 0.05$). Effect sizes are to be utilised as indicators of practical significance whereby 0.30 will represent a medium effect and 0.50 will represent a large effect; both aforementioned effect sizes were set as cut-off points (Cohen, 1988; Cohen, Cohen, West, & Alken, 2013).

In order to evaluate the reliability of the measuring instruments, composite reliability coefficients (ρ) were calculated with a cut-off point of 0.70 (Raykov, 2009; Wang & Wang, 2012). Composite reliability was used as it was found to be more effective than Cronbach's alpha coefficients when using latent variable modelling (Raykov, 2009) to determine internal consistency of constructs (Hair, Black, Babin, & Anderson, 2010). Cronbach's coefficient alpha is reported for transparency purposes. Colwell's (2015) composite reliability calculator was employed to estimate composite reliability in Mplus. Based on the best-fitting structural model, the potential indirect effects of work pressure and emotional demands on task performance and counterproductive work behaviour through exhaustion and depersonalisation were tested. Bootstrapping and the construction of bias-corrected 95% confidence intervals (CIs) were used to test the indirect effects (Hayes, 2017) of work pressure and emotional demands.

Results

First, the model fit results of several competing measurement models are provided, as well as the process to improve model fit of the best fitting measurement model. Second, the means, standard deviations, correlations and internal consistency are provided based on the selected measurement model. Third, the model fit results for the hypothesised structural model are provided together with the results of competing structural models. Fourth, the regression coefficients are reported. Lastly, the results of the indirect effects of work pressure and emotional demands will be explained.

Testing measurement models

Four competing models were tested using confirmatory factor analysis (CFA). Competing models were evaluated due to the cross-sectional nature of the data. Various factor structures were tested in order to find the best fit model. In Model 1, work pressure, emotional demands, exhaustion, depersonalisation, task performance and counterproductive work behaviour were specified as six separate factors with items loading onto their respective factors. In Model 2, work pressure and emotional demands were specified as one factor (i.e. work demands) and depersonalisation and exhaustion were specified as one factor (i.e. ill-being), and task performance and counterproductive work behaviour as two separate factors. In Model 3, work pressure and emotional demands were specified as one factor (i.e. work demands) with exhaustion, depersonalisation, task performance, and counterproductive work behaviour as four separate factors. In Model 4, work pressure and emotional demands were specified as two separate factors, depersonalisation and exhaustion were specified as one factor (i.e. ill-being), and task performance and counterproductive work behaviour as two separate factors. Model fit statistics are reported in Table 1.

Table 1: *Competing Measurement Models*

Model	χ^2	*df*	*p*	CFI	TLI	SRMR	RMSEA [90% CI]	AIC	BIC
Model 1	966.03	390	0.00	0.85	0.83	0.07	0.07* [0.07, 0.08]	25657.13	26044. 62
Model 2	1443.63	399	0.00	0.73	0.70	0.09	0.09* [0.09, 0.10]	26203.04	26557. 32
Model 3	1130.86	395	0.00	0.81	0.79	0.08	0.08* [0.07, 0.09]	25842.29	26211. 32
Model 4	1281.30	395	0.00	0.77	0.90	0.09	0.09* [0.08, 0.09]	26015.84	26384. 88

χ^2 = chi-square statistic; *df* = degree of freedom; *p* = significance; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation; CI = confidence interval; AIC = Akaike information criterion; BIC = Bayes information criterion; * $p < .05$

Based on the results and the recommended cut-off values, Model 1 fitted the data better than the competing models. Critique is leveraged against more complex models having a better fit (Kline, 2016) and Model 1 is indeed the most complex of the four models. To address this critique, the AIC and BIC values are reported. The lower the AIC and BIC values, the better the model fit (Byrne, 2012). For more complex models, AIC and BIC adjust complex models such as penalising the models that are less parsimonious, so that simpler theoretical models are favoured over more complex ones (Adams, 2018). Hence, in addition to the CFI, TLI and RMSEA values being closer to the cut-off values, the AIC and BIC values were also the lowest for Model 1. However, Model 1 only partially met the criteria and, consequently, the model needed to be improved.

Model improvement

In order to improve the model's fit, certain items of the measuring instruments had to be removed and the error of variances of some items were correlated and the latent variables' factor structures were re-specified. Modification indices were used to guide model development and the results are reported in Table 2. In Model 1a problematic items were deleted from the respective measuring instruments: a) work pressure items 1 ("Do you have to work at speed?"), 2 ("Do you have too much work to do?"), and 3 ("How often do you have

to work extra hard in order to reach a deadline?") and b) depersonalisation item 3 ("I just want to do my job and not be bothered"). These items were problematic, as they cross-loaded repeatedly on other constructs as appose to on their own theoretical constructs. Despite these modifications, the fit statistics of Model 1a did not meet the required cut-off values. In Model 1b, model improvement continued with allowing error variances to correlate between CWB 4 ("I talked to colleagues about the negative aspects of my work") and CWB 5 ("I talked to people outside the organisation about the negative aspects of my work"), also between DP 4 ("I have become more cynical about whether my work contributes anything") and DP 5 ("I doubt the significance of my work") in addition to the items deleted in Model 1a. Correlated errors may occur due to an overlap in item content such as CWB 4 and CWB 5 referring to the negative aspects of work and DP 4 and DP 5 which refer to whether a significant contribution is made to a person's work. Model 1b met the required cut-off values.

Table 2: *Model Fit Statistics for Model Improvement*

Models	χ^2	***df***	***p***	**CFI**	**TLI**	**SRMR**	**RMSEA [90% CI]**	**AIC**	**BIC**
Model 1	966.03	390	0.00	0.85	0.83	0.07	0.07* [0.07, 0.08]	25657.13	26044.62
Model 1a	597.77	284	0.00	0.91	0.89	0.06	0.06* [0.05, 0.07]	21850.72	22193.92
Model 1b	488.40	282	0.00	0.94	0.93	0.06	0.05 [0.04, 0.06]	21727.46	22078.05

χ^2 = chi-square statistic; *df* = degree of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation; CI = confidence interval; AIC = Akaike information criterion; BIC = Bayes information criterion; * $p < 0.05$

Table 3 contains descriptive statistics, the reliability coefficients, and correlations between work pressure, emotional demands, depersonalisation, task performance and counterproductive work behaviour based on Model 1b. The reliability coefficients range from 0.78 to 0.91, indicating acceptable reliability. The relationships between most of the variables were statistically and practically significant with either a small, medium or large effect.

Table 3: *Correlation Matrix Including Reliabilities Means and Standard Deviations*

Variable	M	SD	α	*P*	1	2	3	4	5
1. Work pressure	3.57	0.88	0.83	0.83	-				
2. Emotional demands	2.84	1.07	0.84	0.84	0.39**	-			
3. Exhaustion	2.68	1.57	0.91	0.91	0.47**	0.19*	-		
4. Depersonalisation	1.61	1.47	0.85	0.85	0.16*	0.14	0.57**	-	
5. Task performance	3.64	0.85	0.89	0.89	-0.03	0.12	-0.24**	-0.35**	-
6. Counterproductive work behaviour	1.97	0.70	0.78	0.78	0.03	0.06	0.27**	0.34**	-0.35**

** $p \leq 0.001$, * $p < 0.05$; M = mean; SD = standard deviation; α = Cronbach's alpha; ρ = composite reliability

According to the results in Table 3, all the significant correlations were in the expected directions. Work pressure correlated significantly with emotional demands ($r = 0.39$; medium effect), exhaustion ($r = 0.47$; large effect) and depersonalisation ($r = 0.16$; small effect). Emotional demands only correlated significantly with exhaustion ($r = 0.19$; small effect). These were all positive correlations. Exhaustion correlated significantly positive with depersonalisation ($r = 0.57$; large effect), whereas both exhaustion and depersonalisation correlated with counterproductive work behaviour ($r = 0.27$; small effect and $r = 0.34$; medium effect, respectively), but negatively with task performance ($r = -0.24$; small and $r = -0.35$ medium effect, respectively). Neither work pressure nor emotional demands correlated significantly with task performance ($r = -0.03$ and $r = 0.12$) or counterproductive work behaviour ($r = 0.03$ and $r = 0.06$). This means that there could potentially be mediators involved (i.e. exhaustion and depersonalisation). Emotional demands also did not correlate significantly with depersonalisation ($r = 0.14$).

Testing the structural model

The measurement model formed the basis for the structural models. Three competing structural models were tested. Model 1 (also known as the direct and indirect pathways model) was the hypothesised model with direct and indirect paths between all variables. Model 2

(also known as the direct pathway model) contained only direct pathways from the independent variables (work pressure, emotional demands, and exhaustion) to the dependent variables (task performance and counterproductive work behaviour). Model 3 (also known as the indirect pathway model) did not contain paths from the work demands variables to the independent variables. Model 1 showed acceptable fit to the data with: $\chi^2 = 488.40$, $df = 282$, CFI = 0.94, TLI = 0.93 and RMSEA = 0.05 [0.04, 0.06]. Model 1's fit was slightly better than Models 2 and 3 with higher CFI and TLI values, a non-significant RMSEA value as well as lower AIC and BIC values.

Table 4: *Competing Structural Models*

Models	**χ^2**	***df***	***p***	**CFI**	**TLI**	**SRMR**	**RMSEA [90% CI]**	**AIC**	**BIC**
Model 1	488.40*	282	0.00	0.94	0.93	0.06	0.05 [0.04, 0.06]	21727.46	22078.05
Model 2	545.61*	283	0.00	0.92	0.91	0.06	0.06 [0.05, 0.06]	21792.18	22139.07
Model 3	632.22*	288	0.00	0.90	0.88	0.10	0.06* [0.06, 0.07]	21882.11	22210.55

$\chi 2$ = chi-square statistic; *df* = degree of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation; CI = confidence interval; AIC = Akaike information criterion; BIC = Bayes information criterion; * $p < 0.05$

Figure 1 shows the standardised path coefficients for the best fitting structural model, which were subsequently used to test indirect effects.

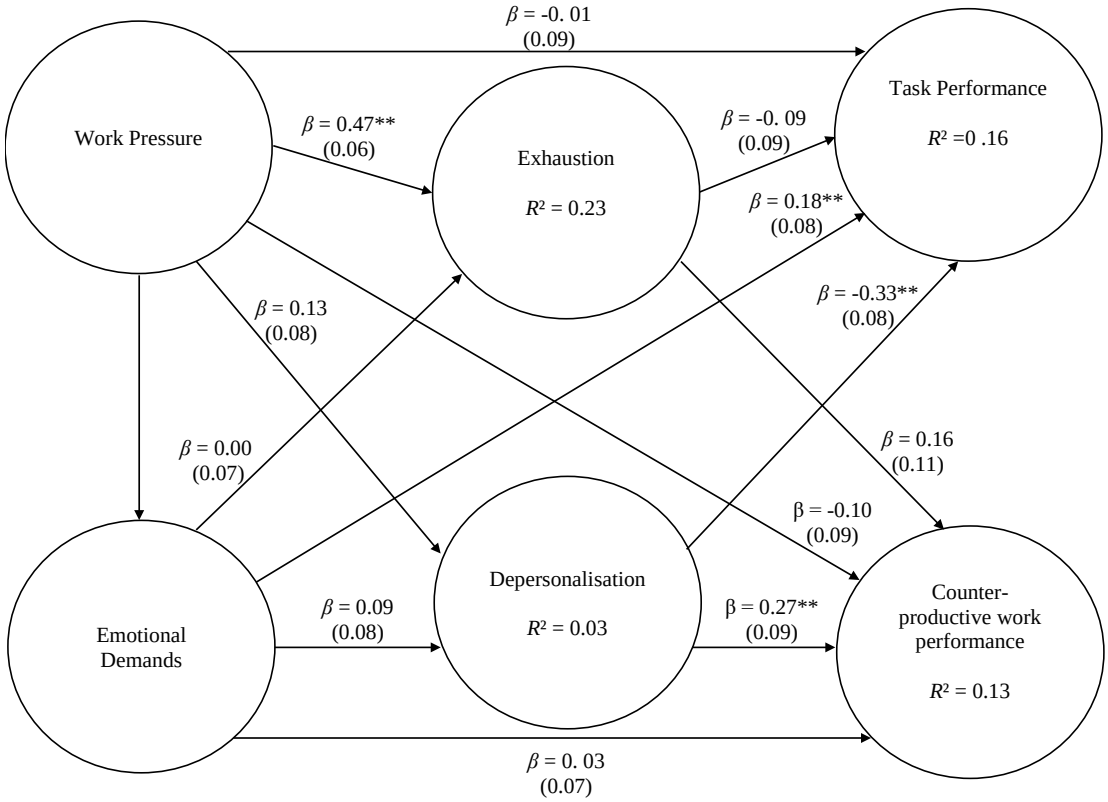


Figure 1: Structural model of demands, ill-being and performance

Only four significant regression coefficients were found. The first hypothesis was to determine whether (a) a negative relationship between work pressure and task performance exists and whether (b) a positive relationship between work pressure and counterproductive work behaviour exists. Hypotheses 1a and 1b were both rejected (β = -0.01, p = 0.96 and β = -0.10, p = 0.28). The second hypothesis was to determine whether there is a (a) a negative relationship between emotional demands and task performance and (b) a positive relationship between emotional demands and counterproductive work behaviour. Emotional demands were found to have a positive (not negative) significant relationship with task performance (β = 0.18, p < 0.05); the hypothesis was therefore rejected. In relation to Hypothesis 2b, emotional demands and counterproductive work behaviour did not have a significant positive relationship; therefore, the hypothesis was rejected (β = 0.03, p < 0.001). The third hypothesis was to determine whether there is a positive relationship between pressure and (a) exhaustion and (b) depersonalisation. Hypothesis 3a confirmed that there was a significant positive relationship between pressure and exhaustion (β = 0.47, p < 0.001); thus, the hypothesis was accepted. With reference to Hypothesis 3b, the positive relationship between pressure and depersonalisation was not significant (β = 0.13, p = 0.10) and the

hypothesis was rejected.

The fourth hypothesis was to determine whether there is a positive relationship between emotional demands and (a) exhaustion and (b) depersonalisation. Hypothesis 4a, the relationship between emotional demands and exhaustion, was not significant (β = 0.00, p = 0.96) and the hypothesis was rejected. As with Hypothesis 4b, it was also rejected due to a non-significant (β = 0.09, p = 0.27) relationship between emotional demands and depersonalisation. The fifth hypothesis was to establish whether there was (a) a negative relationship between exhaustion and task performance and (b) a positive relationship between exhaustion and counterproductive work performance. Hypothesis 5a showed a negative relationship between exhaustion and task performance; however, it was not significant (β = -. 09, p = 0.34); thus, rejecting the hypothesis. Hypothesis 5b was not accepted, as the relationship was not significant (β = 0.16, p = 0.16). The sixth hypothesis was to determine if there is (a) a negative relationship between depersonalisation and task performance and (b) a positive relationship between depersonalisation and counterproductive work behaviour. Hypothesis 6a was found to have a significant negative relationship between depersonalisation and task performance (β = -0.33, $p < 0.001$); therefore, it was accepted. Additionally, Hypothesis 6b specified a positive significant (β = -0.27, $p < 0.001$) relationship between depersonalisation and counterproductive work behaviour.

Indirect effects of work pressure on exhaustion and depersonalisation

Bootstrapping, with bias-corrected confidence intervals, was used to generate more accurate estimations of possible indirect effects than standard methods (Hayes, 2017). The bias-corrected confidence intervals were set at 95% for all indirect effects (MacKinnon, Lockwood, & Williams, 2004). The lower and upper percentiles served as a limit in that if zero was not contained within the limits, indication of the indirect effect was achieved (Hayes, 2017). Tables 5 and 6 indicate the lower and upper CIs, as well as the estimates and standard errors of the tested indirect effects.

Table 5: *Indirect Effect of Work Pressure on Task Performance and Counterproductive Work Behaviour*

Indirect effect of work pressure						
Variable	**Exhaustion**			**Depersonalisation**		
	Est.	**SE**	**95% CI**	**Est.**	**SE**	**95% CI**
Task performance	-0.04	0.05	[-0.13, 0.05]	-0.04	0. 03	[-0.11, 0.00]
Counterproductive work behaviour	0.07	0.05	[-0.02, 0.19]	0.03	0.03	[0.00, 0.11]

Est.: estimate; SE: standard error; CI: confidence interval

Table 6: *Indirect Effect of Emotional Demands on Task Performance and Counterproductive Work Behaviour*

Indirect effect of emotional demands						
Variable	**Exhaustion**			**Depersonalisation**		
	Est.	**SE**	**95% CI**	**Est.**	**SE**	**95% CI**
Task performance	0.00	0.01	[-0.02, 0.02]	-0.02	0.03	[-0.09, 0.02]
Counterproductive work behaviour	0.00	0.01	[-0.02, 0.03]	0.02	0.02	[-0.01, 0.08]

Est.: estimate; SE: standard error; CI: confidence interval

As indicated in Tables 5 and 6, none of the indirect effects was significant. The results are supported by the confidence intervals containing zero for both. Therefore, Hypothesis 7 which states that work pressure and emotional demands indirectly affected task performance through (a) exhaustion and (b) depersonalisation, was rejected. Hypothesis 8, stating that work pressure and emotional demands indirectly affect counterproductive work behaviour through exhaustion, was also rejected.

Discussion

The general aim of this research was to investigate the relationships between work pressure, emotional demands, exhaustion, depersonalisation, task performance and counterproductive work behaviour among IT professionals within South Africa.

More specifically, the main objective was to investigate the relationship between work

pressure, emotional demands and individual work performance through exhaustion and depersonalisation among IT professionals within South Africa. This was done to provide an understanding of the role exhaustion and depersonalisation play in explaining the impact of work pressure and emotional demands on IT professionals' individual work performance. It is important in today's digital era and IT expansion for IT professionals to perform optimally as businesses are reliant on IT professionals to ensure their optimal functioning.

The first objective was to investigate the relationship between work pressure, emotional demands, exhaustion, depersonalisation, task performance and counterproductive work behaviour among IT professionals within South Africa. Results indicated that work pressure had no direct significant relationship with either task performance or counterproductive work behaviour. The findings could be explained by two mechanisms: (1) a job or personal resource buffers the negative impact of work pressure and/or (2) work pressure may be perceived as a challenging demand. For many years, the IT field has been a high-pressure environment as technology has been advancing at a rapid rate. Therefore, it has become a norm to work under pressure within the IT field (Satpathy & Mitra, 2015; Grier, 2018). Grier (2018) is of opinion that the more one works under pressure, the better you become at it. Consequently, it does not hamper task performance. In addition, IT professionals under pressure may not exercise counterproductive work behaviour, because when they are under pressure, they may not have the time, effort or energy to purposefully oppose the goals and aims of their employer (Yang & Diefendorff, 2009).

The second specific objective of this study was to investigate if there was a relationship between emotional demands and individual work performance. Results indicated that emotional demands had a significant positive impact on task performance, but a non-significant impact on counterproductive work behaviour. Interestingly, when IT professionals experienced emotional demands, they performed their tasks better (Koch & Adler, 2018; Mitchell et al., 2008). It could be that IT professionals, due to the type of work that they do, have developed a coping mechanism to deal with their emotional demands such as working harder in order to avoid customer complaints which would have contributed to the positive relationship between this type of demand and task performance. Emotional demands also did not have a significant relationship with counterproductive work behaviour, as is in line with previous research (see Chen, Li, Xia, & He, 2017). This could be because IT professionals do

not allow emotional demands that they experience at work to influence them to want to oppose their company's interests. Therefore, IT professionals who deal with difficult clients still uphold a certain work ethic and do not display counterproductive behaviours. It rather motivates them to perform as the results in this study indicate.

The third specific objective was to determine if a relationship exists between work pressure, exhaustion and depersonalisation. Results indicated that work pressure had a positive relationship with exhaustion, but not with depersonalisation. This indicates that work pressure is negative to the extent that it exhausts IT professionals, but it does not translate into negative (i.e. cynical) attitudes. Previous studies found that work pressure had a larger effect on exhaustion than on depersonalisation (Brouwers, Tomic, & Boluijt 2011). IT professionals (due to the type and nature of work they perform) often have to work overtime to keep up to date with their work, causing them to become exhausted. As the results depict, it seems that IT professionals who have increased work pressure (due to high demands) become more exhausted as more energy is needed to deal with their workload (Rao & Chandraiah, 2012).

The fourth specific objective was to determine if a relationship exists between emotional demands, exhaustion and depersonalisation. Results indicated that emotional demands had no significant direct relationship with exhaustion or depersonalisation. Using the challenge versus hindrance argument, emotional demands may not be perceived as a hindrance (Tadić, Bakker, & Oerlemans, 2014). Alternatively, IT professionals detach themselves from interpersonal issues, as a coping mechanism, with no negative well-being consequences.

The fifth specific objective was to determine if a relationship exists between exhaustion and task performance or counterproductive work behaviour. Results indicated that there was no significant relationship between exhaustion, task performance and counterproductive work behaviour. Although work pressure increases exhaustion, exhaustion holds no negative consequences for performance. Once again, a job or personal resource may buffer the outcomes of exhaustion (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). Similar to the non-significant relationship between exhaustion and counterproductive work behaviour, IT professionals who experience exhaustion do not have the energy to work against the organisation's "current" goals. Counterproductive work performance is an individual's conscious decision to work counterproductively; however, when an IT professional is

exhausted, he/she may make mistakes rather than be guilty of sabotage.

The sixth specific objective was to determine if a relationship exists between depersonalisation, task performance and counterproductive work performance. The results showed that there was a significant negative relationship between depersonalisation, task performance and counterproductive work behaviour. As mentioned previously, due to the nature of the work of IT professionals performing repetitive tasks and having a monotonous type of job in some of their major functions, the result of this is that IT professionals start depersonalising and detaching themselves from their actual work (Doyle, 2019). A negative relationship is found where IT professionals detach themselves and slowly start to steer away from the task at hand; therefore, task performance starts decreasing when depersonalisation starts increasing. Previous studies also showed that depersonalisation had a positively significant relationship with task performance (Studebaker, 2017) and counterproductive work behaviour (Bolton, Harvey, & Grawitch, 2012; Gorji, 2011).

The seventh specific objective was to determine whether work pressure and emotional demands indirectly affect task performance through exhaustion and depersonalisation. The results indicated that work pressure and emotional demands had no significant indirect effect on task performance through either exhaustion or depersonalisation. Even though work pressure leads to exhaustion, it is not detrimental enough or something (i.e. job or personal resource) buffers the consequential negative impact of exhaustion on performance. On the other hand, depersonalisation is detrimental to task performance. The detachment behaviour and negative attitudes towards their work and more specifically towards their task, show that they detach themselves from their tasks which in turn influences their task performance. However, depersonalisation is not caused by work pressure, but may be ascribed to other demands not measured in this study.

The eighth specific objective was to determine whether work pressure and emotional demands indirectly affected counterproductive work behaviour through exhaustion and depersonalisation. The results indicated that work pressure and emotional demands had no significant indirect effect on counterproductive work behaviour through either exhaustion or depersonalisation. As explained earlier, neither work pressure nor emotional demands associated with depersonalisation; yet depersonalisation showed negative consequences for

performance.

Implications for management

It is important for a manager to understand what influences IT professionals' individual work performance and well-being (Taris & Schaufeli, 2015). Even though work pressure is not detrimental to an IT professional's performance, it is detrimental towards their well-being. Work pressure can be motivating, but only the perfect amount of pressure can help a team remain focused and productive, without being exhausted (Grier, 2018). In order to find the "perfect" amount of pressure to be placed upon an IT professional, managers could distribute even workloads in their teams and work with the IT professionals to determine realistic deadlines and timeframes to complete the tasks. Managers should provide IT professionals with an opportunity to perform their tasks outside normal operating hours (introducing flexitime) within the negotiated timeframes. However, the professional can have the freedom to perform tasks when he/she has reached his/her personal optimal performance level.

Additionally, managers can introduce effort recovery strategies (Els, Mostert, & De Beer, 2015) that are applicable to IT professionals at work. Strategies of effort recovery during work are actions such as managers encourage lunch breaks to be taken in a pause area and not at their desks; and providing IT professionals with the freedom to schedule their own day-to-day tasks in line with the manager's outcomes for that day. Managers should highlight the benefits of IT professionals' contribution, even though at times the work is tedious and monotonous. Jobs can be more exhausting if the contribution is not noticed or highlighted. Lastly, managers can educate and encourage IT professionals to apply effort recovery strategies after work, such as playing computer games, participating in voluntary work and physical activities, and improving their quality of sleep.

Similarly, the right amount of emotional demands can be motivating, as managers can encourage positive competition between peers, for example by rewarding IT professionals for successfully managing a difficult client, based on the time taken to resolve the task and calm the client. This also enhances a learning culture as the IT professional who does this the quickest and in the most efficient manner, can teach other colleagues how to go about it. However, it is important for managers to assist IT professionals towards optimising their

coping mechanisms in dealing with emotional demands. This can be done by providing training to IT professionals in order to assist them in dealing with difficult clients. Additionally, managers can arrange a mindfulness workshop that aids IT professionals in understanding how they perceive a work environment, gaining knowledge about themselves and how to be mindful of their reaction to situations, especially when dealing with clients.
Additionally, management and IT professionals should fully understand the signs and symptoms of a person experiencing depersonalisation; this could be achieved by means of a workshop that provides them with tools on how to identify and deal with depersonalisation. Examples of these tools could be to teach them not to overact and thus enhance feelings of detachment; to promote an exciting work environment so that tedious and monotonous tasks are easily completed; and attempt to involve and engage them in work conversations. Last, management and IT professionals should attend workshops conducted by an external consultant that deals with the signs of depersonalisation and exhaustion, so that all individuals can notice when their colleagues are experiencing feelings of detachment, cynicism or exhaustion in order to enhance their engagement at work.

Limitations and recommendations for future research

The study had several methodological limitations that should be taken into consideration when interpreting the current results. First, the study was cross-sectional in nature which indicated that the data was gathered at one point in time. Causal interpretations could not be made about the relationships between constructs; therefore, relationships may exist that cross-sectional designs do not capture (Levin, 2006), for example reciprocal relationships between the variables. In future, constructs should be measured longitudinally to determine whether work pressure and emotional demands cause individual work performance and/or vice versa. The questionnaires used were self-report measures and often self-report measures cause common method variance which means that correlations between predictors and outcomes are enhanced (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Richardson, Simmering, & Sturman, 2009). A future recommendation is to use multi-source data, such as managers and employees.

Convenience sampling was utilised, which might influence the generalisability of the findings. For future research, a more robust sampling method (i.e. random sampling) should

be used to select research participants. Last, according to Bakker and Demerouti (2018), organisational life and well-being should be modelled at organisational, team and individual levels and not only at individual level. When utilising a multilevel approach, it can shed light onto how these processes play out on different levels.

The first theoretical limitation of the study was that only certain job demands were included, namely work pressure and emotional demands. However, the cognitive demands, role conflict and hassles at work should be considered in future research of IT professionals. The second theoretical limitation is that the job demands-resources theory does not only include job demands, but also the role that job resources play in buffering the consequences of job demands for exhaustion and depersonalisation. Specifically, among IT professionals it is important for future research to study job resources, as IT professionals may value growth and opportunities that buffer the demands. The last theoretical limitation is that personal resources (as an element of the JD-R theory) were not included in this study. Future researchers should include personal resources in their study as they directly impact well-being; personal resources moderate the relation between job characteristics and well-being, or influence the perception of job characteristics (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). Additionally, personal resources may affect both the perception of job characteristics and the relationship between job characteristics and employee well-being and, as such, they may act as "third variables" (Bakker & Demerouti, 2014).

In closing, despite these limitations, the findings of this study have shed light on the understanding of the role exhaustion and depersonalisation play in the relationship between work pressure, emotional demands and performance.

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CHAPTER 3

CONCLUSIONS, LIMITATIONS AND RECCOMENDATIONS

The purpose of this chapter is to present the conclusions of the current study according to its general and specific objectives. In addition, the limitations of the study are discussed and recommendations are made for the organisation and for future research.

3.1 Conclusions

The general aim of this research was to investigate the relationships between work pressure, emotional demands, exhaustion, depersonalisation, task performance and counterproductive work behaviour among IT professionals within South Africa. The focus was on the indirect effects of work pressure and emotional demands on task performance and counterproductive work behaviour through exhaustion and depersonalisation among IT professionals within South Africa.

The first objective was to conceptualise work pressure, emotional demands, exhaustion, depersonalisation, task performance and counterproductive work behaviour and the relationship between these constructs from literature.

The conceptualisation of job demands rests on two referents, namely work pressure and emotional demands. Work pressure, in this study, was best described as pressure relating to an individual's work requirements or demands, such as having too much work to do, having to work extra hard to meet deadlines and working under time pressure to complete work (Ahuja & Rathore, 2018; Janse van Rensburg, Boonzaier, & Boonzaier, 2013; Khan & Stikes, 2014). Emotional demands at work were best described as dealing with clients' incessant complaints, handling other people's emotions whilst disregarding their own (Dishman, 2015).

Maslach and Schaufeli (1993) initially conceptualised exhaustion as one dimension of burnout, describing it as feeling drained and emotionally exhausted. Additionally, depersonalisation, another dimension of burnout, can be referred to as a detached attitude that employees use as a protection mechanism towards protecting themselves from psychological stress, stemming from interactions with others (Sierra, Medford, Wyatt, & David, 2012).
Lastly, individual work performance was reflected by task performance and

counterproductive work behaviour. Task performance is described as the proficiency with which an individual employee performs central job tasks that are described within his/her job description (Sonnentag, Volmer, & Spychala, 2010). Task performance was conceptualised as the specific indicators in terms of completing job tasks, work quality, monitoring, controlling and keeping knowledge up to date (Hosie & Nankervis, 2016). Counterproductive work behaviour includes those intentional, yet unacceptable, behaviours that harm or have negative consequences for the operational or financial well-being of any organisation and its employees (Koopmans et al., 2011; Marcus, Taylor, & Hastings, 2013).

The job demands-resources (JD-R) theory (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) was used to frame the relationships between work pressure, emotional demands, exhaustion, depersonalisation, task performance and counterproductive work behaviour. The JD-R theory focuses on the impact of job demands (work pressure and emotional demands), as determinants, on individual work performance through exhaustion and depersonalisation which are seen as indicators of health. Individual work performance (i.e. task performance and counterproductive work behaviour) is the outcome variable and the processes are captured by the health impairment mechanism of the theory (Bakker & Demerouti, 2017). This is an energetic process of depletion in which high job demands exhaust the mental and physical resources of employees (Schaufeli & Bakker, 2004) which, in turn, leads to negative performance outcomes (Schaufeli, 2017).

Empirical evidence supports the relationship between work pressure and task performance (Hofmans, Debusscher, Dóci, Spanouli, & De Fruyt, 2015). Additionally, work pressure in the workplace causes counterproductive work behaviour (Raman, Sambasivan, & Kumar, 2016). According to Pervez (2010), what employees feel and how they express their emotions or how they react to clients, can affect their performance negatively. Furthermore, emotional demands are related to performance (Tae, Lee, Lee, & Kwon, 2016). Additionally, empirical evidence was found in support of the relationship between emotional demands and counterproductive work behaviour. Tucker, Sinclair, Mohr, and Thomas (2009) stipulated that emotionally provoked employees may reduce preparatory activity and take short cuts during action execution. Furthermore, Spector, Fox, and Domagalski (2006) found that emotions contributed to counterproductive work behaviour, which can occur immediately and impulsively, or at a later time. Thus, employees who are overworked and placed in emotionally

demanding situations may experience changes in their job performance (Campbell, 2016).

Studies have found that individuals experiencing high work pressure were more likely to become exhausted (see Bakker & Demerouti, 2016). A recent study conducted by Els, Mostert, and De Beer (2015) in South Africa found that job demands explained outcomes such as depersonalisation. According to Nohlmans (2016), there is a relationship between emotional demands and burnout (e.g., exhaustion). Furthermore, after prolonged exposure to emotional demands, employees may distance themselves psychologically from their work (i.e. depersonalisation) (Gauche, De Beer, & Brink, 2017; Van Vegchel, De Jonge, Soderfeldt, Dormann, & Schaufeli, 2004).

Feeling drained and exhausted may lead to impairment in task performance (Sadeghniiat-Haghighi & Yazdi, 2015). In a study that investigated the relationship between emotional exhaustion and counterproductive work behaviour, Krischer, Penney, and Hunter (2010) found that employees who reported being emotionally exhausted were more likely to display counterproductive work behaviour. Gorji (2011) found that depersonalisation had an inverse relation with performance, which indicated that any reduction in depersonalisation could cause an increase in performance. Cynicism (depersonalisation) is negatively associated with task performance (Bang & Reio, 2017). Bolton et al. (2012) found that depersonalisation significantly influenced counterproductive work behaviour.

It has been demonstrated that exhaustion partially mediates the relationship between emotional demands and performance (Mijakoski, Karadzinska-Bislimovska, Basarovska, Stoleski, & Minov, 2015). Depersonalisation was found to mediate the relationship between job demands and individuals' work performance (Kar & Suar, 2014). Emotional demands often result in heightened levels of emotional exhaustion and decreased levels of performance (Onwezen, Van Veldhoven, & Biron, 2014). Exhaustion increased at a steeper rate when emotional demands were increased; an exhausted person is more likely to decrease his/her performance (Tourigny, Vishwanath, Han, & Wang, 2012).

The second objective was to investigate the relationship between work pressure, emotional demands, exhaustion, depersonalisation, task performance and counterproductive work behaviour among IT professionals within South Africa.

First, the results indicated that work pressure does not have a significant impact on task performance or counterproductive work behaviour (β = -.01, p = .96 and β = -.10, p = .28). This indicated that work pressure, in this context, is a neither a hindering demand that decreases task performance nor that encourages counterproductive work behaviour. IT professionals may be used to working under pressure and may not have the time or energy to engage in counterproductive work behaviours. Alternatively, job or personal resources may buffer the negative consequences of high levels of work pressure.

Secondly, the results found that emotional demands had a significantly positive (not negative) relationship with task performance (β = .18, p < .05) as appose to a negative relationship. This relationship opposes theory and previous empirical findings. This could mean that IT professionals utilise emotional demands to drive their task performance, perhaps to prevent further emotional demands. Additionally, emotional demands and counterproductive work behaviour did not have a significant relationship (β = 0.03, p < 0.001), contrary to theoretical and empirical expectations. Instead of being detrimental to performance, emotional demands drive task performance and does not lead to counterproductive work behaviour.

Third, the results of the study indicated that there was a significant positive relationship between pressure and exhaustion (β = .47, p < .001). Therefore, increasing work pressure will leave them feeling drained and exhausted, specifically among IT professionals. This is in line with theoretical and empirical expectations. However, there was no positive significant relationship between pressure and depersonalisation (β = .13, p = .10). Hence, work pressure exhausts IT professionals, but it does not lead to emotional distancing, contrary to what one would expect based on theory and previous research. However, a previous study by Brouwers, Tomic, and Boluijt (2011) found that work pressure had a larger effect on exhaustion than on depersonalisation.

Fourth, there was no significant relationship between emotional demands and exhaustion (β = .00, p = .96) and between emotional demands and depersonalisation (β = 0.09, p = 0.27). Emotional demands, contrary to expectations, may indeed have more positive outcomes (such as enhancing task performance) than negative outcomes (counterproductive work behaviour and ill-health) for IT professionals. Furthermore, there was no significant relationship

between exhaustion and task performance (β = -.09, p = .34) or counterproductive work behaviour (β = .16, p = .16). Contrary to expectations, exhaustion did not influence work performance.

Last, the study found a significant negative relationship between depersonalisation and task performance (β = -.33, p < .001) and a significant positive relationship between depersonalisation and counterproductive work behaviour (β = -.27, p < .001). IT professionals who detach themselves from their work not only perform worse on the required tasks, but may also actually engage in behaviours that are detrimental to the organisation and their colleagues. None of the indirect effects was significant in this study, which contradicts theory and previous research.

3.2 Limitations and Recommendations for Future Research

The study had several methodological and theoretical limitations that should be taken into consideration when interpreting the current results. To provide solutions for these limitations and to address the final objective of this mini-dissertation, recommendations are made for future research.

A major limitation of this study is its cross-sectional nature. There tends to be two common concerns when using cross-sectional designs: the inability to draw causal conclusions and common method variance (Thisted, 2006). Because the data was collected at one point in time, no causal interpretations can be made about relationships and other relationships are not estimated (i.e. reciprocal) (Levin, 2006). The failure to draw confident causal interpretations is due to the lack of progressive elements in the research design that could indicate progressive antecedence where necessary (Spector, 2019). Common method variance might arise due to occasion factors that bias different measures in a similar way (Spector, 2019). The solution, for both concerns, is utilising longitudinal designs that measure all variables at all time points; this design is often used to control for common method variance by separating in time the assessment of proposed independent and dependent variables (Spector, 2019). In future, the constructs may be used for longitudinal studies to determine if work pressure and emotional demands influence individual work performance and vice versa. Such a design should include data collected at multiple points in time to specify a random intercept cross-lagged panel

model (RI-CLPM). In RI-CLPMs, a random intercept is included, and the "model then accounts for temporal stability, but also for time-invariant trait-like stability" (Hamaker et al., 2015, p. 104). A longitudinal design is also recommended to properly assess the potential mediation effects of exhaustion and depersonalisation as recommended by Hayes (2017).

Second, the questionnaires used were self-report measures and sometimes self-report measures cause common method variance. This results in overinflated correlations between predictors and outcomes (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Richardson, Simmering, & Sturman, 2009). Additionally, Podsakoff, MacKenzie, and Podsakoff (2012) elaborate that method bias can exist and the concern is whether participants provide accurate and truthful answers, or if they might be responding stylistically or be more susceptible to method bias. A question to consider is whether respondents are motivated to provide accurate answers. Method biases should be less likely to occur if the respondents are motivated to provide honest answers instead of "socially acceptable" responses. A recommendation for future studies is to use multi-source data, especially for performance variables such as managers and colleagues.

Most applied JD-R research, as was the case in this study, investigates health-impairment processes at the individual level (Bakker & Demerouti, 2017, 2018). More recently, Bakker and Demerouti (2018) provided an overview of the multiple levels of the JD-R theory in which they argue that organisations at large, or management, the leader, and the team, not only influence, but also interact to influence the individual. Hence, future studies should consider studying these processes on multiple levels (Van Wingerden & Van der Vaart, in press).

The final set of limitations is theoretical in nature. First, only two job demands (work pressure and emotional demands) were used for this study, as they are relevant in this context. According to the JD-R theory, there are several other demands (e.g. cognitive demands, role conflict and hassles) that can be included in future studies (Van Woerkom, Bakker, & Nishii, 2016). Additionally, the JD-R theory elucidates that job demands and job resources work alongside each other; therefore, future studies should include job resources. Job resources buffer the consequences of job demands for exhaustion and depersonalisation. Specifically, among IT professionals it is important for future research to study job resources, as IT professionals may value growth and opportunities that buffer the demands. Also, the JD-R

theory explains that job demands be reduced by increasing job or personal resources. Individuals rely on job (or personal) resources to serve as motivating or buffering factors (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). Future studies should include (job and personal) resources.

Second, the conceptualisation of individual work performance in the current study differs from the commonly used four-dimensional conceptualisation of individual work performance as recommended by Koopmans and colleagues. The four-dimensional conceptualisation includes the following dimensions: (1) contextual performance; (2) task performance; (3) adaptive performance; and (4) counterproductive work behaviour (Koopman et al., 2011). Future studies could consider including the other two dimensions or even using a different performance framework. One such framework is the comprehensive model of work role performance developed by Griffin, Neal, and Parker (2007). Their model captures three different forms of performance behaviours (i.e. proficiency, adaptivity, and proactivity) on three different levels (i.e. individual, team, and organisation), resulting in nine different performance dimensions: *proficiency* (e.g., accomplishing the requirements of a role), *adaptivity* (e.g., the ability to cope and respond effectively to change), and *proactivity* (e.g., the ability to initiate change). These behaviours are measured at individual (i.e. contributing to individual success), team (i.e. contributing to team success), and organisational levels (i.e. contributing to organisational success) (Griffin et al., 2007). This model is particularly relevant for today's organisational environment that is characterised by uncertainty and interdependence (Carpini & Parker, 2017; Griffin et al., 2007). It also provides a comprehensive framework for studying multiple performance constructs in one study as advocated for by Carpini et al. (2017).

Third, the study also only included certain variables (i.e. exhaustion and depersonalisation) as proxies of employee well-being. Although this was theoretically justified and indeed the aim of the study, many other variables serve as indicators of well-being. Other indices of ill-being include depression, anxiety, and psychosomatic symptoms (Stebbings, Taylor, & Spray, 2015). These indices are worth investigating in future studies.

3.3 Recommendations for Practice

Despite the above-mentioned limitations, the study has several important implications for practice, furthering the last objective of this study. This research supports the positive relationship between work pressure and exhaustion among IT professionals and it is important to identify when pressure is experienced. For IT professionals to cope with an increase in work pressure, managers can introduce effort recovery strategies that are applicable to IT professionals at work (Els, Mostert, & De Beer, 2015). These strategies during work include actions such as managers encouraging lunch breaks in a dedicated rest area, providing IT professionals with the freedom to schedule their own day-to-day tasks (where possible) that are in line with the manager's outcomes for that day, and, managers highlighting the benefits of IT professionals' contributions even though at times the work is tedious and monotonous. Jobs can be more exhausting if the contributions are not noticed or highlighted.

IT professionals that experience an increase in depersonalisation were likely to experience a decrease in task performance and an increase in counterproductive work behaviour. Therefore, management and IT professionals should fully understand the signs and symptoms of a person experiencing depersonalisation. This could be achieved by means of a workshop that provides them with tools of how to identify depersonalisation within themselves or their colleagues, such as signs of negative attitudes towards their work. In order to minimise IT professionals from depersonalising and detaching themselves from work, the workshop could elaborate on being present and focused, and remaining engaged and empowered.

Although emotional demands had a positive impact on task performance in this study, care should be taken not to stimulate this demand. More research is necessary to confirm this conclusion before embarking on such initiatives. In the interim, IT professionals are required to manage frustrations and the emotional toll their work places upon them, in order to ensure an optimal level of emotional demands. This could be done through gaining knowledge in understanding and identifying emotional cues and signals; teaching IT professionals coping skills to deal with excessive (or chronic) emotional demands; and implementing bi-monthly quizzes or surveys to assess how emotional demands are impacting their ability to perform tasks.

3.4 Chapter Summary

In this chapter, conclusions regarding the theoretical and empirical objectives were drawn. In addition, the limitations of the study were discussed, and recommendations were made for future research as well as for practice.

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