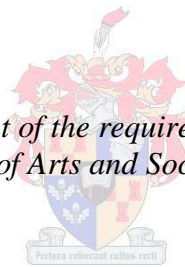


**Investigating the psychological and social predictors of burnout
among nurses**

by
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(Psychology) in the Faculty of Arts and Social Sciences at Stellenbosch University*



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ABSTRACT

Burnout levels have been found to be high among nurses in both public and private hospitals in South Africa. Burnout is defined within the human services as a syndrome of emotional exhaustion, depersonalisation, and reduced personal accomplishment that can occur among individuals who work with people in some capacity. High levels of burnout have been linked to nurses' intention to leave the profession, which places additional strain on an already struggling public health system characterised by a shortage of nurses in South Africa. The primary aim of the present cross-sectional correlational study was to determine the proportion of the variance in burnout among nurses accounted for by the linear combination of certain demographic characteristics and occupational stress factors. Secondary aims were to determine the relationship between such factors and burnout levels and to determine the average level of burnout and occupational stress factors reported. A convenience sample of 110 nurses was recruited from a public hospital located in the Western Cape. An analytical survey design for the collection of quantitative data was used. The results of hierarchical multiple regression analyses indicated that workload, interpersonal conflict at work, job status, organisational constraints, and HIV/AIDS stigma by association significantly predicted burnout levels. The linear combination of these variables accounted for 38% of the variance in emotional exhaustion, 32% of the variance in depersonalisation, and 12% of the variance in personal accomplishment. Death and dying-related stress and age did not predict burnout levels. Age was also the only predictor variable not significantly associated with burnout levels. Although burnout levels were not found to be high on average, 34% of the sample reported high levels of emotional exhaustion. A high average level of workload was also reported. It is recommended that future research should focus on the development and evaluation of interventions to ameliorate burnout among South African nurses.

OPSOMMING

Hoë vlakke van uitbranding is bevind onder verpleegkundiges in beide openbare en private hospitale in Suid-Afrika. Uitbranding word binne die menslike dienste gedefinieer as 'n sindroom van emosionele uitputting, depersonalisasie en verminderde persoonlike vervulling wat kan voorkom onder individue wat werk met mense in een of ander hoedanigheid. Hoë vlakke van uitbranding is gekoppel aan verpleegkundiges se voorneme om die professie te verlaat, wat bykomende druk plaas op 'n reeds sukkelende openbare gesondheidstelsel gekenmerk deur 'n tekort aan verpleegkundiges in Suid-Afrika. Die primêre doel van die huidige deursnee- korrelasionele studie was om te bepaal hoeveel van die variansie in uitbranding onder verpleegkundiges voorspel word deur die lineêre kombinasie van sekere demografiese eienskappe en beroepstresfaktore. Sekondêre doelwitte was om die verhouding tussen sodanige faktore en uitbrandingsvlakke te bepaal en om die gemiddelde vlak van uitbranding en beroepstresfaktore soos gerapporteer te bepaal. 'n Gerieflikheidsteekproef van 110 verpleegkundiges is gewerf uit 'n openbare hospitaal geleë in die Wes-Kaap. 'n Analitiese opname-ontwerp vir die insameling van kwantitatiewe data is gebruik. Die resultate van hiërargiese meervoudige regressie-ontledings het aangedui dat werkslading, interpersoonlike konflik by die werk, werkstatus, organisatoriese beperkinge, en MIV/VIGS stigma deur assosiasie uitbrandingsvlakke beduidend voorspel het. Die lineêre kombinasie van hierdie veranderlikes was verantwoordelik vir 38% van die variansie in emosionele uitputting, 32% van die variansie in depersonalisasie, en 12% van die variansie in persoonlike vervulling. Dood en sterfte-verwante stres en ouderdom het nie uitbrandingsvlakke voorspel nie. Ouderdom was ook die enigste veranderlike wat nie beduidend geassosieer was met uitbrandingsvlakke nie. Alhoewel dit bevind is dat gemiddelde vlakke van uitbranding nie hoog is nie, het 34% van die steekproef hoë vlakke van emosionele uitputting gerapporteer. 'n Hoë gemiddelde vlak van werkslading is ook aangemeld. Dit word aanbeveel dat toekomstige

navorsing toegespits behoort te word op die ontwikkeling en evaluering van ingrypings om uitbranding onder Suid-Afrikaanse verpleegkundiges aan te spreek.

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CHAPTER 1

INTRODUCTION, MOTIVATION, AND AIMS OF THE STUDY

1.1 Introduction and motivation

A shortage of nurses in South Africa (Oosthuizen, 2012) could adversely influence general quality of patient care as well as HIV/AIDS specific care (Kagee, Nothling, & Coetzee, 2012; Rafferty et al., 2007). “Nursing shortage and emigration” was identified as one of four key themes describing the nursing profession in South Africa in a qualitative content analysis of 161 newspaper articles for the 2005 to 2009 period (Oosthuizen, 2012, p. 53). There is a shortage of more than 30,000 professional nurses in the public health sector (Solidarity Helping Hand, 2010). In 340 facilities in six of the poorest districts across four provinces, there is overall a 6% shortage in professional nurses with four years of training, a 40% shortage in enrolled nurses with two years of training and a 17% shortage in enrolled nurse assistants with one year of training (Daviauda & Chopra, 2008).

Overall, there is 1 registered nurse per 621 people in South Africa, with only 44% of nurses working in the public sector (Bateman, 2009). In public hospitals, nurse/patient ratios vary from 1:18 to 1:44. As indicated by Solidarity’s Research Institute, a ratio of 1:18 implies that a nurse has 3 minutes per hour to take care of each patient and in addition to this; other administrative work also needs to be taken care of. With regards to critical care resources, Bhagwanjee and Scribante (2007) found a ratio of 1.1 nurses per intensive care unit (ICU)/high care unit (HC) bed present in South Africa. This ratio indicates a shortage of critical care nurses when compared to an ideal ratio of 6.7 nurses per ICU bed and 3.9 nurses per high care bed as established by Williams and Clarke (2001). According to a time and motion study, “a direct and continuous observation of tasks, using a timekeeping device to

record the time taken to accomplish a task” (p. 2), it was estimated that an additional 2,200 nurses are required to achieve universal access to antiretroviral treatment for all South African patients with a CD4 cell count of ≤ 350 cells/ μ l (Hontelez et al., 2012). For universal preventative treatment for HIV, it was estimated that an additional 6,000 South African nurses are needed.

In the interest of optimal patient care in South Africa, it is important to identify factors which could contribute to nurses leaving the profession. One such factor that has been linked both internationally (Estryn-Béhar et al., 2007) as well as locally within South Africa (Pienaar & Bester, 2011) to nurses’ intention to leave the profession, is the presence of high levels of burnout. Burnout is defined within the human services as “a syndrome of emotional exhaustion, depersonalisation, and reduced personal accomplishment that can occur among individuals who work with people in some capacity” (Schaufeli, Leiter, & Maslach, 2009, p. 206). Emotional exhaustion involves feeling emotionally overextended and depleted of emotional resources (Maslach & Goldberg, 1998). Depersonalisation means responding negatively or in an excessively detached manner towards others and often includes a loss of idealism. Lastly, reduced personal accomplishment involves a decrease in feelings of competence and productivity at the workplace.

Various occupational stress factors have been associated with burnout among nurses including HIV/AIDS stigma by association (Haber, Roby, & High-George, 2011), dealing with the emotional issues surrounding death and dying (Davhana-Maselesele & Igumbor, 2008), workload (Kowalski et al., 2010), organisational constraints (Engelbrecht, Bester, Van den Berg, & Van Rensburg, 2008), and interpersonal conflict (Guidroz, Wang, & Perez,

2012). Demographic characteristics such as age and job status have also been associated with burnout (Garrosa, Moreno-Jiménez, Liang, & González, 2008).

There are three categories of nurses in South Africa, namely registered professional nurses, enrolled nurses, and enrolled nursing assistants (South African Nursing Council, 2014). In order to register as a professional nurse, one year of community service is required (South African Nursing Council, 2012). It is noted that as a result of differing scopes of practice, nurses from different categories may be subject to different occupational stress factors. The only quantitative South African studies exploring the predictors of burnout in nurses were those by Coetzee, Klopper, Ellis, and Aiken (2013) and Engelbrecht et al. (2008). The present research study therefore serves to expand the existing literature regarding the occupational stress factors and demographic characteristics which account for burnout in nurses.

1.2 Aims of the study

The primary aim of the research was to investigate the psychological and social predictors of burnout among nurses employed at a public hospital in the Western Cape, South Africa.

Specifically, the objective was to determine the proportion of the variance in burnout that is accounted for by the linear combination of certain occupational stress factors and demographic characteristics. The occupational stress factors were workload, interpersonal conflict at work, organisational constraints, death and dying-related stress, and HIV/AIDS stigma by association. The demographic characteristics were age and job status.

The research study also had two secondary aims. The first secondary aim was to determine the relationship between burnout (as expressed in terms of emotional exhaustion, depersonalisation, and personal accomplishment) and the aforementioned occupational stress

factors and demographic characteristics This aim was reached through the specific objective of calculating Pearson's product moment correlation coefficients between these variables.

The final secondary aim was to determine the average level of burnout (as expressed in terms of emotional exhaustion, depersonalisation, and personal accomplishment), workload, interpersonal conflict at work, organisational constraints, death and dying-related stress, and HIV/AIDS stigma by association reported by the sample. This aim was reached through the specific objective of calculating mean scores for these variables.

CHAPTER 2

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

I sourced literature from several academic databases, including Scopus, Google Scholar, Academic Search Premier, and ScienceDirect. Initial keywords used included *burnout*, *nurse*, *healthcare worker*, *HIV/AIDS*, and *South Africa*. Through an initial review of the literature, occupational stress factors as well as demographic characteristics associated with levels of burnout among nurses were identified and these were used as keywords to source additional literature.

2.1 Burnout defined

Burnout, literally meaning “the smothering of a fire or the extinguishing of a candle” acts as a metaphor for the draining of employees’ energy (Schaufeli et al., 2009, p. 205). Originating in general discourse, the term was used in the illicit drug scene to describe the effect of chronic drug abuse. Freudenberger (1974) borrowed the term from this scene to describe the “gradual emotional depletion, loss of motivation, and reduced commitment” (Schaufeli et al., 2009, p. 205); he observed among volunteers at a free clinic in New York. Maslach (1976) found that human service workers in California also used the term to describe a certain combination of unpleasant emotions and cognitions experienced in the work situation. Consequently, Maslach and Jackson (1981) developed the Maslach Burnout Inventory (MBI) to assess burnout as a multidimensional construct. As a result, burnout is currently scientifically defined within the human services as “a syndrome of emotional exhaustion, depersonalisation, and reduced personal accomplishment that can occur among individuals who work with people in some capacity” (Schaufeli et al., 2009, p. 206).

Representing the basic stress dimension of burnout, emotional exhaustion is a key aspect of the burnout syndrome (Maslach & Goldberg, 1998; Maslach & Jackson, 1981). It involves feeling emotionally overextended and depleted of emotional resources (Maslach & Goldberg, 1998). “Workers feel they are no longer able to give of themselves at a psychological level” (Maslach & Jackson, 1981, p. 99). Depersonalisation represents the interpersonal dimension of burnout. It means responding negatively or in an excessively detached manner towards others and often includes a loss of idealism (Maslach & Goldberg, 1998). These first two aspects of the burnout syndrome are expected to correlate with each other as the development of depersonalisation has often been associated with the experience of emotional exhaustion (Maslach & Jackson, 1981; Maslach et al., 1996). Finally, representing the self-evaluation dimension of burnout, reduced personal accomplishment involves a decrease in feelings of competence and productivity at the workplace (Maslach & Goldberg, 1998).

The original model of burnout was based on research conducted among those in human service and educational occupations, where interpersonal relationships represent the core aspect of one’s occupation (Leiter & Maslach, 2003). The model has however been broadened to be used in any occupation (Maslach et al., 1996). Accordingly, the Maslach Burnout Inventory-General Survey (MBI-GS) can be used for a wide range of occupations. In the MBI-GSS, the terms exhaustion, cynicism, and inefficacy parallel the terms emotional exhaustion, depersonalisation, and personal accomplishment used in the Maslach Burnout Inventory-Human Services Survey (MBI-HSS).

The concept of work engagement is closely related to burnout (Maslach & Leiter, 1997). According to Maslach and Leiter (1997), the core dimensions of engagement are energy, involvement, and efficacy, and are directly opposed to the three dimensions of burnout.

Energy is the counterpoint to exhaustion, involvement to cynicism, and efficacy to ineffectiveness. It is proposed that engagement can be measured by the opposite profile of the Maslach Burnout Inventory scores.

Schaufeli, Salanova, González-Romá, and Bakker (2002) however defined engagement as “a positive, fulfilling, work-related state of mind that is characterized by vigour, dedication, and absorption” (p. 74) and proposed that it should be measured independently on a different instrument from burnout. Although burnout and engagement are not exact opposites (Schaufeli & Salanova, 2011), the essential aspects of burnout and engagement were found to be at the opposite ends of the underlying dimensions of energy and identification (González-Romá, Schaufeli, Bakker, & Lloret, 2006). Exhaustion (burnout) and vigour (engagement) were found to be on the opposite ends of the energy dimension, while cynicism (burnout) and dedication (engagement) were found to be on the opposite ends of the identification dimension.

Finally, a negative association has been found between levels of burnout and job satisfaction (Bruce & Sangweni, 2012; Iglesias & Vallejo, 2013). Among a sample of 165 nurses from Johannesburg, South Africa, levels of emotional exhaustion were significantly negatively associated with both extrinsic job satisfaction and intrinsic job satisfaction (Bruce & Sangweni, 2012). Levels of depersonalisation were also found to be significantly related to extrinsic job satisfaction ($p = .008$). Among a sample of 74 Spanish critical care nurses, levels of depersonalisation were significantly inversely correlated with total job satisfaction ($r = -.29, p = .05$), intrinsic job satisfaction ($r = -.23, p = .05$), as well as extrinsic job satisfaction ($r = -.26, p = .05$) (Iglesias & Vallejo, 2013). In this sample, personal accomplishment was positively associated with extrinsic job satisfaction ($r = .25, p = .05$).

2.2 Presence of high levels of burnout among South African nurses

In South Africa, it was found that levels of emotional exhaustion as measured by the Maslach Burnout Inventory (MBI) were high among nurses in both public and private hospitals (Coetzee et al., 2013). Among a sample of 1,187 nurses, 45.8% scored in the elevated range as represented by scores equal to or greater than 27 on the MBI. Indicating a higher incidence of burnout in public hospitals, 53.8% of the nurses from public hospitals scored in the elevated range for emotional exhaustion compared to 40.6% of the participants from private hospitals. In a study validating the MBI-Human Services Survey among a sample of 818 South African nurses, 34.6% of participants reported high levels of emotional exhaustion and 20.4% reported high levels of depersonalisation (Van der Colff & Rothmann, 2012). As a limitation, it was noted that it was not defined in this study what constituted high levels of emotional exhaustion or depersonalisation.

Maslach et al. (1996) provided MBI cut-off scores indicating low, average, and high levels of burnout. Scores equal to or exceeding 27 for emotional exhaustion and scores equal to or exceeding 13 for depersonalisation indicate high levels of burnout. Accordingly, high levels of burnout were indicated among a sample of 543 nurses from the Free State, with reported mean scores of 31.34 for emotional exhaustion and 17.80 for depersonalisation (Engelbrecht et al., 2008). Among this sample, 68.7% reported high levels of emotional exhaustion and 85.1% reported high levels of depersonalisation. In a study among 935 South African critical care nurses from both private and public hospitals, participants also reported a high level of emotional exhaustion on average, as indicated by a mean score of 27.04 reported on the MBI (Klopper, Coetzee, Pretorius, & Bester, 2012).

In a study among 165 registered nurses from an academic hospital in Gauteng, moderate levels of emotional exhaustion were defined by a score between 19 and 45 on the MBI and high levels by a score of between 46 and 63 (Bruce & Sangweni, 2012). Among this sample, 59.4% reported a moderate level of emotional exhaustion, while 16.4% reported a high level of emotional exhaustion. Moderate levels of depersonalisation were defined by a score between 11 and 25 and high levels by a score of between 26 and 35. According to these cut-off scores, 68.5% of the participants reported a moderate level of depersonalisation and 3% reported a high level of depersonalisation.

Among a sample of 226 South African nurses caring for patients with Alzheimer's disease, 26% reported high levels of emotional exhaustion, 21% reported high levels of depersonalisation, and 66% reported low levels of personal accomplishment (Heyns, Venter, Esterhuyse, Bam, & Odendaal, 2003). In this study, levels of burnout were defined using the guidelines provided by the MBI for mental health workers to distinguish between high, modest and low levels of burnout. Finally, among a sample of 126 AIDS care volunteers from Kwazulu-Natal, high levels of burnout were also found (Akintola, Hlengwa, & Dageid, 2013). Burnout was measured using only a selection of items from the MBI. Mean scores were 8.86 for personal accomplishment and 8.51 for depersonalisation respectively, with 10 being the maximum possible score for each aspect measured.

2.3 Relationship of burnout with intent to leave the nursing profession

Intentions to leave the nursing profession have been linked to burnout both internationally as well as locally within South Africa (Estryn-Béhar et al., 2007; Leiter & Maslach, 2009; Pienaar & Bester, 2011). A study among 380 baccalaureate nurses in the United States, found that 22% of those in the sample who had already exited the nursing profession cited burnout

and stress as the reason for leaving the profession (Dimattio, Roe-prior, & Carpenter, 2010). Among a sample of 23,159 European nurses, the intention to leave the nursing profession was found to be significantly associated with the emotional exhaustion aspect of burnout ($OR = 2.02$, 95% CI [1.91, 2.14]) (Heinen et al., 2013). Similarly, among a sample of 546 Belgian nurses, lower levels of emotional exhaustion significantly predicted the intention to stay in the nursing profession ($OR = 0.94$, 95% CI [0.90, 0.98]) (Van Bogaert, Clarke, Roelant, Meulemans, & Van de Heyning, 2010). In a study among 336 Japanese nurses, the intention to resign was found to be significantly associated with levels of burnout (Ohue, Moriyama, & Nakaya, 2011). Participants who indicated that they intend to leave the nursing profession, reported higher levels of emotional exhaustion ($OR = 10.14$, $p < .05$) and depersonalisation ($OR = 10.17$, $p < .01$) and lower levels of personal accomplishment ($OR = 0.91$, $p < .05$). Conversely, participants who indicated their intention to remain in the nursing profession reported lower levels of emotional exhaustion ($OR = 0.88$, $p < .01$) and depersonalisation ($OR = 0.86$, $p < .01$) and higher levels of personal accomplishment ($OR = 10.09$, $p < .05$).

Among a sample of 422 nurses from the United States who look after chronic haemodialysis patients, participants who suffered from burnout were nearly three times as likely to report an intent to leave their employer ($OR = 2.70$, $p = .00$, 95% CI [1.59, 5.86]) (Flynn, Thomas-Hawkins, & Clarke, 2009). In this study, burnout was defined by a score of 27 or higher on the emotional exhaustion subscale of the MBI. In a study among a sample of nurses from Turkey caring for chronic haemodialysis patients, levels of emotional exhaustion were found to be significantly higher among those participants who intended to leave the nursing profession compared to those participants who intended to remain in the profession ($p < .05$) (Kapucu, Akkuş, Akdemir, & Karacan, 2009). The mean scores for emotional exhaustion as measured by the MBI subscale were 15.14 for those who reported intent to remain and 19.04

for those who reported intent to leave respectively. Also, among a separate sample of 180 Turkish nurses, 65.9% reported that they intended to leave the profession. Among these, emotional exhaustion was found to be significantly higher than among those who did not report intention to leave the profession (Arikan, Köksal, & Gökce, 2007).

In a study among 420 Canadian nurses, a model consisting of multiple paths between job resources, job demands, emotional exhaustion, work engagement, mental health, and turnover intentions was confirmed (Laschinger, Grau, Finegan, & Wilk, 2012). This model accounted for 32% of the variance in turnover intentions. Specifically, within this model, turnover intentions was significantly positively associated with the emotional exhaustion aspect of burnout ($\beta = .32$). Among a separate sample of 667 nurses, a mediation model of burnout which included paths from Leiter and Maslach's (2003) six areas of worklife and the three dimensions of burnout, explained 36.1% of the variance in turnover intentions (Leiter & Maslach, 2009). In this model, cynicism was the only aspect of burnout with a direct impact on turnover intentions with a statistically significant path coefficient of .60.

Among a sample of 147 Finnish nurses under the age of 30, 26% reported often thinking of leaving the nursing profession. Participants' personal burnout levels were measured by a 6-item scale from the Copenhagen Burnout Inventory (Flinkman, Laine, Leino-Kilpi, Hasselhorn, & Salanterä, 2008). A significant positive association was found between levels of personal burnout and intent to leave the nursing profession. The median score for personal burnout was 2.08 out of a possible score of 5 for those who reported seldom or never having the intention to leave and 2.50 for those who reported often having the intention to leave. In a study among 28,561 nurses from 10 European countries, personal burnout was also measured by the Copenhagen Burnout Inventory (Estryn-Béhar et al., 2007). Burnout was found to

predict the intent to leave in nine countries and was associated with at least three times the risk of intent to leave in five of these countries.

In South Africa, Pienaar and Bester (2011) found that among a large sample of 542 nurses, an intention to quit or change was related to higher levels of burnout. In terms of mean scores for the emotional exhaustion aspect of burnout, the groups with no plans to change ($M = 27.67$) or no desire to change ($M = 28.28$) differed significantly ($p < .01$) from the groups that have planned a change ($M = 34.29$) or are thinking about changing ($M = 33.18$).

2.4 South African nurses' intentions to terminate employment

A high intent to leave either the nursing profession or South Africa has been found among South African nurses (Coetzee et al., 2013; Pendleton, Crush, & Lefko-Everett, 2007). When a sample of 536 South African nurses were asked about their career plans for the next five years, 12.7% planned to change profession, 9.3% planned to retire, and 15.7% planned to work abroad (Pillay, 2009). Among a sample of 143 nurses from rural parts of South Africa, 51.1% reported the intent to leave their current employer within two years (Delobelle et al., 2011). Of the participants who intended to leave, 30.6% reported the intent to move abroad. A survey of South African health professionals, also found that of the 253 nurses who responded, 76.2% considered migrating to another country (Pendleton et al., 2007).

Among a large sample of 1,187 South African nurses, 54.4% indicated an intention to leave their current hospital within a year (Coetzee et al., 2013). The presence of intent to leave was higher among participants from the public sector, with 59% of participants from public hospitals indicating intent to leave compared to 51.3% of participants from private hospitals. In a study among 312 nurses from Gauteng and the North-West Province, 37% indicated that

they definitely wanted to leave the profession and an additional 17% indicated that they considered leaving the profession (Koen, Van Eeden, & Wissing, 2011). Similar to Coetzee et al. (2013), intent to leave was found to be slightly higher within the public sector. Thirty seven percent of public sector participants compared to 36% of private sector participants reported definitely wanting to leave the profession and 19% of public sector participants compared to 15% of private sector participants reported considering leaving the profession.

2.5 The influence of insufficient nursing staff on patient care

Both internationally as well as locally within South Africa, several studies have indicated a shortage of nursing staff as having an adverse influence on the quality of patient care (Rafferty et al., 2007; Wouters, Heunis, Van Rensburg, & Meulemans, 2008). Among a sample of 3,984 nurses and 118,752 patients, it was found that the patients from the upper 4th quartile hospitals with the highest patient-to nurse ratios (12.4-4.3 patients per nurse), had 26% higher mortality overall and a 29% higher likelihood of dying after complicated hospital stays compared to hospitals in the 1st quartile (6.9-8.3 patients per nurse) (Rafferty et al., 2007).

In a study among 1,365 Korean nurses, perceived sufficient nursing staff levels were associated with a threefold increase in the likelihood of participants assessing the quality of nursing care as high ($OR = 2.97$, 95% CI [2.22, 3.97]) (Cho et al., 2009). Among a sample of 5,247 Thai nurses, it was found that each additional patient added to nurses' workload was associated with a 4% increase in the likelihood of participants reporting quality of nursing care as only fair or poor ($OR = 1.04$, $p < .001$, 95% CI [1.02, 1.05]) (Nantsupawat et al., 2011).

In South Africa, among a sample of 975 patients from the Free State, nurse vacancy rates were significantly negatively associated ($r = -.44, p < .001$) with patients' mean satisfaction levels with services performed by nurses (Wouters et al., 2008). Among a sample of 1,187 South African nurses, a higher patient to nurse workload was associated with a higher likelihood of participants not recommending their hospital to family and friends ($OR = 1.10, 95\% CI [1.03, 1.17]$), of participants reporting poor or fair ward quality ($OR = 1.06, 95\% CI [1.01, 1.12]$), and of participants reporting a poor or failing safety grade ($OR = 1.11, 95\% CI [1.0, 1.24]$) respectively (Coetzee et al., 2013).

In a qualitative study among 20 nurses from Cape Town, participants reported neglecting tuberculosis-related duties as a result of excessive workload contributed to by a chronic staff shortage (Sissolak, Marais, & Mehtar, 2011). Among a sample of 23 nurses in the Eastern Cape, participants reported frustration at not having sufficient staff levels to provide quality services for tuberculosis patients: “. . . unfortunately, if you're not gonna give staff to see to the numbers that we are seeing every day, then you're just pushing numbers then, you're not seeing clients, you're not seeing them in totality or holistically, you're seeing NUMBERS” (Pope et al., 2010, p. 241).

2.6 The influence of burned-out nursing staff on patient care

In a systematic review on patient neglect, nursing staff burnout was identified as contributing to patient neglect (Reader & Gillespie, 2013). Patient neglect can be divided into two aspects. Procedure neglect entails the failure of healthcare staff to comply with objective care standards, while caring neglect includes the kind of behaviours which allude to uncaring attitudes.

Among a sample of 357 Belgian psychiatric nurses, lower levels of emotional exhaustion ($OR = 0.92$, 95% CI [0.88, 0.96]) and depersonalisation ($OR = 0.85$, 95% CI [0.78, 0.94]) predicted higher quality of care ratings on the unit (Van Bogaert, Clarke, et al., 2013). In another study among 546 Belgian staff nurses, lower levels of emotional exhaustion predicted positive nurse ratings of the unit's quality of care ($OR = 0.95$, 95% CI [0.92, 0.99]) (Van Bogaert et al., 2010). Lower levels of depersonalisation were found to predict positive nurse assessments of quality of care on the last shift ($OR = 0.94$, 95% CI [0.88, 0.99]).

A model which predicted 47% of the variance in nurse-assessed quality of care was confirmed among a sample of 1,201 acute care Belgian nurses, (Van Bogaert, Kowalski, Weeks, Van Heusden, & Clarke, 2013). Within this model, the personal accomplishment aspect of burnout impacted nurse-assessed quality of care directly (path coefficient = .21). Among another sample of 401 Belgian nurses, a model was confirmed which explained 46% of the variance in nurse-assessed quality of care. In this model, the emotional exhaustion aspect of burnout directly predicted nurse-assessed quality of care (path coefficient = -.22) (Van Bogaert, Meulemans, Clarke, Vermeyen, & Van de Heyning, 2009).

Among a sample of 458 Taiwanese nurses, higher burnout levels were found to predict significantly lower levels of nurse-assessed patient safety grades ($\beta = -.25$, $p < .05$) (Teng, Shyu, Chiou, Fan, & Lam, 2010). Patient safety was measured with regards to six items: patient injury due to care, patient falls, nosocomial infection, medication-related administrative errors, incomplete or incorrect documentation, as well as delayed care. Participants were split into a high-burnout group and a low-burnout group according to the median burnout score on an adjusted version of the MBI. Time pressure was found to be negatively related to patient safety for participants in the high-burnout group only ($\beta = -.10$, p

< .05). Among a sample of 148 nurses from the United States, higher levels of emotional exhaustion were associated with lower levels of nurse-assessed patient safety grades ($\beta = -.40, p < .01$) as well as nurse-assessed patient safety perceptions ($\beta = -.84, p < .001$) (Halbesleben, Wakefield, Wakefield, & Cooper, 2008). Higher levels of depersonalisation were also associated with lower levels of nurse-assessed patient safety grades ($\beta = -.16, p < .05$) as well as nurse-assessed patient safety perceptions ($\beta = -.26, p < .05$).

In a study among 7,076 nurses from Pennsylvania, it was found that nurse burnout was significantly associated with urinary tract infection ($\beta = 0.82, p = .03$) and surgical site infection ($\beta = 1.56, p < .01$). In this study, burnout was defined as scores equal to or exceeding 27 on the emotional exhaustion subscale of the MBI (Cimiotti, Aiken, Sloane, & Wu, 2012). Every 10% increase in burnout was associated with an increase in the rate of urinary tract infections of approximately 1 per 1,000 patients, and with an increase in the rate of surgical site infections of more than 2 per 1,000 patients. Finally, in a study among 68 nephrologists, 334 nurses, and 695 haemodialysed patients from northern Italy, staff personal accomplishment was significantly positively associated (Spearman $\rho = .77, p < .01$) with patient satisfaction, and staff emotional exhaustion was significantly negatively associated (Spearman $\rho = -.90, p < .01$) with patient satisfaction (Argentero, Dell'Olivo, & Ferretti, 2008).

2.7 Occupational stress factors in the nursing profession

2.7.1 Workload

2.7.1.1 Relationship between workload and burnout. Workload has globally been identified as a leading work place stressor within the nursing profession (Glazer & Gyurak, 2008; Lambert et al., 2004). A study conducted among nurses across multiple countries

(Hungary, Israel, Italy, U.K., and USA) identified work overload, certain types of tasks such as working shifts, and certain types of patients such as HIV patients as etic (culture-general) sources of occupation-related stress (Glazer & Gyurak, 2008). In another multi-country study (Japan, Thailand, South Korea, and Hawaii), workload and dealing with death and dying were ranked as the top two workplace stressors (Lambert et al., 2004).

Nurses' workload has been directly linked to burnout internationally (Aiken, Clarke, Sloane, Lake, & Cheney, 2008; Garrosa et al., 2008; Kowalski et al., 2010; Laschinger et al., 2012; Nantsupawat et al., 2011). In a study among 473 Spanish nurses, participants completed the 78-item Nursing Burnout Scale (Garrosa et al., 2008). Workload, experience with pain and death, and conflictual interaction predicted 26% of the variance in emotional exhaustion and 23% of the variance in depersonalisation. It was found that workload was the most significant predictor of emotional exhaustion among all the predictors in the study (socio-demographic variables, personality variables, and job stressors).

In another quantitative study among 959 German nurses, burnout was measured using the Maslach Burnout Inventory - General Survey (Kowalski et al., 2010). Fifteen percent of the sample reported significant burnout symptoms as represented by a score of greater than 3.5 out of a possible score of 6 and 50% of the sample reported moderate burnout symptoms as represented by a score of greater than 1.5 and less than 3.5. In this study, workload was identified as the most significant predictor of burnout. Perceived workload was also associated negatively with social capital. Among a sample of 420 newly graduated Canadian nurses, it was found that 49% scored in the range indicating severe burnout (Laschinger et al., 2012). The average level of workload for the sample was moderately high and was found to be significantly related to burnout ($\beta = .40$). Aiken et al. (2008) found that among 10,184

nurses in Pennsylvania the likelihood of higher levels of burnout being reported increased with approximately 20% with the addition of each additional patient to nurses' mean workload.

In the South African nursing profession, workload has also been highlighted as a significant occupational stress factor in several studies (C. L. Bester & Engelbrecht, 2009; Pillay, 2009). Among a sample of 543 nurses, the average level of workload was reported as very high with a mean score of 20.8 out of a maximum possible score of 25 on Spector's Quantitative Workload Inventory (C. L. Bester & Engelbrecht, 2009). It was found in this sample that workload was the strongest determinant of job dissatisfaction, with 28.7% of the responses attributing job dissatisfaction to workload. In another South African study conducted nationally among a sample of 569 professional nurses, it was found that nurses reported marginal dissatisfaction with their jobs, with workload reported as the second largest determinant of job dissatisfaction (Pillay, 2009). The mean score for workload satisfaction for nurses overall was 2.24 out of a possible 5, with public health sector nurses being even less satisfied with their workload scoring a mean of 1.94 out of a possible 5 for workload satisfaction.

Workload has also been linked directly to high levels of burnout in South African nurses (Coetzee et al., 2013; Görgens-Ekermans & Brand, 2012). Among a sample of 122 nurses from four private hospitals in the Western Cape, it was found that workload and home/work interface predicted 29% of the variance in the emotional exhaustion aspect of burnout as measured by the Maslach Burnout Inventory–Human Services Survey (Görgens-Ekermans & Brand, 2012). In a large scale study among 1,187 nurses from private and public hospitals in six South African provinces, burnout was also measured using the emotional exhaustion

subscale of the Maslach Burnout Inventory (Coetzee et al., 2013). It was found that the high patient to nurse ratio was significantly associated with high burnout and job dissatisfaction for public hospital nurses, with the number of patients per public sector nurse ranging from 8.75 to 32.

2.7.1.2 Nature of workload in the nursing profession. Work overload in the nursing profession has been attributed to staff shortages (Freeney & Tiernan, 2009; Häggström, Mbusa, & Wadensten, 2008; Lim, Hepworth, & Bogossian, 2011). Among a sample of 20 Irish nurses, it was found that staff shortages existed as a result of inadequate cover for when nurses take sick leave or annual leave (Freeney & Tiernan, 2009). In a study among 22 Iranian nurses, as a result of staff shortages, participants reported working extra hours in addition to the 44 hours per week required of them (Lagerström, Josephson, Arsalani, & Fallahi-Khoshknab, 2010). Due to staff shortages, participants from a study among 29 Tanzanian nurses reported that they were often exhausted from work and had to work 12-hour shifts against their will: “Sometimes I have to work from 8 am to 8 pm because of the shortage of registered nurses, although I’m exhausted” (Häggström et al., 2008, p. 482). In a study among 23 Singaporean nurses, participants reported being responsible for additional non-nursing duties such as public relations, service recovery, and taking charge of the pharmaceutical section as well as taking charge of patients’ food (Lim et al., 2011).

Several studies describe the stressful nature of nurses’ workload (Altuntas & Baykal, 2010; C. L. Bester & Engelbrecht, 2009; Häggström et al., 2008). A study among Tanzanian nurses, highlighted that work overload contributed to personal distress for nurses (Häggström et al., 2008). Lim et al. (2011) interviewed a sample of Singaporean nurses about their daily experiences of stress and coping and found that the nurses were burdened by heavy patient

loads and too many responsibilities as a result of multiple work roles. Among a sample of 834 Turkish nurses, 29% of the sample reported that they had to provide care for 20 or more patients per day (Altuntas & Baykal, 2010). Participants from this study reported long work hours, with no reduction in working hours as they gained seniority. In a study among Irish nurses, participants attributed work overload to the particular area they worked in (Freaney & Tiernan, 2009). Among a South African sample of 543 nurses, it was found that long work hours, a high level of administrative tasks and the pressure to implement several new programs contributed to nurses' job dissatisfaction (C. L. Bester & Engelbrecht, 2009).

Work overload in the nursing profession had been reported to affect nurses negatively as a result of both the impact upon their family life and the impact upon their ability to provide adequate patient care (Altuntas & Baykal, 2010; C. L. Bester & Engelbrecht, 2009; Lagerström et al., 2010). A sample of registered Iranian nurses discussed their experiences of managing family and work roles and reported experiencing a heavy workload as contributing to work-family conflict (Lagerström et al., 2010). In a study among 834 Turkish nurses, 49% percent of the sample stated that due to professional demands, the time available for social activities or for their families was severely limited (Altuntas & Baykal, 2010).

Nursing managers in a study among Irish nurses complained that a large burden of paper work prevented them from spending more time with patients and from sharing their clinical expertise with junior staff (Freaney & Tiernan, 2009). Among a sample of Tanzanian nurses, participants reported that they felt guilty when they provided inadequate patient care as a result of work overload: "I felt so bad when I remembered that I had forgotten to give the patient important diabetic medication and she had to suffer because of me" (Hägström et al., 2008, pp. 482-483). In a study among a South African sample of nurses, participants reported

being frustrated as time pressure created by excessive workloads negatively affected their ability to provide adequate patient care (C. L. Bester & Engelbrecht, 2009). It is therefore evident that nurses' work overload does not only affect nurses negatively, but also reduces the quality of patient care.

2.7.1.3 Nursing stress associated with caring for persons living with HIV.

HIV/AIDS has been reported to increase the workload of hospital nurses in South Africa (De Wet & Du Plooy, 2012; Delobelle et al., 2009). Firstly, HIV and AIDS contribute to an ever increasing number of patients, resulting in a lack of nurses adequately trained to take care of HIV patients (Delobelle et al., 2009). Secondly, specific additional duties such as counselling, assisting patients to obtain social grants and adjusting patients' diet to prevent medication side effects add to nurses' workload (De Wet & Du Plooy, 2012; Delobelle et al., 2009). Nurses often also care for people living with HIV/AIDS (PLWH) in their personal settings as well (Sofolahan, Airhihenbuwa, Makofane, & Mashaba, 2010).

In an effort to implement effective antiretroviral treatment (ART) programs on a large scale, it has been proposed that nurses should initiate and manage ART, with referral to physicians only when needed (Georgeu et al., 2012). A qualitative study evaluating the STRETCH (Streamlining Tasks and Roles to Expand Treatment and Care for HIV) trial in the Free State found that nurse-initiation and management of ART (NIMART) substantially increased the workload of nurses. In addition to an increase in patient numbers, nurses reported that each ART patient needed comprehensive and complex clinical care. Nurses also reported that the amount of paperwork which was already experienced as a burden had increased as a result of NIMART. According to a descriptive study conducted among a sample of 43 nurses and auxiliary health care workers in a public primary health care clinic in the Eastern Cape,

treating HIV patients was found to be particularly time-consuming due to the requirement to counsel patients before and after an HIV test (Ruud, Toverud, Radloff, & Srinivas, 2010).

The number of HIV patients was reported to be low compared to the number of patients attending the clinic for other purposes. Notwithstanding the comparatively low number of HIV patients, one in four auxiliary health workers reported that they worked full-time on HIV-related duties and more than half of the nurses reported that they spent at least half of their time caring for HIV patients.

2.7.2 Interpersonal conflict

2.7.2.1 Prevalence of interpersonal conflict in the nursing profession.

Internationally, several studies have reported that nurses are subjected to both physical and non-physical violence at the workplace (Estryn- Béhar et al., 2008; Kitaneh & Hamdan, 2012). In a study among 39,894 European nurses, 22% reported being frequently subjected to violence from both patients and patients' relatives (Estryn- Béhar et al., 2008). Gascon et al. (2012) found that among a sample of 1,826 Spanish healthcare professionals (including 878 nurses), as reported by participants for the preceding year, 11% of participants had suffered physical abuse, 34.4% had suffered threats and intimidation, and 24.3% had suffered insults at the workplace.

Among a sample of 6,300 nurses from Minnesota, 13.2% reported experiencing physical workplace violence and 38.8% reported experiencing non-physical workplace violence such as threats, sexual harassment, and verbal abuse (Nachreiner, Gerberich, Ryan, & Mcgovern, 2007). In a study among 113 Australian nurses, for the preceding year, 92% of participants reported verbal abuse, 69% reported threats, and 52% reported physical assault (Chapman,

Style, Perry, & Combs, 2010). Participants reported that they experienced workplace violence frequently, with 25% of participants having experienced it weekly and 27% monthly.

A study among a sample of 240 Palestinian health care professionals, of which two thirds were nurses, found that 80.4% of participants reported exposure to workplace violence in the preceding year (Kitaneh & Hamdan, 2012). The experience of non-physical violence was reported by 59.6% of the sample and the experience of physical violence was reported by 20.8% of the sample. Among a sample of 521 Taiwanese nurses, 51.4% reported being subjected to psychological workplace violence and 19.6% reported being subjected to physical workplace violence (Pai & Lee, 2011). Finally, the experience of physical violence at the workplace was also reported by 22.5% of a sample of 420 Jordanian nurses (AbuAlRub & Al-Asmar, 2011).

2.7.2.2 Nature of interpersonal conflict in the nursing profession. Nurses have been reported to come into conflict at the workplace with nursing managers, other nurses, physicians, patients, and relatives of patients (Guidroz et al., 2012). A sample of Palestinian health care professionals reported the main perpetrators of physical violence as being patients' visitors/ relatives (48%), followed by patients themselves (38%) (Kitaneh & Hamdan, 2012). In this study, patients' relatives were also reported as the main perpetrators of non-physical violence (42%). Co-workers were however reported to be more guilty of perpetrating non-physical violence (37%) than patients (21%). Among a sample of Jordanian nurses, patients' relatives were reported as the main perpetrators of physical violence towards nurses, with 79% of violent incidents being linked to relatives (AbuAlRub & Al-Asmar, 2011). In contrast, among a sample of Taiwanese nurses, patients were reported as the main

perpetrators of both physical violence and psychological violence towards nurses (Pai & Lee, 2011).

Psychological abuse between nurses was more extensively examined in a study among 551 New-Zealand nurses in their first year of practice (McKenna, Smith, Poole, & Coverdale, 2003). With regards to covert abuse between nurses, 58% of participants reported that they felt undervalued. In terms of overt abuse, 34% of the participants reported the experience of being subjected to rude, abusive, and humiliating verbal statements or being criticised unfairly. When participants were asked to describe the most distressing incident of horizontal violence experienced, it was found that one in three respondents indicated that the particular incident described resulted in thoughts about leaving the nursing profession. In a qualitative study among 10 non-practicing nurses from the United States, participants reported that an “unfriendly workplace” contributed to their decision of exiting the nursing profession (MacKusick & Minick, 2010). Participants described being left alone and ignored, being sexually harassed, and being subjected to both verbal and physical abuse perpetrated by nursing colleagues, managers, and physicians. A study among 20 Irish nurses found that interpersonal conflict between members of management also contributed to an unfriendly atmosphere at work (Freeney & Tiernan, 2009).

Workplace bullying includes work-related bullying such as unreasonable deadlines being imposed, personal bullying such as rumours being spread, and physical bullying such as being threatened with physical assault (Laschinger et al., 2012). Among a sample of 357 Canadian nurses, workplace bullying was found to significantly predict turnover intentions (Houshmand, O'Reilly, Robinson, & Wolff, 2012).

2.7.2.3 Relationship between interpersonal conflict and burnout. Studies have shown a relationship between burnout and interpersonal conflict (Estryn- Béhar et al., 2008; Guidroz et al., 2012). For example, among a sample of 39,894 European nurses, it was found that violence from both patients and patients' relatives was strongly related to both burnout ($OR = 2.39$, 95% CI [2.27, 2.54]) and intent to leave the nursing profession ($OR = 1.82$, 95% CI [1.70, 1.94]) (Estryn- Béhar et al., 2008). In a study among 6,300 nurses from Minnesota, assaulted nurses were more likely to report high levels of work stress, with 77% of assaulted nurses compared to 63% of non-assaulted nurses reporting thus (Nachreiner et al., 2007). Additional studies performed among nurses in the United States indicated that conflict with physicians, patients and supervisors significantly predicted the emotional exhaustion aspect of burnout, while conflict with other nurses did not (Guidroz et al., 2012). In a study among 420 Canadian nurses, workplace bullying was found to be significantly related to the emotional exhaustion component of burnout ($\beta = .27$) (Laschinger et al., 2012).

Interpersonal conflict has also been linked to burnout in a study among 1,826 Spanish healthcare professionals (including 878 nurses) (Gascon et al., 2012). In this study, physical aggression, threats, and insults were significantly associated with all three dimensions of burnout as measured by the Maslach Burnout Inventory. In another Spanish study among 473 nurses, conflictual interaction with patients, relatives, and doctors also significantly predicted all three dimensions of burnout (Garrosa et al., 2008). Finally, it was found among a sample of 191 Spanish emergency department nurses that interpersonal conflict with colleagues and physicians significantly predicted both the cynicism and personal accomplishment aspects of burnout as measured by Schaufeli et al.'s General Survey version of the MBI (García-Izquierdo & Ríos-Rísquez, 2012).

Among a sample of 336 Japanese nurses, it was found that conflict with patients was significantly positively associated with emotional exhaustion and depersonalisation, while conflict with other nursing staff was significantly positively associated with emotional exhaustion only (Ohue et al., 2011). In a multi-country study (Japan, Thailand, South Korea and Hawaii) among 1,554 nurses, interpersonal conflict was identified as a significant predictor of mental health for participants from Thailand and Hawaii (Lambert et al., 2004). For Hawaiian participants, conflict with nurses accounted for 7.2% of the variance in mental health and for Thai participants, conflict with physicians accounted for 8% of the variance in mental health. Conversely, in a study among a sample of 401 Belgian nurses, positive nurse-physician relationships were found to predict lower levels of emotional exhaustion (Van Bogaert et al., 2009).

2.7.2.4 Interpersonal conflict in the South African nursing profession. In South Africa, in an ethno-phenomenological study among 471 nurses from eight Cape Town public hospitals, 54% of participants agreed that violence existed among nurses (Khalil, 2009). Six different forms of violence were ranked according to response frequencies. Physical violence includes all negative physical behaviours between nurses, while psychological violence includes all non-physical behaviours which contribute to emotional discomfort for a colleague. Vertical violence is enacted between senior and junior staff members. In contrast, horizontal violence is physical or psychological violence enacted between colleagues of the same rank. In overt violence, a colleague is publicly humiliated, for example by being shouted at. Covert violence reflects professional jealousy and is more hidden such as scapegoating a colleague. Forty five percent of participants indicated that psychological violence occurred, followed by vertical violence (33%), covert violence (30%), horizontal violence (29%), overt violence (26%), and physical violence (20%). In another Cape Town

study among 84 nurses in Groote Schuur Hospital, it was however found that conflict among nurses was the least frequently reported source of stress among seven workplace stressors specific to the nursing profession (Makie, 2006). These seven workplace stressors were death and dying-related stress, conflict with physicians, inadequate preparation to deal with patient needs, lack of support, conflict with other nurses, workload, and uncertainty concerning treatment as measured by Gray-Toft and Anderson's (1981) Nursing Stress Scale.

In a phenomenological study among nine psychiatric nurses in a forensic ward in the Limpopo province, (Tema, Poggenpoel, & Myburgh, 2011), verbal abuse was found to damage participants' sense of personal worth as illustrated by a participant reporting that she felt worthless after being sworn at by a patient. It was found that physical abuse was most often perpetrated against female nurses, particularly when male nurses were not present. Participants reported that young female nurses were most often the victims of sexual harassment. In a study conducted among healthcare staff (including nurses) in a Johannesburg trauma unit, 92% of the participants reported the experience of verbal abuse from patients during the preceding two years (Crabbe, Bowley, Boffard, Alexander, & Klein, 2004). Seventy six percent reported the experience of threatened assault from patients and 42% reported the experience of physical violence from patients in the preceding two years. In contrast to the aforementioned results, it was found in a study among 569 South African nurses that among 13 aspects of job satisfaction, participants reported being most satisfied with their relationships with patients, nursing colleagues, and doctors, with moderate to high scores of 3.73, 3.58, and 3.39 out of 5 respectively for these three aspects (Pillay, 2009). A separate sample of 542 South African nurses reported low levels of interpersonal conflict on Spector and Jex's Interpersonal Conflict at Work Scale (C. L. Bester & Engelbrecht, 2009).

2.7.3 Organisational constraints

Organisational constraints in the nursing profession have been reported widely in low-and-middle income countries as well as in high-income countries (Glazer & Gyurak, 2008; Harrowing & Mill, 2010). Many researchers have reported shortages of material resources such as hospital beds, medical equipment, and medical supplies (Glazer & Gyurak, 2008; Harrowing & Mill, 2010). Nurses have also reported a lack of workplace support from managers and supervisors (Wang, Kong, & Chair, 2011). A review of the international as well as South African literature with regards to organisational constraints in the nursing profession is presented below.

2.7.3.1 Lack of resources in the nursing profession. A study among 2,144 nurses from Hungary, Israel, Italy, the United Kingdom, and the United States identified a lack of resources as among the top 10 workplace stressors in each country (Glazer & Gyurak, 2008). Inadequate resources included a lack of information sharing between departments, a lack of funds, a lack of supplies, a lack of equipment or broken equipment as well as resources not being available when needed. Among a sample of 333 Turkish nurses, 52% stated that a lack of hospital equipment affected them negatively (Demir, Ulusoy, & Ulusoy, 2003). In a study among 24 Ugandan nurses, participants reported moral distress at not being able to provide adequate care to HIV patients as a result of a lack of material resources and poor infrastructure (Harrowing & Mill, 2010). It was reported that 25 bed nursing units, staffed by only one or two nurses, often admitted 80 to 100 patients. Participants stated that they often purchased food and medicine for patients from their own personal resources.

Among a sample of 1,702 South African health care workers (including nurses), 50% reported dissatisfaction with both workplace infrastructure and the availability of medical

supplies (Pendleton et al., 2007). Among a sample of 543 nurses, limited resources were reported as the second most important determinant of job dissatisfaction, after workload only (C. L. Bester & Engelbrecht, 2009). Participants reported a lack of equipment, beds, medication, and uniforms. With regards to facilities, poor heating and insufficient space and infrastructure were reported.

In a study evaluating the STRETCH (Streamlining Tasks and Roles to Expand Treatment and Care for HIV) trial in the Free State, participants reported experiencing logistical constraints such as poor drug distribution systems, clinic consulting rooms that were too small, and the lack of functioning toilets and telephones (Georgeu et al., 2012). It was also found that nurses' burden of paperwork was compounded by information systems that were not adequately staffed or resourced. In another study among nurses from the Free State, participants reported being frustrated by the unavailability of drugs to treat HIV (De Wet & Du Plooy, 2012). Among a sample of 35 nurses caring for HIV/AIDS patients in Gauteng, most of the participants also reported concerns about the deteriorating hospital infrastructure and the lack of medical equipment (Smit, 2005). In a study among 20 nurses delivering voluntary HIV counselling and testing services in the Limpopo Province, participants reported that counselling rooms were inadequate, testing facilities were insufficient and that there was a shortage of educational material (Mavhandu-Mudzusi, Netshandama, & Davhana-Maselesele, 2007).

2.7.3.2 Lack of workplace support in the nursing profession. Inadequate support from management featured consistently among the top 10 workplace stress factors in a study conducted among a sample of 2,144 nurses from five countries (Glazer & Gyurak, 2008). When the Nursing Stress scale, which measures seven sources of nursing stress, was

administered to a sample of 98 Hong Kong nurses, lack of support at the workplace was found to be one of the three most common sources of stress (Wang et al., 2011). Workload and inadequate preparation to deal with the emotional needs of patients and their families were the other most common occupational stressors.

A sample of 23 Singaporean nurses reported a lack of supervisory support, as well as a lack of recognition as among the daily hassles they experienced (Lim et al., 2011). Supervisors were reported to expect participants to assist them with their work, but not to provide support in return when needed. Among a sample of 18 Turkish nurses, participants attributed burnout to a lack of recognition (Günösen & Üstün, 2009). One of the participants recounted as follows: “We come to work every other day, we work hard, but there is no praise. Nobody says ‘thank you’, rather she is always asking why we did not do this and that” (Günösen & Üstün, 2009, p. 239).

Numerous studies support a lack of support from management in the South African nursing environment (De Wet & Du Plooy, 2012; Delobelle et al., 2009; Van Dyk, 2007). Among 140 nurses looking after PLWH in the Limpopo Province, participants reported experiencing a lack of management support (Delobelle et al., 2009). Close to 60% of a sample of 243 South African HIV caregivers (including nurses), reported that insufficient support systems were available to them at work (Van Dyk, 2007). In a study among a sample of nurses regarding ART treatment roll-out in the Free State, participants even reported that managers were often unknown to them (De Wet & Du Plooy, 2012).

Participants from the aforementioned study also reported receiving little recognition from management: “...Not even when we have worked hard there is a pat on your shoulder saying

“well done”. Not even that is available” (De Wet & Du Plooy, 2012, p. 37). Among a sample of 35 nurses providing care to PLWH in Gauteng, participants also reported being demotivated by a lack of recognition from nursing managers and hospital administrators (Smit, 2005). Among a large sample of South African nurses, a lack of recognition and communication with management was reported as the third most important determinant of job dissatisfaction, after workload and limited resources (C. L. Bester & Engelbrecht, 2009). As previously mentioned, a significant negative association has been found between job satisfaction and burnout (Bruce & Sangweni, 2012; Iglesias & Vallejo, 2013).

Among a sample of 20 nurses delivering HIV voluntary counselling and testing services in the Limpopo Province, all of the participants reported a lack of mentorship: “Nobody seems to care about what we are doing as counsellors... You may deal with your problems alone, as there is no other external support. Supervisors are not supportive, all they need is statistics” (Mavhandu-Mudzusi et al., 2007, p. 258). In a qualitative study among 23 nurses who performed HIV counselling in tuberculosis clinics in the Eastern Cape, participants reported feelings of resignation and disappointment as a result of a lack of support from management: “. . . we keep on talking to management, we keep on telling management that is the situation, and the answer is ja, you just gotta cope” (Pope et al., 2010, p. 242). In a study among nurse HIV counsellors from the Eastern Cape, participants reported that the only support available to them was support informally received from colleagues (Nulty & Edwards, 2005).

It has been illustrated above that a lack of material resources and a lack of support from management operate as significant stress factors in the nursing environment both internationally as well as locally within South Africa (C. L. Bester & Engelbrecht, 2009;

Glazer & Gyurak, 2008). The influence of such organisational constraints in the nursing profession on burnout, job satisfaction, and turnover intentions will be discussed next.

2.7.3.3 Relationship between organisational constraints and burnout, job satisfaction, and turnover intentions in the nursing profession. Among a sample of 401 Belgian nurses, it was found that hospital management and organisational support directly impacted upon emotional exhaustion (path coefficient: -.26) as well as upon personal accomplishment (path coefficient: .36) (Van Bogaert et al., 2009). Nursing management at the unit level was significantly correlated with all three dimensions of burnout at a 99% confidence level. The final model included paths between nursing management at the unit level, nurse physician relationship, hospital management and organisational support, nurse-assessed quality of care, job outcomes and the three dimensions of burnout. The model accounted for 10%, 24% and 17% of the variance in emotional exhaustion, depersonalisation, and personal accomplishment, respectively.

High levels of burnout were found among a sample of 309 nurses from East Africa (Kenya, Tanzania, Uganda) with 33.9% of participants found to be “very highly” emotionally exhausted and 31.6% found to be “highly emotionally exhausted” in comparison to norm scores for nurses (Van der Doef, Mbazzi, & Verhoefen, 2012). In this sample, supervisor social support ($\beta = .21, p < .001$) significantly predicted job satisfaction and information provision significantly predicted emotional exhaustion ($\beta = -.20, p < .001$).

It was found among a sample of 23,159 European nurses from ten countries that a positive evaluation of leadership was significantly negatively related to turnover intentions ($OR = 0.78, 95\% CI [0.70, 0.86]$) (Heinen et al., 2013). Among a sample of 936 Turkish nurses, a

lack of supervisory support was the item with the third largest impact among the ten items found to be significantly associated with intentions to quit (Yıldız, Ayhan, & Erdoğan, 2009).

2.7.3.4 Relationship between organisational constraints and burnout, job satisfaction, and turnover intentions in the South African nursing profession. In terms of burnout, job satisfaction, and intention to quit, a favourable practice environment, which includes good leadership from nursing management and sufficient material resources, have been associated with better outcomes for a South African sample of 1,187 nurses (Coetzee et al., 2013). It was noted that 71% of the participants from public hospitals rated the practice environment as poor or fair, compared to 40.2% of the participants from private hospitals. Participants from hospitals with more favourable practice environments were less likely to report high levels of burnout ($OR = 0.55$, 95% CI [0.41, 0.75]), job dissatisfaction ($OR = 0.47$, 95% CI [0.34, 0.66]) or intentions to leave ($OR = 0.64$, 95% CI [0.49, .84]). In a study among a sample of 818 South African nurses, mostly from Gauteng, a lack of organisational support, including insufficient managerial and supervisory support; and job demands predicted 14% of the variance in emotional exhaustion and 7% of the variance in depersonalisation (Van der Colff & Rothmann, 2009). Organisational constraints, workload, and interpersonal conflict at work were found to account for 21% of the variance in the emotional exhaustion aspect of burnout in a sample of 543 nurses from the Free State (Engelbrecht et al., 2008).

Extrinsic job satisfaction was measured among a sample of 165 nurses from a Johannesburg hospital. Of the participants, 39% reported being dissatisfied with their physical work conditions and 40% reported being dissatisfied due to issues with management (Bruce &

Sangweni, 2012). Extrinsic job satisfaction was found to be significantly negatively related to emotional exhaustion and depersonalisation.

Among a sample of 143 nurses from a rural area in South Africa, it was found that supervision significantly predicted turnover intentions. Participants who reported being more satisfied with supervision were approximately 40% less likely to consider leaving their current positions (Delobelle et al., 2011).

2.7.4 Death and dying-related stress

2.7.4.1 Prevalence and nature of death and dying-related stress in the nursing profession. The Nursing Stress Scale was administered among 1,554 nurses from Japan, Thailand, South Korea, and Hawaii as well as among a sample of 320 Australian nurses (Chang et al., 2006; Lambert et al., 2004). In both these studies death and dying-related stress was ranked second highest among the seven sources of nursing stress. The emotional issues related to death and dying was also the second most frequently reported source of stress among a sample of 84 nurses from Groote Schuur Hospital in Cape Town (Makie, 2006).

Among a sample of 51 British community nurses, participants described palliative care as emotionally draining with no formal support services assisting them in debriefing difficult emotions (Burt, Shipman, Addington-Hall, & White, 2008). In a study among a sample of nurses at the Paediatric Intensive Care Unit of the Red Cross Children's Hospital in Cape Town, it was observed that nurses often connected a child's death to the nurse who cared for that particular patient, emphasising the personal tragedy for that nurse (Vivian, 2012). One of the participants from this study reported the experience of additional anguish in needing to prepare for the next patient while one is still mourning the previous patient's death. In a study

among 10 non-practicing nurses from the United States, participants reported that they frequently cried when they delivered nursing care (MacKusick & Minick, 2010). Participants attributed their distress not only to the loss of patients, but also to having to witness prolonged suffering as a result of prolonging life via advanced medical technology.

In addition to the relationship with the patient, the nurse-family relationship in the critical care environment was also reported as a source of emotional exhaustion among a sample of 12 British critical care nurses (Stayt, 2009). Participants reported becoming intimate with the patient's family, sharing in their painful experiences and frequently having to take care of relatives when a patient dies. Participants also reported the experience of discomfort in delivering bad news to the patient's relatives. In some cases, it was reported that family members would not understand the impact of withdrawing treatment as relayed by doctors. As a result, nurses would need to explain to family members that the patient would die as a result of treatment withdrawn.

A study evaluating the effectiveness of bereavement debriefing sessions for healthcare professionals (mostly nurses) also found that professional distress was mostly reported to be related to the relationship with the patient or relatives (Keene, Hutton, Hall, & Rushton, 2010). Professional distress was however sometimes reported to be related to the circumstances surrounding the patient's death. The second most frequently cited reason for requesting debriefing sessions was the sudden or unexpected death of a patient. Among a sample of 248 Belgian emergency nurses, dealing with the sudden death of specifically young persons was rated as the most traumatic event, with 31.6% of participants reporting this event as the most distressing (Adriaenssens, De Gucht, & Maes, 2012).

2.7.4.2 Relationship between death and dying-related stress and burnout and turnover intentions. In a systematic review of burnout among health professionals in palliative care, it was found that dealing with patients' suffering, the process of dying, and death contributed to higher levels of burnout, particularly among nurses (Pereira, Fonseca, & Carvalho, 2011). Among a sample of 473 Spanish nurses, experience with pain and death, workload, and conflictual interaction accounted for 26% of the variance in emotional exhaustion and 23% of the variance in depersonalisation (Garrosa et al., 2008). Experience with pain and death, conflictual interaction, and role ambiguity also predicted 21% of the variance in the lack of personal accomplishment.

In a study among 248 Belgian emergency nurses, 32% reported dealing with two or three traumatic events and 23% reported dealing with four or five traumatic events, in the preceding 6 months (Adriaenssens et al., 2012). Clinical levels of fatigue were measured for 28.7% of participants and clinical levels of post-traumatic stress disorder were measured for 8.5% of the participants. A direct link was however not established between dealing with the aforementioned traumatic events and these adverse mental health conditions. Among a sample of 15 British emergency staff members (mostly nurses), participants reported distancing themselves from patients as a result of personal anxieties surrounding death and the fear of not dealing appropriately with the process of dying (Bailey, Murphy, & Porock, 2011). Participants reported feeling overwhelmed by their own emotions to the extent that one of the participants avoided end-of-life care work areas and a number of participants contemplated leaving emergency nursing or the nursing profession altogether. Among a sample of 10 non-practicing nurses from the United States, it was found that death and dying-related stress was reported as one of the key motivations for exiting the nursing profession (MacKusick & Minick, 2010).

2.7.4.3 Death and dying-related stress associated with caring for persons living with HIV. In terms of HIV-specific care, it was found that nearly 90% of a sample of 174 nurses caring for PLWH in the Limpopo Province identified strongly with their patients and reported finding it very difficult to see their patients suffer and die (Davhana-Maselesele & Igumbor, 2008). Participants stated that they did not cope well with the large number of deaths due to HIV and AIDS, with three out of four reporting depression ranging from mild mood disturbance to extreme depression as measured by the Beck Depression Inventory. Among a sample of 35 nurses caring for PLWH in Gauteng, participants reported physical exhaustion and particularly emotional exhaustion as a result of dealing with patients' responses to their own suffering and with dealing with the HIV-related process of dying (Smit, 2005). One of the participants described the emotional drain as follows:

I try to leave my work at the hospital when I go home, but emotions aren't that easy to control. I worry about the patients that I know are dying and I can't help but to cry...it leaves me with an empty, heavy feeling inside. (Smit, 2005, p. 25)

Among another sample of 10 South African nurses, participants reported that they were shocked by the young age of some terminally ill AIDS patients and felt powerless in not being able to explain the dying process to children (P. Bester, Du Plessis, & Greeff, 2006).

With regards to HIV/AIDS counselling performed by nurses, it was found among a sample of 20 nurses delivering voluntary HIV/AIDS counselling and testing services in the Limpopo Province that "emotional drain associated with stress and burnout" (p. 257) was identified as one of the themes describing their experiences (Mavhandu-Mudzusi et al., 2007). Participants reported feeling uncomfortable when they had to break the news of HIV positive results as well as being severely distressed by witnessing HIV patients deteriorate, particularly when they were still young or left small children behind. Among a sample of 5 nurses delivering

HIV/AIDS counselling in the Eastern Cape, participants reported being concerned about clients becoming suicidal after receiving HIV-positive results (Nulty & Edwards, 2005). Participants also reported the experience of pain in having to address clients' fear of death, with these painful feelings often following them home and interfering with their sleep.

2.7.5 HIV/AIDS stigma by association

HIV-related stigma had been defined as “a ‘process of devaluation’ of people either living with or associated with HIV and AIDS” (UNAIDS, 2007 p. 9 cited in Haber et al., 2011, p. 541). In a study among 251 participants from Lesotho, Swaziland, Malawi, South Africa and Tanzania, HIV stigma was conceptualised into three different types, namely received stigma, internal stigma, and associated stigma (Greeff et al., 2008). The sample consisted of 114 nurses, 111 PLWH, and 26 volunteers. Associated stigma was defined as “incidents that describe stigma against people who work or associate with HIV/AIDS-affected people” (Greeff et al., 2008, p. 91). Healthcare workers reported the experience of being stigmatised by the community, colleagues, and relatives in the form of being isolated due to fear of contamination. Evidencing associated HIV stigma, one of the participants from Malawi recounted as follows: “They say: ‘Aah is that job where you touch and wash people with HIV. What problem do you have for doing that job?’” (Greeff et al., 2008, p. 103).

2.7.5.1 Prevalence and nature of HIV/AIDS stigma by association in the nursing profession. In a study among 887 nurses from Lesotho, Swaziland, Malawi, South Africa and Tanzania, 80.3% of participants reported experiencing at least one of the possible 19 HIV stigma events as measured by the HIV/AIDS Stigma Instrument - Nurse (Uys et al., 2009) at baseline (Holzemer et al., 2009). This proportion increased to a rate of 83.7% one year later. After computing ANOVA's for the scale's two nurse stigma factors separately, it was found

that there was a significant difference over time only for stigma perpetrated against nurses, with more stigma events at Time 2 and 3, compared to Time 1 ($F(2, 1766) = 30.41, p < .001$). Among a sample of 24 Bangladesh HIV/AIDS healthcare workers (including 6 nurses), 88% reported that distance was created from friends and relatives, 75% reported that their partners threatened to abandon them, and 46% reported being insulted by friends and relatives (Ullah, 2011).

The nurses who participated in the abovementioned study reported that they were excluded from family gatherings, prevented from having contact with their children, and forced to leave the family home (Ullah, 2011). One of the nurse participants reported that relatives cleaned the bathroom with a special kind of detergent after she used it. A nurse from a study among 18 maternity care providers in Kenya, reported that as a result of her contact with HIV-positive women, she was told by her spouse to remove her uniform and wash her hands before holding her baby at home (Turan, Bukusi, Cohen, Sande, & Miller, 2008).

In a study among 82 registered primary caregivers and five nurses from a community home-based care programme in Khanye, Botswana, it was reported that as a result of stigma directed at them and their HIV-positive clients, they did not receive any assistance from the community or from their families (Kang'ethe, 2010). For fear of being discriminated against, participants reported that they hid their clients and took them to HIV healthcare providers outside the village where they and their clients would not be known. Among a sample of eight Tanzanian informal caregivers of PLWH, participants reported avoiding contact with relatives as a result of feeling rejected by them (Pallangayo & Mayers, 2009). Participants from this study attributed decreased physical and mental health to being isolated from their families in this manner.

It had been found that HIV stigma by association is not only perpetrated by friends, family, and community members, but also by healthcare providers from other domains (Pham et al., 2012; Puplampu, Olson, Ogilvie, & Mayan, 2013). Among a sample of 8 Canadian nurses taking care of PLWH, participants reported negative comments from other healthcare providers directed at them about their work being less dignified (Puplampu et al., 2013). A study among a sample of 80 Vietnamese participants active in HIV-related services, found that as reported by participants, HIV stigma by association was often perpetrated by those working in other healthcare domains (Pham et al., 2012).

2.7.5.2. Prevalence and nature of HIV/AIDS stigma by association in the South African nursing profession. Among a sample of 140 nurses from Limpopo, participants reported the experience of emotional distress as a result of being stigmatised for working closely with PLWH (Delobelle et al., 2009). A study among 243 South African HIV caregivers (including nurses) found that 32% reported fear of stigmatisation as a result of working with AIDS patients (Van Dyk, 2007). However, among a sample of 358 caregivers from hospices in Kwazulu-Natal, HIV/AIDS stigma by association was not common, with only 13.7% reporting the experience of discrimination (Singh, Chaudoir, Escobar, & Kalichman, 2011).

It was found among a sample of 19 older female caregivers of PLWH from the Mpumalanga province that certain forms of primary HIV stigma, such as physical, verbal, and social stigma were mirrored in secondary stigma towards the caregivers (Ogunmefun, Gilbert, & Schatz, 2011). In terms of physical stigma, caregivers reported that out of fear of infection, their husbands did not want to sleep with them and their grandchildren did not want to visit them. Participants also reported the experience of verbal stigma from community members

who gossiped about and laughed at them, as well as the experience of social stigma from friends who visited with the intention of spreading rumours in the community. In a study among 35 nurses from Gauteng, participants reported feeling outraged as a result of being treated with contempt by community members (Smit, 2005). One of the participants commented as follows: “I can’t dare to wear my nurse’s uniform when I go home. Before leaving the hospital, I remove my epaulettes...People think because we work with HIV positive people, that we are contaminated or something” (Smit, 2005, p. 26).

In another study conducted in the Limpopo Province among a sample of 17 nurses, it was found that patients’ family members did not allow nurses access to their homes to provide home-based care, because they were stereotyped as being AIDS-carriers (Sofolahan et al., 2010). A community home-based nurse from a South African study among HIV caregivers reported that she was known as the “AIDS sister that should be avoided” (Van Dyk, 2007, p. 57). Finally, participants from a study among 100 HIV/AIDS healthcare providers (including nurses) from the Eastern Cape, also reported that they were stereotyped as being HIV-positive themselves and as a result were often avoided by others (Haber et al., 2011).

2.7.5.3 Relationship between HIV/AIDS stigma by association and burnout, job satisfaction, and turnover intentions. In a study among a sample of 478 Chinese health care workers (42% nurses), as per self-report measures, stigma and discrimination experienced as a result of working with PLWH was significantly positively associated with internalised shame about working with PLWH ($r = .32, p < .001$) as well as with feelings of stress during the preceding month ($r = .14, p < .01$) (Li et al., 2007). The Maslach Burnout Inventory and the Aids Impact Scale were administered to a sample of 32 community nurse specialists in the United Kingdom and a small but significant relationship was found between the reported

experience of stigma and discrimination and the emotional exhaustion aspect of burnout (Kendal Tau correlation co-efficient = .29, $p < .05$) (Hayter, 1999). Among a sample 1,384 nurses from Lesotho, Malawi, South Africa, Swaziland, and Tanzania, it was found that perceived HIV/AIDS stigma, defined as both discrimination perpetrated against nurses as well as discrimination perpetrated by nurses against patients, was strongly associated with job dissatisfaction ($r = -.22$, $p < .05$) (Chirwa et al., 2009).

Among a sample of 100 HIV/AIDS healthcare providers (including nurses) from the Eastern Cape, South Africa, a significant relationship was found between feelings of being stigmatised due to their association with people living with HIV/AIDS and thoughts about leaving HIV/AIDS work (χ^2 trend = 3.86, $df = 1$, $p = .049$) (Haber et al., 2011). Doctors and nurses within the sample were more likely than other healthcare providers to contemplate migrating to other countries (Mann–Whitney $z = -2.53$, $p = 0.011$). In contrast, among a sample of 1,374 nurses from five African countries (including South Africa), it was found that HIV stigma perpetrated against nurses as measured by the HIV/AIDS Stigma Instrument - Nurse (Uys et al., 2009) did not increase the likelihood of nurses migrating to other countries (Kohi et al., 2010). In this study, only perceiving other nurses as stigmatizing patients increased the likelihood of migration ($OR = 1.22$).

2.8 Demographic characteristics

2.8.1 Relationship between age and burnout

Several studies conducted elsewhere in the world have indicated an inverse relationship between nurses' age and their levels of burnout (Patrick & Lavery, 2007; Poncet et al., 2007; Xie, Wang, & Chen, 2011). In a study among 473 Spanish nurses, it was found that age and job status accounted for 16% of the variance in emotional exhaustion, 14% of the variance in

depersonalisation, and 12% of the variance in personal accomplishment (Garrosa et al., 2008). Higher levels of burnout were reported by younger participants. In multivariable regression analysis, performed among a sample of 527 Chinese nurses, increased age was found to be significantly negatively associated with emotional exhaustion ($\beta = -.13, p < .001$) and depersonalisation ($\beta = -.23, p < .001$), as well as significantly positively associated with personal accomplishment ($\beta = .17, p < .01$) (Xie et al., 2011). In this particular sample, age, education, workplace social support, job effort, and over-commitment accounted for 50% of the variance in emotional exhaustion.

Among a sample of 418 Turkish nurses, increased age was similarly associated with lower levels of burnout (Ilhan, Durukan, Taner, Maral, & Bumin, 2008). For younger participants, mean scores for emotional exhaustion and depersonalisation were higher and mean scores for personal accomplishment were lower. These differences were found to be statistically significant at a 95% confidence level. Among another sample of 225 Turkish nurses, it was found that the mean scores for the emotional exhaustion aspect of burnout were higher for the 23-28 age group than for the ≤ 41 age group (Tekindal, Tekindal, Pinar, Ozturk, & Alan, 2012). Supporting a negative association between age and levels of burnout, the mean scores for personal accomplishment were significantly lower for the 23-28 age group than for the ≤ 41 age group (PPA = 0.01, $p < .05$).

In a study among 90 Turkish oncology employees, including 41 nurses, it was found that participants younger than 35 reported significantly higher levels of emotional exhaustion and lower levels of personal accomplishment at a 95% confidence level (Demirci et al., 2010). Mean scores reported for emotional exhaustion were 26.22 and 21.38 for the ≤ 34 and > 34 age groups respectively. With regards to personal accomplishment, mean scores reported

were 33.76 and 38.71 for the ≤ 34 and > 34 age groups respectively. Among a sample of 198 nurses from Saudi-Arabia, participants of 35 years and younger reported significantly higher levels of emotional exhaustion ($OR = 1.27, p < .008, 95\% CI$) and depersonalisation ($OR = 0.26, p < .03, 95\% CI$) (Al-Turki et al., 2010).

In a large scale study among 2,392 French critical care nurses, age was associated with severe burnout syndrome which was defined as a total MBI score of greater than -9 (Poncet et al., 2007). Younger nurses were more likely to suffer from severe burnout syndrome ($OR = 0.97/yr, 95\% CI [0.96, 0.99]$). Among a sample of 574 Australian nurses, age was found to be correlated negatively with both the emotional exhaustion ($r = -.08, p < .05$) and depersonalisation ($r = -.23, p < .05$) aspects of burnout (Patrick & Lavery, 2007). Also, among a sample of 93 Peruvian nurses, it was found that depersonalisation was significantly negatively correlated with age, with younger nurses reporting higher levels of depersonalisation ($\beta = -.01, p < .05, 95\% CI [-0.2, -0.0]$) (Ayala & Carnero, 2013).

In contrast to the aforementioned studies, among a sample of 80 Spanish nurses, it was found that increased age rather than decreased age was associated with higher levels of burnout (Iglesias, Vallejo, & Fuentes, 2010). In this particular study, participants of 30 years and younger reported significantly lower levels of emotional exhaustion than nurses older than 30 years ($F = 6.02, p = .004$). Among a sample of 128 Chinese nurses, increased age was positively associated with emotional exhaustion (Kendall's tau-b correlation = $.21, p < .05$) (F. Lin, St John, & McVeigh, 2009). Participants in the 31-35 age group reported significantly higher levels of emotional exhaustion than the 21-25 age group ($t = 3.9, df = 64, p = .001$).

Among a sample of 87 Brazilian HIV/AIDS caregivers, younger participants reported lower levels of burnout in terms of higher levels of personal accomplishment (Benevides-Pereira & Das Neves Alves, 2007). In this study, age predicted 5% of the variance in personal accomplishment, with the lowest levels of personal accomplishment found within the 36-45 age group. Finally, among a sample of 959 German nurses, no significant association was found between participants' age and levels of emotional exhaustion (Kowalski et al., 2010).

Support has also been found in South African studies for a negative association between age and levels of burnout (Akintola et al., 2013; Van der Colff & Rothmann, 2012). In a study validating the MBI-HSS for South African registered nurses, it was found among a sample of 818 South African nurses that participants in the youngest age group reported significantly higher levels of depersonalisation in comparison to the other five age groups ($F(5, 812) = 5.31, p = .00$) (Van der Colff & Rothmann, 2012).

Among a sample of 126 AIDS care volunteers from Kwazulu-Natal, it was found that age was significantly positively correlated with the personal accomplishment aspect of burnout ($r = .18, p < .05$) (Akintola et al., 2013). In the aforementioned study, volunteers' age was also significantly positively correlated ($r = .23, p < .05$) with the "lack of support" stress factor, which was in turn found to predict both the depersonalisation and personal accomplishment aspects of burnout significantly. A 'lack of support', 'the overwhelming nature of the disease' and 'professional self-doubt/stigma and secrecy issues' accounted for 14.8% of the variance in personal accomplishment and 'lack of support' and 'type of volunteer' accounted for 7.5% of the variance in depersonalisation (Akintola et al., 2013, p. 6).

2.8.2 Relationship between job status and burnout

A link between nurses' job status and burnout levels has been found both internationally as well as locally within South Africa, (Garrosa et al., 2008, Van der Colff & Rothmann, 2012). As mentioned previously, among a sample of 473 Spanish nurses, job status and age were found to predict 16% of the variance in emotional exhaustion, 14% of the variance in depersonalisation, and 12% of the variance in personal accomplishment (Garrosa et al., 2008). In terms of job status, student nurses suffered less from burnout than professional nurses. Among a sample of 143 South African nurses from primary healthcare clinics, reported levels of job satisfaction differed significantly according to professional rank ($F(2, 133) = 10.65, p < .001$), with nursing assistants reporting being more satisfied than registered nurses ($t(115) = 4.44, p < .001$) (Delobelle et al., 2011).

In contrast, a study among 333 Turkish nurses found higher job status to be negatively associated with burnout with higher levels of personal accomplishment found in superintendent nurses in clinics (Kruskal Wallis test: $\chi^2 = 13.09, p = .001$) (Demir et al., 2003). Among a sample of 818 South African nurses, the lowest rank reported significantly lower levels of personal accomplishment ($F(2, 815) = 4.42, p = .01$) (Van der Colff & Rothmann, 2012). Finally, among a sample of 959 German nurses, no significant association was found between either professional experience or job tenure and levels of emotional exhaustion (Kowalski et al., 2010).

2.9 Conclusion

The present review of the literature investigated levels of burnout present among South African nurses as well as the relationship between nurses' burnout levels and their intent to exit the nursing profession. Negative consequences for patient care which could result from a

shortage of nursing staff were also investigated. Thereafter, the prevalence and nature of several occupational stress factors in the nursing environment as well as their individual relationships with burnout were investigated. These occupational stressors included workload, interpersonal conflict at work, organisational constraints, death and dying-related stress, and HIV/AIDS stigma by association. Finally, the individual relationships between the demographic characteristics of age and job status, and levels of burnout among nurses were investigated. Quantitative South African studies exploring the predictors of burnout among nurses were found to be sparse (Coetzee et al., 2013; Engelbrecht et al., 2008). Therefore, primarily, the present study aimed to determine the proportion of the variance in burnout among a sample of South African nurses that is accounted for by the linear combination of the aforementioned occupational stress factors and demographic characteristics.

2.10 Conceptual framework

According to Leiter and Maslach (1999), burnout results from the chronic mismatch between an individual and their work environment in terms of some or all of six worklife areas, which are workload, control, reward, community, fairness, and values. In terms of this framework, the greater the gap between the person and the job in terms of these six worklife areas, the greater the likelihood of burnout (Leiter & Maslach, 2003). However, although situational factors at work play a greater role than individual factors, demographic characteristics and personality characteristics have also been found to contribute to burnout (Maslach, Schaufeli, & Leiter, 2001). Leiter and Maslach's (1999) six worklife areas appear not to account for the influence of such individual factors.

Accordingly, another theoretical framework used to predict burnout is the Job Demands–Resources (JD–R) model (Demerouti & Bakker, 2011). The model's main effects include the

health impairment impact of job demands and the motivational impact of job resources respectively. The model also stipulates particular interaction effects between job demands and resources. Firstly, job resources may act as a buffer against the impact of job demands on burnout. Secondly, the motivational influence of job resources is stronger when job demands are higher. Lastly, the role of personal resources such as self-efficacy and optimism in predicting burnout is also evaluated within this model.

It is evident that the JD-R model includes situational factors in the form of job demands and job resources as well as certain personality characteristics in the form of personal resources, but the model still does not account for the influence of demographic characteristics on burnout. Therefore, Bronfenbrenner's ecological model will be utilized as a conceptual framework in the current research as it incorporates situational or environmental factors as well as demographic characteristics and personality characteristics (Bronfenbrenner & Morris, 2006).

In terms of Bronfenbrenner's original model, the ecology of human development supposes reciprocal interaction between the individual and the ecological environment which consists of an arrangement of structures, each contained within the next (Bronfenbrenner, 1979). These structures are defined as micro-, meso-, exo- or macrosystems. A microsystem is defined as "a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting with particular physical and material characteristics" (Bronfenbrenner, 1979, p. 22). It is not only the objective properties of the environment which play a role, but also how individuals perceive these properties. The mesosystem represents the interrelations between the various settings in which a person actively participates, for instance the interrelations between the family and work environments. The

exosystem comprises those settings in which the person does not actively participate in, but where events take place which either influence or are influenced by what occurs in the person's immediate setting. Lastly, the macrosystem represents the consistencies that exist between the micro-, meso-, and exo- systems as well as the belief system underlying these consistencies.

Bronfenbrenner's theory has since evolved from the initial focus on environment to a focus on the proximal process which is a function of context, person, and time (Bronfenbrenner & Morris, 2006). Person characteristics include demand, force, and resource characteristics. Demand characteristics are immediately apparent and invite or discourage social reactions which can foster or disrupt proximal processes (Bronfenbrenner & Morris, 2006; Tudge, Mokrova, Hatfield, & Karnik, 2009). Examples include gender, skin colour, and physical appearance (Tudge et al., 2009). Force characteristics encompass how an individual is generally disposed towards action. An individual would be either developmentally generative, for instance being curious, or developmentally disruptive, for instance being avoidant (Bronfenbrenner & Morris, 2006). Resource characteristics include biopsychological liabilities and assets that influence the ability to engage effectively in proximal processes. Biopsychological liabilities include, for example, genetic defects, brain damage, and persistent severe illness, while assets encompass ability, knowledge, skill, and experience (Bronfenbrenner & Morris, 2006).

The proposed research will focus on human-environment interaction at the microsystem level as it evaluates whether certain features of nurses' immediate professional environment predict their mental health status in terms of levels of burnout. Certain person characteristics classified into demand and resource characteristics will be investigated as predictors of

burnout levels among nurses. The demographic variable of age is viewed as a demand characteristic as it is immediately apparent and invites or discourages social reactions (Bronfenbrenner & Morris, 2006; Tudge et al., 2009). Job status is viewed as a resource characteristic as it is not immediately apparent and can be described as a biopsychological asset in terms of ability, knowledge, skill, and experience (Bronfenbrenner & Morris, 2006; Tudge et al., 2009).

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Design

The present study is a cross-sectional correlational study making use of an analytical survey design for collection of quantitative data.

3.2 Participants

Participants were conveniently sampled from nurses employed at Helderberg Hospital, a public hospital located in the Western Cape. Fifteen cases of data per predictor variable have been widely recommended (Field, 2009). I therefore intended to recruit a total of 105 participants by targeting 148 nurses. The only inclusion criterion was Grade 6 literacy in either written and spoken English or written and spoken Afrikaans in order to complete the applicable measuring instruments.

3.3 Procedure

Recruitment of participants commenced during September 2013. With the cooperation of the assistant director of nursing, and the permission of the senior medical superintendent, flyers (See Appendix A) were distributed describing the study to nurses at Helderberg Hospital. Nursing supervisors distributed the flyers to the nurses working the day shift during a particular week as well as to the nurses working the night shift during that particular week. They asked those nurses who wished to participate in the study to provide their names and contact numbers, as well as their preferred language, on a sign-up sheet. With the cooperation of the acting matrons, I recruited additional participants during patient visiting hours on both day shifts and both night shifts.

3.4 Materials

Questionnaires were made available in both Afrikaans and English. The English versions of the standardised questionnaires described below were translated into Afrikaans by a professional translator. Questionnaires were specifically translated into Afrikaans, because a large majority of the nurses at Helderberg Hospital are Afrikaans speaking. Due to financial constraints, the questionnaires could not be translated into other South African national languages as well. Participants were asked to complete the following questionnaires:

3.4.1 Demographic questionnaire

Age, gender, race, marital status, living situation, education level, job status, time in the nursing profession, area of the hospital mostly worked in, shift mostly worked, income level, place of birth, and languages spoken were assessed using a self-administered questionnaire (See Appendix B).

3.4.2 Maslach Burnout Inventory – Human Services Survey (MBI-HSS)

The original English version of the MBI-HSS (See Appendix C) was used to measure the level of burnout present among participants. As nurses were the participants in the present study, for all applicable items, the word *recipients* was replaced with the word *patients*. The 22-item MBI-HSS assesses three components of burnout, namely emotional exhaustion, depersonalisation, and personal accomplishment (Maslach et al., 1996). The nine-item Emotional Exhaustion subscale assesses feelings of being emotionally overextended as a result of one's work. The five-item Depersonalisation subscale measures unfeeling and impersonal responses towards one's patients. Lastly, the eight-item Personal Accomplishment subscale assesses work-related feelings of competence and achievement (Bruce & Sangweni, 2012). Respondents are required to indicate the frequency of their

feelings and attitudes experienced on a 7-point Likert scale range from 0 (never) to 6 (every day). High scores on both the emotional exhaustion and depersonalisation dimensions represent higher levels of burnout. Conversely, high scores on the personal accomplishment dimension represent lower levels of burnout.

Maslach et al. (1996) reported alpha reliability values for the three subscales ranging from .71 to .90. In a meta-analysis covering 45 international studies in which either the MBI-HSS or the MBI – Educational Survey was used, the average reliability for 51 Cronbach's alpha coefficients were reported as .88, .71, and .78 for the emotional exhaustion, depersonalisation, and personal accomplishment dimensions respectively (Aguayo, Vargas, De la Fuente, & Lozano, 2011). The MBI-HSS version of the MBI was administered in 55.1% of these studies and the original English version was administered in 50% of these studies.

In an effort to evaluate the suitability of the MBI in measuring burnout among nurses, data from surveys completed by 54,738 nurses from eight countries were analysed (Poghosyan, Aiken, & Sloane, 2009). Support was provided for both the factor structure and internal consistency of the MBI. The three-factor structure was validated with minor suggested modifications only to move two items from the emotional exhaustion subscale to the depersonalisation subscale. Cronbach alpha values for the three subscales were calculated separately for each of the eight countries and all values ranged between .71 and .93, with the exception of the depersonalisation subscale in Armenia only.

The Maslach Burnout Inventory has also been successfully used in South African studies evaluating burnout among nurses with alpha coefficients ranging from .74 to .89 for

emotional exhaustion, from .64 to .75 for depersonalisation and from .61 to .78 for personal accomplishment (Coetzee et al., 2013; Engelbrecht et al., 2008; Heyns et al., 2003). In the present study the respective alpha values obtained for emotional exhaustion, depersonalisation, and personal accomplishment were .85, .60, and .67. Support was found in South Africa for the three-factor factorial composition of the MBI – HSS among a sample of 318 emergency medical technicians and among a sample of 818 registered nurses respectively (Naudé & Rothmann, 2004; Van der Colff & Rothmann, 2012).

3.4.3 Quantitative Workload Inventory (QWI)

The QWI (See Appendix D) was used to measure the perceived level of workload present among participants. The QWI measures the perceived amount of work, taking into account perceptions with regards to pace and volume (Spector & Jex, 1998). The five-item QWI contains statements regarding the amount of work, for example asking how often one is required to work either very fast or very hard (Spector & Jex, 1997). Response choices range from 1 (less than once per month or never) to 5 (several times per day) (Spector & Jex, 1998). A high level of workload is presented by high scores.

Supporting internal consistency of the scale, an alpha coefficient of .82 was calculated based on a total sample of 3,728 over 15 studies (Spector & Jex, 1998). Moderate convergent validity was established by relating the scale to items such as anxiety, frustration, and physical job stress symptoms.

More recently, an alpha value of .87 has been reported for a four-item version of the QWI administered to a sample of 1,439 nurses from the United States (Brewer, Kovner, Greene, Tukov-Shuser, & Djukic, 2012; Djukic, Kovner, Brewer, Fatehi, & Cline, 2013). Alpha of

.82 was reported for a Chinese translation of the QWI that was administered to a sample of 276 subordinate-supervisor dyads at a Taiwanese hospital (Peng, Tseng, & Lee, 2011). A shortened three-item version of the QWI, similarly translated into Chinese, was administered to a sample of 199 Chinese nurses and an alpha coefficient of .85 was obtained for the scale (L. I. N. Lin, Oi-ling, Kan, & Xin-Wen, 2009). An alpha value of .85 was also obtained for the QWI in a study among South African nurses (Engelbrecht et al., 2008). In the present study, alpha of .80 was reported for the QWI.

3.4.4 Interpersonal Conflict at Work Scale (ICAWS)

The ICAWS (See Appendix E) was administered to participants in an effort to measure their perceived level of interpersonal conflict at work. Interpersonal conflict at work can range from minor disagreements to physical assaults and can be either overtly or covertly expressed (Spector & Jex, 1998). The ICAWS consists of four items assessing how well respondents get along with people at work. The items ask for example about the frequency at work of people yelling at you or of people acting nastily towards you (Spector & Jex, 1997). The response options given range from 1 (never) to 5 (very often) (Spector & Jex, 1998). High scores represent frequent conflict.

Demonstrating good internal consistency, an alpha coefficient of .74 was reported for the scale based on a total sample of 3,363 over 13 studies (Spector & Jex, 1998). Moderate convergent validity was established by relating the scale to items such as anxiety, depression, frustration, as well as physical job stress symptoms.

In a more recent British study among three separate samples of part-time employees, trainee nurses, and university staff, a satisfactory alpha coefficient of .70 was reported for the

ICAWS (Edwards, Guppy, & Cockerton, 2007). An alpha value of .79 was reported for the ICAWS among a sample of 392 nurse leaders from North America (Kath, Stichler, Ehrhart, & Schultze, 2013). Alpha of .79 was also obtained for the ICAWS in a study among South African nurses (Engelbrecht et al., 2008). In the present study, alpha of .77 was reported for the ICAWS.

3.4.5 Organisational Constraints Scale (OCS)

The OCS (See Appendix F) was administered to participants in order to measure their perceived level of organisational constraints at work. Organisational constraints represent situations at work which interfere with job performance (Spector & Jex, 1998). The 11-item OCS contains one item for each of the areas of constraints as listed by Peters and O'Connor (1980) and includes items such as “Inadequate training”, “Poor equipment or supplies”, and “Inadequate help from others” (Spector & Jex, 1997; Spector & Jex, 1998). The respondent is expected to assess for each constraint item, how often the item makes job performance difficult or impossible (Spector & Jex, 1998). Response options range from 1 (less than once per month or never) to 5 (several times per day). High scores indicate a high level of organisational constraints.

The alpha coefficient reported based on a total sample of 1,746 over eight studies is .85 (Spector & Jex, 1998). The OCS however includes a number of distinct components and therefore internal consistency is irrelevant as items are not interchangeable. The good alpha coefficient possibly indicates that either the constraints or perceptions of them are related within organisations. Moderate convergent validity was established by relating the scale to items such as job performance, job satisfaction, intention to quit, frustration, as well as physical job stress symptoms. The relationship between organisational constraints and job

performance was smaller than expected, possibly due to the use of supervisor ratings to assess job performance. Ratings by supervisors may take into account the effort expended, rather than actual productivity.

The OCS has been administered to a sample of 392 nurse leaders from North America (Kath et al., 2013). An eight-item version of the OCS has been administered to a large sample of nurses from the United States in three separate waves (Brewer et al., 2012; Djukic et al., 2013). The 11-item OCS has also successfully been used before in a study among South African nurses (Engelbrecht et al., 2008).

3.4.6 Nursing Stress Scale (NSS)

The Death and Dying subscale (See Appendix G) of the NSS was used to measure the level of death and dying-related stress present among participants. The NSS measures the frequency with which certain situations at work are regarded as stressful by nurses (Gray-Toft & Anderson, 1981). The scale consists of 34 items and includes seven subscales representing the stress factors of workload, death and dying, inadequate preparation, lack of support, uncertainty concerning treatment, conflict with physicians, and conflict with other nurses.

The Death and Dying subscale includes seven items (Gray-Toft & Anderson, 1981). Items include statements such as: “Watching a patient suffer”, and “The death of a patient with whom you developed a close relationship”. Response choices range from 0 (never) to 3 (very frequently). The NSS demonstrates high internal consistency as alpha of .89 was obtained for the scale as a whole and an alpha value of .77 for the Death and Dying subscale. Time stability for the scale as a whole was high with a test-retest coefficient of .81. Moderate

support for convergent validity of the NSS was obtained through positive correlation with anxiety, negative correlation with job satisfaction as well as through examining nurse turnover in relation to stress scores obtained.

High alpha reliability values were reported for the NSS in studies conducted elsewhere in the world, with a value of .92 reported for a sample of 263 American nurses and a value of .89 reported for a sample of 300 Jordanian nurses who completed an Arabic translation of the scale (AbuAlRub, 2006). In the aforementioned samples, eight items from the Patients and Families subscale of the Expanded Nursing Stress Scale (ENSS) (French, Lenton, Walters, & Eyles, 2000 as cited in AbuAlRub, 2006) were added to Gray-Toft and Anderson's (1981) Nursing Stress Scale (NSS). For a Chinese version of the NSS tested among 770 nurses in Taiwan, an alpha coefficient of .91 was reported (Lee, Holzemer, & Faucett, 2007).

Satisfactory coefficients ranging from .68 to .87 were reported for four internal consistency measures (Cronbach's α , Spearman–Brown, Guttman split-half, and standardised item α coefficients) during the validation of a Bahasa Melayu version of the NSS (Rosnawati, Moe, Masilamani, & Darus, 2010).

The NSS has been used successfully before in a South African setting among a sample of 84 nurses from Groote Schuur hospital in Cape Town (Makie, 2006). In the present study, an alpha coefficient of .86 was obtained for the Death and Dying subscale of the NSS.

3.4.7 HIV/AIDS Stigma Instrument – Nurse (HASI-N)

The HASI-N has been developed among a sample of 1,474 nurses from five African countries, including 279 South African nurses. The instrument has also been administered to South African nurses included in large samples of African nurses in two additional studies.

(Holzemer et al., 2009; Kohi et al., 2010). The 19-item HASI-N measures nurses' perpetration of and also their experience of HIV-related stigma (Uys et al., 2009). The two factors included in the instrument are named Nurses Stigmatising Patients and Nurses Being Stigmatised. In the present study, only the nine items included in the Nurses Being Stigmatised factor (See Appendix H) were used to measure the level of HIV/AIDS stigma by association experienced by participants. Nurses are queried regarding their experiences working with PLWH. Respondents need to indicate the frequency of events as observed in the past three months, with response choices ranging from 0 (never) to 3 (most of the time).

The Nurses Being Stigmatised factor has high internal consistency with a Cronbach alpha reliability value of .90 (Uys et al., 2009). In the present study, an alpha coefficient of .91 was obtained for the Nurses Being Stigmatised factor of the HASI-N. Content validity is supported by factor analysis as well as the conceptual work performed by focus groups (Uys et al., 2009). The items included in the Nurses Being Stigmatised factor address the concepts of labelling, gossiping, and fear of contagion. Construct validity has not been established for both factors separately, but has been established for the HASI-N as a whole through significant negative correlations of stigma with job satisfaction, significant negative correlation with the SF36 Mental Component Summary measure and no significant correlation with the SF36 Physical Component measure.

3.5 Data collection

A total of 123 participants were recruited into the study, but only a total of 110 completed questionnaires were collected. The difference was mostly attributable to participants being either on annual leave or on sick leave at the time of collection. In some cases, participants simply chose not to participate in the study any longer. Data were collected during September

/ October 2013. A small pilot study was performed with three nurses completing the Afrikaans version and three nurses completing the English version of the questionnaire pack. I briefly interviewed these six participants after I collected the completed questionnaires from them. After incorporating feedback from the pilot, I prepared the required number of questionnaire packs according to the number of nurses who provided their details on the sign-up sheets.

The questionnaire packs were distributed by nursing supervisors on the day shifts as well as on the night shifts during a particular week. Questionnaires were self-administered in paper form in either English or Afrikaans. Participants completed the questionnaires either at home or at work during periods when they were not busy caring for patients. Within a week after distribution, I started collecting the questionnaires during patient visiting hours. During the process of collection, I inspected the questionnaires for any missing data and asked participants to complete the missing data on the spot. Participants were given a Shoprite / Checkers grocery shopping voucher worth R50 after completion of questionnaires compensating them for their time spent in taking part. The completed questionnaires were anonymous, but were coded so as to keep track of collected data.

3.6 Data analysis

The data from the 110 completed questionnaires were entered into SPSS. There were no missing data points. Data analysis included descriptive statistics, bivariate relationships, and regression analysis. The distribution of the sample was presented according to age, gender, race, first language, marital status, education level, years of nursing work experience, job status, shift mostly worked, and area of the hospital mostly worked in. The distribution of the sample was also presented across different levels of burnout according to cut-off points for

low, average and high levels of emotional exhaustion, depersonalisation, and personal accomplishment (Maslach et al., 1996).

Cronbach alpha coefficients were calculated for the subscales of the MBI – HSS, QWI, ICAWS, Death and Dying subscale of the NSS, and Nurses Being Stigmatised subscale of the HASI-N. Mean scores and standard deviation scores were calculated for burnout (as expressed in terms of emotional exhaustion, depersonalisation, and personal accomplishment), workload, interpersonal conflict at work, organisational constraints, death and dying-related stress, and HIV/AIDS stigma by association.

Pearson's product moment correlation coefficients were calculated between burnout (as expressed in terms of emotional exhaustion, depersonalisation, and personal accomplishment) and age, job status, workload, interpersonal conflict at work, organisational constraints, death and dying-related stress, and HIV/AIDS stigma by association. Three separate regression models were computed for the criterion variables of emotional exhaustion, depersonalisation, and personal accomplishment. Age, job status, workload, interpersonal conflict at work, organisational constraints, death and dying-related stress, and HIV/AIDS stigma by association were used as predictor variables in each model.

3.7 Ethical considerations

Approval for the proposed research study was obtained from the Stellenbosch University Health Research Ethics Committee 2 (Ref No. S13/05/098). Thereafter permission was obtained from the Western Cape Department of Health for the recruitment and use of nurses in the research study. The study was conducted according to accepted and applicable National

and International ethical guidelines and principles, including those of the international Declaration of Helsinki October 2008.

Participants were asked to complete an informed consent form (See Appendix I) in either English or Afrikaans and were provided with a copy for their own records. Translation of the informed consent form in Xhosa was not deemed necessary as participants needed to be literate in either written and spoken English or written and spoken Afrikaans in order to participate in the research project. During the pilot study, participants expressed concerns with regards to anonymity. In order to make participants feel less vulnerable, an alternative informed consent form which did not need to be signed were offered to participants. This revised informed consent form (See Appendix J) was approved by the Stellenbosch University Health Research Ethics Committee 2.

Participants were informed of their right to terminate participation at any point in time and they were assured of the anonymity of their responses. In the event that they may have felt psychologically distressed after completion of the questionnaires, the contact number of an organisation which delivers free counselling services was provided in the informed consent form. Completed consent forms and questionnaires are being stored in a locked drawer and electronic research working papers are being stored on a password-protected personal computer. All records will be destroyed after completion of the research.

CHAPTER 4

RESULTS

4.1 Introduction

The primary research objective of the study was to investigate the psychological and social predictors of burnout among nurses employed at a public hospital in the Western Cape, South Africa. Specifically, the aim was to determine the proportion of the variance in burnout that is accounted for by the linear combination of demographic characteristics and occupational stress factors. Three regression models were computed. The criterion variables were the different aspects of burnout, expressed in the form of emotional exhaustion, depersonalisation, and personal accomplishment. The predictor variables for each model were age, job status, workload, interpersonal conflict at work, organisational constraints, death and dying-related stress, and HIV/AIDS stigma by association.

4.2 Demographic characteristics of the sample

A total of 110 participants were recruited into the study. The demographic characteristics of the sample are presented below in Table 1.

Table 1

Demographic Characteristics of the Sample

| | <i>n</i> | % |
|-------|----------|------|
| Age | | |
| 23-30 | 14 | 12.7 |
| 31-40 | 28 | 25.5 |
| 41-50 | 46 | 41.8 |
| 51-59 | 22 | 20.0 |

Table 1 (*continued*)

| | <i>n</i> | % |
|---|----------|------|
| Gender | | |
| Female | 106 | 96.4 |
| Male | 4 | 3.6 |
| Race | | |
| African | 23 | 20.9 |
| Coloured | 79 | 71.8 |
| White | 8 | 7.3 |
| First Language | | |
| Afrikaans | 82 | 74.5 |
| English | 6 | 5.5 |
| Xhosa | 17 | 15.5 |
| Other | 5 | 4.5 |
| Marital status | | |
| Single | 30 | 27.3 |
| Married / living together | 56 | 50.9 |
| Separated | 2 | 1.8 |
| Divorced | 19 | 17.3 |
| Widowed | 3 | 2.7 |
| Highest level of education | | |
| No formal education | 1 | .9 |
| Primary school | 7 | 6.4 |
| Matric | 31 | 28.2 |
| Some college, university / technikon | 64 | 58.2 |
| Bachelor's degree or equivalent | 1 | .9 |
| Honours degree | 6 | 5.5 |

Table 1 (*continued*)

| | <i>n</i> | % |
|---------------------------------------|----------|------|
| Years in nursing | | |
| ≤ 1 | 10 | 9.1 |
| > 1 - 5 | 13 | 11.8 |
| > 5 - 10 | 15 | 13.6 |
| > 10 - 20 | 22 | 20.0 |
| > 20 - 30 | 37 | 33.6 |
| > 30 - 40 | 13 | 11.8 |
| Job status | | |
| Enrolled nursing assistant | 40 | 36.4 |
| Enrolled nurse | 30 | 27.3 |
| Performing community service | 5 | 4.5 |
| Professional nurse | 35 | 31.8 |
| Shift mostly worked | | |
| Day | 71 | 64.5 |
| Night | 34 | 30.9 |
| Both | 5 | 4.5 |
| Hospital area mostly worked in | | |
| Adult medical and surgical wards | 33 | 30.0 |
| Paediatrics | 11 | 10.0 |
| Maternity | 11 | 10.0 |
| Casualty | 16 | 14.5 |
| High-care unit | 2 | 1.8 |
| Theatre | 5 | 4.5 |
| Office | 3 | 2.7 |
| Outpatients | 7 | 6.4 |
| Multiple | 22 | 20.0 |

Note. *N* = 110.

4.3 Reliability of measurement instruments

4.3.1 Maslach Burnout Inventory – Human Services Survey

High internal consistency ($\alpha = .85$) was demonstrated for the nine-item Emotional Exhaustion subscale. Alpha values for the five-item Depersonalisation and eight-item Personal Accomplishment subscales were acceptable at .60 and .67 respectively.

4.3.2 Spector and Jex's Job Stressor Scales

Sufficient to high alpha values were obtained for the Quantitative Workload Inventory (5 items; $\alpha = .80$) and the Interpersonal Conflict at Work Scale (4 items; $\alpha = .77$). Internal consistency was not calculated for the Organisational Constraints Scale due to the diversity of items included in the scale.

4.3.3 Nursing Stress Scale

The seven-item Death and Dying subscale demonstrated high internal consistency with alpha of .86.

4.3.4 HIV/AIDS Stigma Instrument – Nurse

The highest alpha value of .91 was reported for the nine-item Nurses Being Stigmatised subscale. These results are summarised in Table 2.

Table 2

Cronbach's Alpha Coefficients of the Measurement Instruments

| Scale and subscale | Cronbach's alpha (α) |
|--|--|
| Maslach Burnout Inventory – Human Services Survey | |
| Emotional Exhaustion | .85 |
| Depersonalisation | .60 |
| Personal Accomplishment | .67 |
| Spector and Jex's Job Stressor Scales | |
| Quantitative Workload Inventory | .80 |
| Interpersonal Conflict at Work Scale | .77 |
| Organisational Constraints Scale | Not calculated due to diversity of items |
| Nursing Stress Scale: Death and Dying | .86 |
| HIV/AIDS Stigma Instrument - Nurse: Nurses Being Stigmatised | .91 |

Note. $N = 110$.

4.4 Level of burnout

Higher scores reported on the Maslach Burnout Inventory for emotional exhaustion and depersonalisation indicate higher levels of burnout, whereas higher scores reported for personal accomplishment indicate lower levels of burnout (Maslach et al., 1996). Maslach et al. (1996) also recommends cut-off points for low, average, and high levels of emotional exhaustion, depersonalisation, and personal accomplishment (See Table 3).

Table 3

Cut-off Points for Low, Average, and High Levels of Burnout (Maslach et al., 1996)

| Level of burnout | Emotional exhaustion | Depersonalisation | Personal accomplishment |
|------------------|----------------------|-------------------|-------------------------|
| Low | ≤ 16 | ≤ 6 | ≥ 39 |
| Average | 17 - 26 | 7 - 12 | 32 - 38 |
| High | ≥ 27 | ≥ 13 | ≤ 31 |

Although the mean score of 20.87 reported for emotional exhaustion was within the average range, 33.6% of the sample reported levels of emotional exhaustion that fell in the elevated range. Scores ranged from 0 to 46, with 54 being the highest possible score.

A low level of depersonalisation was indicated by the reported mean score of 5.52 out of a possible score of 30. Scores however ranged between 0 and 24. Lastly, an average level of personal accomplishment was indicated by the reported mean score of 38.13 out of a possible score of 48. These results are summarised in Table 4 and Table 5.

Table 4

Descriptive Statistics of Level of Burnout among the Sample

| Variable | Mean | Standard Deviation | Range |
|-------------------------|-------|--------------------|---------------|
| Emotional exhaustion | 20.87 | 12.00 | 0.00 - 46.00 |
| Depersonalisation | 5.52 | 5.50 | 0.00 - 24.00 |
| Personal accomplishment | 38.13 | 7.62 | 17.00 - 48.00 |

Note. $N = 110$.

Table 5

Distribution of Sample According to Different Levels of Burnout

| Variable | Low | | Average | | High | |
|-------------------------|----------|------|----------|------|----------|------|
| | <i>f</i> | % | <i>f</i> | % | <i>f</i> | % |
| Emotional exhaustion | 47 | 42.7 | 26 | 23.6 | 37 | 33.6 |
| Depersonalisation | 75 | 68.2 | 21 | 19.1 | 14 | 12.7 |
| Personal accomplishment | 59 | 53.6 | 33 | 30.0 | 18 | 16.4 |

Note. $N = 110$.

4.5 Level of occupational stress factors

The perceived time pressure of workload was measured by the Quantitative Workload Inventory (QWI) (Spector & Jex, 1998). On average, the sample reported a high level of workload, with an average score of 19.83 out of a possible score of 25. Scores reported were between 5 and 25, also representing the minimum and maximum scores accommodated by the QWI. For interpersonal conflict at work, the sample reported an average score of 9.04 out of a possible score of 20. Minimum and maximum scores reported were 4 and 18 respectively, with the Interpersonal Conflict at Work Scale (Spector & Jex, 1998) accommodating scores ranging from 4 to 20.

A mean score of 24.29 out of a possible score of 55 was reported for organisational constraints. Organisational constraints include both a lack of material resources as well as a lack of support from management and colleagues. The Organisational Constraints Scale (Spector & Jex, 1998) accommodates scores ranging from 11 to 55 and includes 11 different constraints. The highest mean scores were reported for the items relating to equipment and supplies, with a mean of 2.78 out of a possible score of 5 reported for "Poor equipment and

supplies” and a mean of 2.55 out of a possible score of 5 reported for “Lack of equipment and supplies”.

For death and dying-related stress, the average score reported was 9.81 out of a possible score of 21. Scores reported ranged from 1 to 21, with the Death and Dying subscale of the Nursing Stress Scale (Gray-Toft & Anderson, 1981) accommodating scores ranging from 0 to 21. For HIV/AIDS stigma by association (stigma experienced by nurses associated with HIV/AIDS patients), the sample reported an average score of 0.43 out of a possible score of 3. Scores reported were between 0 and 3, which are the minimum and maximum scores accommodated by the Nurses Being Stigmatised subscale of the HIV/AIDS Stigma Instrument - Nurse (Uys et al., 2009).

4.6 Correlation matrix of the predictor variables and the criterion variables

The Pearson’s correlation matrix for the predictor variables and the criterion variables is presented below in Table 6.

Table 6

Correlation Matrix containing the Criterion Variables (Dimensions of Burnout) and the Predictor Variables (Occupational Stress Factors and Demographic Characteristics)

| | Workload | Interpersonal conflict at work | Organisational constraints | Death and dying- related stress | HIV/AIDS stigma by association | Age | Job status |
|--------------------------------|----------|-----------------------------------|-------------------------------|------------------------------------|-----------------------------------|------|------------|
| Emotional exhaustion | .49** | .40** | .41** | .19* | .15 | -.01 | .27** |
| Depersonalisation | .26** | .44** | .40** | .17* | .31** | -.13 | .13 |
| Personal accomplishment | -.13 | -.13 | -.24** | -.17* | -.17* | .09 | -.24** |
| Workload | 1 | .33** | .38** | .06 | .07 | -.08 | .23** |
| Interpersonal conflict at work | .33** | 1 | .44** | .11 | .21* | -.11 | .01 |
| Organisational constraints | .38** | .44** | 1 | .25** | .22* | -.04 | .00 |
| Death and dying-related stress | .06 | .11 | .25** | 1 | .32** | .08 | .01 |
| HIV/AIDS stigma by association | .07 | .21* | .22* | .32** | 1 | -.00 | -.29** |
| Age | -.08 | -.11 | -.04 | .08 | -.00 | 1 | .08 |
| Job status | .23** | .01 | .00 | .01 | -.29** | .08 | 1 |

Note. $N = 110$.

* $p < .05$, one-tailed. ** $p < .01$, one-tailed.

4.7 Regression diagnostic tests performed

For each of the three models, it was noted that two cases had Mahalanobis distances greater than 15. For the depersonalisation model, one case had a leverage value slightly greater than twice the average leverage value. The covariance ratios were outside the recommended limits for four cases. For the personal accomplishment model, the covariance ratios were outside the recommended limits for two cases. No cases were however regarded as influential, as Cook's distance was less than 1 for all outliers investigated for each of the three models (Field, 2009).

In terms of collinearity statistics, the variance inflation factor was well below 10 and the tolerance statistic was well above 0.2 for all predictor variables. It was however noted that at 1.26, the average variance inflation factor was slightly higher than the recommended value of 1. Although significant correlations were noted between predictor variables, none of these exceeded the .80 level (See Table 7), thereby satisfying the requirement for no multicollinearity (Field, 2009).

The assumptions of homoscedasticity and linearity were confirmed for all three regression models by inspecting the respective scatterplots of standardised residual values against standardised predicted values. The Durbin-Watson statistic was greater than or equal to 1 and less than or equal to 3 for all three regression models, supporting the assumption of independent residuals (Field, 2009). Histograms of the standardised residuals as well as normal probability plots were inspected for all three regression models. These indicated that errors were normally distributed with no substantial deviations.

4.8 Predicting burnout

Three separate regression models were computed. The criterion variables were the three dimensions of burnout, namely emotional exhaustion, depersonalisation, and personal accomplishment. The seven predictor variables were entered hierarchically in theoretical order of importance in predicting the outcome variables. The variables were entered in the following order for all three regression models: workload, interpersonal conflict at work, organisational constraints, age, death and dying-related stress, HIV/AIDS stigma by association, and job status. At each step an additional predictor variable was added, with model 7 representing the final model including all seven predictor variables.

4.8.1 Predicting emotional exhaustion

As can be seen in Table 7, the regression model explained a significant amount of the variance in emotional exhaustion ($R^2 = .39$, Adjusted $R^2 = .35$, $F(7, 102) = 9.28$, $p < .01$).

Workload alone accounted for 24% of the variance ($\Delta F(1, 108) = 34.45$, $p < .01$).

Interpersonal conflict at work and job status were significant predictors at the $p < .01$ significance level, explaining 7% and 4% of the variance respectively. Lastly, organisational constraints significantly predicted emotional exhaustion at the $p < .05$ level, accounting for 3% of the variance. Three of the four predictor variables which contributed significantly to the variance in emotional exhaustion had significant standardized beta values. These were workload ($\beta = .30$, $t(102) = 3.39$, $p < .01$), job status ($\beta = .23$, $t(102) = 2.66$, $p < .01$), and interpersonal conflict at work ($\beta = .20$, $t(102) = 2.29$, $p < .05$). These results are summarised in Table 7 and Table 8.

Table 7

Multiple Regression Analyses for Variables Predicting Emotional Exhaustion

| Model | <i>R</i> | <i>R</i> ² | ΔR^2 | <i>SE</i> | <i>F</i> | <i>df1</i> | <i>df2</i> | <i>p</i> |
|----------------|----------|-----------------------|--------------|-----------|----------|------------|------------|----------|
| 1 ^a | .49 | .24** | .24** | 10.50 | 34.45 | 1 | 108 | .00 |
| 2 ^b | .56 | .31** | .07** | 10.07 | 23.87 | 2 | 107 | .00 |
| 3 ^c | .58 | .33** | .03* | 9.93 | 17.71 | 3 | 106 | .00 |
| 4 ^d | .58 | .34** | .00 | 9.96 | 13.30 | 4 | 105 | .00 |
| 5 ^e | .59 | .35** | .01 | 9.93 | 11.02 | 5 | 104 | .00 |
| 6 ^f | .59 | .35** | .00 | 9.98 | 9.10 | 6 | 103 | .00 |
| 7 ^g | .62 | .39** | .04** | 9.70 | 9.28 | 7 | 102 | .00 |

Note. *N* = 110.

^aPredictors: (Constant), Workload.

^bPredictors: (Constant), Workload, Interpersonal conflict at work.

^cPredictors: (Constant), Workload, Interpersonal conflict at work, Organisational constraints.

^dPredictors: (Constant), Workload, Interpersonal conflict at work, Organisational constraints, Age.

^ePredictors: (Constant), Workload, Interpersonal conflict at work, Organisational constraints, Age, Death and dying-related stress.

^fPredictors: (Constant), Workload, Interpersonal conflict at work, Organisational constraints, Age, Death and dying-related stress, HIV/AIDS stigma by association.

^gPredictors: (Constant), Workload, Interpersonal conflict at work, Organisational constraints, Age, Death and dying-related stress, HIV/AIDS stigma by association, Job status.

* *p* < .05. ** *p* < .01.

Table 8

Predictors of Emotional Exhaustion

| Variable | Emotional exhaustion | | | | | | | <i>B</i> | 95% CI | <i>SE B</i> | β |
|------------------------------------|----------------------|---------|---------|---------|---------|---------|---------|-----------------|--------|-------------|---------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | | | | |
| | β | β | β | β | β | β | | | | | |
| Constant | | | | | | | -14.94 | [-28.15, -1.72] | 6.66 | | |
| Workload | .49** | .40** | .35** | .36** | .36** | .36** | 0.77 | [0.32, 1.21] | 0.23 | .30** | |
| Interpersonal conflict at work | | .27** | .21* | .21* | .21* | .21* | 0.76 | [0.10, 1.41] | 0.33 | .20* | |
| Organisational constraints | | | .19* | .18 | .16 | .16 | 0.21 | [-0.02, 0.43] | 0.11 | .17 | |
| Age | | | | .05 | .04 | .04 | 0.03 | [-0.19, 0.24] | 0.11 | .02 | |
| Death and dying- related stress | | | | | .10 | .10 | 0.20 | [-0.22, 0.62] | 0.21 | .08 | |
| HIV/AIDS stigma by association | | | | | | .01 | 0.19 | [-0.19, 0.56] | 0.19 | .09 | |
| Job status | | | | | | | 2.15 | [0.55, 3.74] | 0.81 | .23** | |

Note. *N* = 110. CI = confidence interval.

* $p < .05$. ** $p < .01$.

4.8.2 Predicting depersonalisation

As can be seen in Table 9, the regression model explained a significant amount of the variance in depersonalisation ($R^2 = .33$, Adjusted $R^2 = .29$, $F(7, 102) = 7.22$, $p < .01$).

Interpersonal conflict and workload were significant predictors at the $p < .01$ significance level, explaining 14% and 7% in the variance respectively. Organisational constraints ($\Delta R^2 = .04$), HIV/AIDS stigma by association ($\Delta R^2 = .03$), and job status ($\Delta R^2 = .04$) significantly predicted the variance in depersonalisation at the $p < .05$ significance level. Standardised beta coefficients were significant for four of the aforementioned five predictor variables: interpersonal conflict at work ($\beta = .27$, $t(102) = 2.92$, $p < .01$), HIV/AIDS stigma by association ($\beta = .26$, $t(102) = 2.82$, $p < .01$), organisational constraints ($\beta = .21$, $t(102) = 2.15$, $p < .05$), and job status ($\beta = .21$, $t(102) = 2.35$, $p < .05$). Results are summarised in Table 9 and Table 10.

Table 9

Multiple Regression Analyses for Variables Predicting Depersonalisation

| Model | <i>R</i> | <i>R</i> ² | ΔR^2 | <i>SE</i> | <i>F</i> | <i>df1</i> | <i>df2</i> | <i>p</i> |
|----------------|----------|-----------------------|--------------|-----------|----------|------------|------------|----------|
| 1 ^a | .26 | .07** | .07** | 5.34 | 7.86 | 1 | 108 | .01 |
| 2 ^b | .46 | .21** | .14** | 4.94 | 14.19 | 2 | 107 | .00 |
| 3 ^c | .50 | .25** | .04* | 4.83 | 11.79 | 3 | 106 | .00 |
| 4 ^d | .51 | .26** | .01 | 4.83 | 9.06 | 4 | 105 | .00 |
| 5 ^e | .51 | .26** | .01 | 4.83 | 7.46 | 5 | 104 | .00 |
| 6 ^f | .54 | .30** | .03* | 4.75 | 7.19 | 6 | 103 | .00 |
| 7 ^g | .58 | .33** | .04* | 4.65 | 7.22 | 7 | 102 | .00 |

Note. *N* = 110.

^aPredictors: (Constant), Workload.

^bPredictors: (Constant), Workload, Interpersonal conflict at work.

^cPredictors: (Constant), Workload, Interpersonal conflict at work, Organisational constraints.

^dPredictors: (Constant), Workload, Interpersonal conflict at work, Organisational constraints, Age.

^ePredictors: (Constant), Workload, Interpersonal conflict at work, Organisational constraints, Age, Death and dying-related stress.

^fPredictors: (Constant), Workload, Interpersonal conflict at work, Organisational constraints, Age, Death and dying-related stress, HIV/AIDS stigma by association.

^gPredictors: (Constant), Workload, Interpersonal conflict at work, Organisational constraints, Age, Death and dying-related stress, HIV/AIDS stigma by association, Job status.

* *p* < .05. ** *p* < .01.

Table 10

Predictors of Depersonalisation

| Variable | Depersonalisation | | | | | | | | | |
|--------------------------------------|-------------------|---------|---------|---------|---------|---------|----------|---------------|-------------|---------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | | | |
| | β | β | β | β | β | β | <i>B</i> | 95% CI | <i>SE B</i> | β |
| Constant | | | | | | | -2.33 | [-8.67, 4.01] | 3.20 | |
| Workload | .26** | .13 | .07 | .06 | .07 | .07 | 0.02 | [-0.20, 0.24] | 0.11 | .02 |
| Interpersonal conflict at work | | .40** | .32** | .31** | .31** | .28** | 0.46 | [0.15, 0.78] | 0.16 | .27** |
| Organisational constraints | | | .23* | .24* | .21* | .20 | 0.12 | [0.01, 0.22] | 0.05 | .21* |
| Age | | | | -.08 | -.09 | -.09 | -0.07 | [-0.17, 0.04] | 0.05 | -.11 |
| Death and dying-related stress | | | | | .09 | .04 | 0.02 | [-0.19, 0.22] | 0.10 | .01 |
| HIV/AIDS stigma by association | | | | | | .19* | 0.26 | [0.08, 0.44] | 0.09 | .26** |
| Job status | | | | | | | 0.91 | [0.14, 1.68] | 0.39 | .21* |

Note. *N* = 110. CI = confidence interval.

* $p < .05$. ** $p < .01$.

4.8.3 Predicting personal accomplishment

As can be seen in Table 11, the regression model explained a significant amount of the variance in personal accomplishment ($R^2 = .18$, Adjusted $R^2 = .12$, $F(7, 102) = 3.12$, $p < .01$).

Job status accounted for 9% of the variance, at a $p < .01$ significance level, while organisational constraints accounted for 4% of the variance at a $p < .05$ significance level.

The standardised beta values of the significant predictor variables indicated a negative relationship with personal accomplishment. This was as expected, as a higher level of personal accomplishment corresponds to a lower level of burnout. For the predictor variable of job status, standardised beta was significant at the $p < .01$ level ($\beta = -.32$, $t(102) = -3.26$).

Although HIV/AIDS stigma by association did not account significantly for the variance in personal accomplishment, it had a significant standardised beta value ($\beta = -.21$, $t(102) = -2.04$) at the $p < .05$ significance level. The results are summarised in Table 11 and Table 12.

Table 11

Multiple Regression Analyses for Variables Predicting Personal Accomplishment

| Model | <i>R</i> | <i>R</i> ² | ΔR^2 | <i>SE</i> | <i>F</i> | <i>df1</i> | <i>df2</i> | <i>p</i> |
|----------------|----------|-----------------------|--------------|-----------|----------|------------|------------|----------|
| 1 ^a | .13 | .02 | .02 | 7.59 | 1.73 | 1 | 108 | .19 |
| 2 ^b | .16 | .02 | .01 | 7.59 | 1.34 | 2 | 107 | .27 |
| 3 ^c | .25 | .06 | .04* | 7.49 | 2.27 | 3 | 106 | .09 |
| 4 ^d | .26 | .07 | .01 | 7.50 | 1.88 | 4 | 105 | .12 |
| 5 ^e | .29 | .08 | .02 | 7.47 | 1.85 | 5 | 104 | .11 |
| 6 ^f | .30 | .09 | .01 | 7.47 | 1.71 | 6 | 103 | .13 |
| 7 ^g | .42 | .18** | .09** | 7.15 | 3.12 | 7 | 102 | .01 |

Note. *N* = 110.

^aPredictors: (Constant), Workload.

^bPredictors: (Constant), Workload, Interpersonal conflict at work.

^cPredictors: (Constant), Workload, Interpersonal conflict at work, Organisational constraints.

^dPredictors: (Constant), Workload, Interpersonal conflict at work, Organisational constraints, Age.

^ePredictors: (Constant), Workload, Interpersonal conflict at work, Organisational constraints, Age, Death and dying-related stress.

^fPredictors: (Constant), Workload, Interpersonal conflict at work, Organisational constraints, Age, Death and dying-related stress, HIV/AIDS stigma by association.

^gPredictors: (Constant), Workload, Interpersonal conflict at work, Organisational constraints, Age, Death and dying-related stress, HIV/AIDS stigma by association, Job status.

* *p* < .05. ** *p* < .01.

Table 12

Predictors of Personal Accomplishment

| Variable | Personal accomplishment | | | | | | | | | |
|------------------------------------|-------------------------|---------|---------|---------|---------|---------|---------|----------------|------|---------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | | | |
| | β | B | B | β | β | β | B | 95% CI | SE B | β |
| Constant | | | | | | | 42.21 | [32.47, 51.94] | 4.91 | |
| Workload | -.13 | -.09 | -.04 | -.03 | -.04 | -.04 | 0.08 | [-0.25, 0.41] | 0.17 | .05 |
| Interpersonal conflict at work | | -.10 | -.02 | -.01 | -.01 | .01 | 0.03 | [-0.46, 0.51] | 0.24 | .01 |
| Organisational constraints | | | -.22* | -.22* | -.19 | -.18 | -0.15 | [-0.32, 0.01] | 0.08 | -.20 |
| Age | | | | .08 | .09 | .09 | 0.11 | [-0.05, 0.26] | 0.08 | .12 |
| Death and dying- related stress | | | | | | | -0.10 | [-0.41, 0.21] | 0.16 | -.07 |
| HIV/AIDS stigma by association | | | | | | | -0.10 | [-0.56, -0.01] | 0.14 | -.21* |
| Job status | | | | | | | -1.94 | [-3.12, -0.76] | 0.59 | -.32** |

Note. $N = 110$. CI = confidence interval.

* $p < .05$. ** $p < .01$.

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 Relationship between predictor variables (occupational stress factors and demographic characteristics) and burnout

The purpose of the research was to investigate the psychological and social predictors of burnout among nurses employed at a public hospital in the Western Cape, South Africa. Specifically, the aim was to determine the proportion of the variance in burnout that was accounted for by the linear combination of certain demographic characteristics and occupational stress factors. A secondary research aim was to determine the association between burnout and the selected predictor variables.

Five of the seven predictor variables investigated were found to significantly predict levels of burnout among nurses. These were workload, interpersonal conflict at work, job status, organisational constraints, and HIV/AIDS stigma by association. The linear combination of these variables accounted for 38% of the variance in emotional exhaustion, 32% of the variance in depersonalisation, and 12% of the variance in personal accomplishment. Except for the demographic variable of age, all predictor variables were found to be significantly associated with levels of burnout. The findings with regards to each individual predictor variable are discussed below.

5.1.1 Relationship between workload and burnout

Workload was found to be significantly positively correlated with both the emotional exhaustion and depersonalisation aspects of burnout. Workload significantly predicted burnout levels, accounting for 24% of the variance in emotional exhaustion and 7% of the variance in depersonalisation. No significant relationship was however found between workload and the personal accomplishment dimension of burnout. Among all the predictor variables, workload accounted for the largest proportion of the variance in emotional exhaustion. The contribution of workload to levels of emotional exhaustion represents a medium effect size (Cohen, 1988).

Nurses' workload has been directly linked to burnout internationally (Aiken et al., 2008; Garrosa et al., 2008; Kowalski et al., 2010; Laschinger et al., 2012). In a study among Spanish nurses, workload, experience with pain and death, and conflictual interaction predicted 26% of the variance in emotional exhaustion and 23% of the variance in depersonalisation (Garrosa et al., 2008). This finding is similar to the present findings of workload as a significant predictor of both the emotional exhaustion and depersonalisation aspects of burnout. Also similar to the present study, Garrosa et al. (2008) found that workload was the most significant predictor of emotional exhaustion among all the predictors in their study, which included job stressors, socio-demographic characteristics, and personality characteristics. Kowalski et al. (2010) also identified workload as the most significant predictor of burnout in their research study among German nurses.

Workload has also been linked directly to high levels of burnout in South African nurses (Coetzee et al., 2013; Görgens-Ekermans & Brand, 2012). The present study was conducted

among 110 nurses at a public hospital in the Western Cape, South Africa. Görgens-Ekermans and Brand (2012) studied 122 nurses in the Western Cape recruited from four private hospitals. They found that workload and home/work interface predicted 29% of the variance in the emotional exhaustion aspect of burnout, which is very similar to the present finding. Also similar to the present study's finding among public hospital nurses, a large scale study among South African nurses, found a significant relationship between workload and the emotional exhaustion aspect of burnout for nurses from public hospitals (Coetzee et al., 2013).

5.1.2 Relationship between interpersonal conflict at work and burnout

The occupational stressor of interpersonal conflict at work was significantly positively associated with both the emotional exhaustion and depersonalisation aspects of burnout. Interpersonal conflict at work significantly predicted levels of burnout, accounting for 14% of the variance in depersonalisation and 7% of the variance in emotional exhaustion. Among all the predictors in the study, interpersonal conflict at work accounted for the largest proportion of the variance in depersonalisation. The contribution of interpersonal conflict at work to levels of depersonalisation represents a medium effect size (Cohen, 1988). Similar to workload, no significant relationship was found between interpersonal conflict at work and the personal accomplishment dimension of burnout.

In the present study, interpersonal conflict at work was measured as a single construct and was not attributed to the different sources from which it originates, such as patients, physicians, other nurses, or supervisors (Guidroz et al., 2012). I was constrained by access to a limited sample size that would not accommodate additional predictor variables. The present findings could therefore

not always be directly compared or contrasted with the literature reviewed, as findings were often presented in terms of interpersonal conflict at work originating from different sources.

Taking the above into account, a relationship between interpersonal conflict at work and burnout has also been found in studies conducted elsewhere in the world (Estryn- Béhar et al., 2008; Garrosa et al., 2008; Guidroz et al., 2012). Violence from both patients and patients' relatives was found to be strongly related to burnout among a sample of European nurses ($OR = 2.39$, 95% CI [2.27, 2.54]) (Estryn- Béhar et al., 2008). Similar to the findings of the present study, a significant relationship was found internationally between interpersonal conflict at work and the emotional exhaustion and depersonalisation aspects of burnout (Guidroz et al., 2012; Laschinger et al., 2012; Ohue et al., 2011). However, in contrast to the present findings, studies conducted elsewhere in the world also support a significant relationship between interpersonal conflict at work and the personal accomplishment aspect of burnout (García-Izquierdo & Ríos-Rísquez, 2012; Garrosa et al., 2008; Gascon et al., 2012).

The present finding contributes to the existing literature with regards to support for interpersonal conflict at work as a significant predictor of burnout levels among South African nurses. Among a sample of 542 South African nurses, interpersonal conflict accounted for 1% of the variance in the emotional exhaustion and depersonalisation aspects of burnout (Engelbrecht et al., 2008). In the present study however, this occupational stressor accounted for much larger proportions of the variance in depersonalisation and emotional exhaustion respectively.

5.1.3 Relationship between job status and burnout

The demographic characteristic of job status was significantly positively correlated with the emotional exhaustion dimension of burnout and significantly negatively correlated with the personal accomplishment dimension of burnout. Job status significantly predicted levels of burnout, accounting for 9%, 7%, and 4% of the variance in personal accomplishment, emotional exhaustion, and depersonalisation respectively. A higher job status was associated with higher levels of burnout. Even though job status explained the largest proportion of the variance in personal accomplishment among all the predictor variables, the finding represents only a small effect size (Cohen, 1988).

Some support was found for a significant relationship between nurses' job status and burnout levels both internationally and locally within South Africa (Demir et al., 2003; Garrosa et al., 2008; Van der Colff & Rothmann, 2012). Among a sample of Spanish nurses, job status and age predicted 16%, 14%, and 12% of the variance in emotional exhaustion, depersonalisation, and personal accomplishment respectively (Garrosa et al., 2008). In the study by Garrosa et al., similar to the present finding, higher job statuses were associated with higher levels of burnout. In contrast, an inverse relationship between nurses' job status and levels of burnout were supported by separate studies conducted among a sample of Turkish nurses (Demir et al., 2003) and among a sample of South African nurses (Van der Colff & Rothmann, 2012). The present finding therefore advances the literature in this area by providing more support for a positive relationship between nurses' job status and burnout levels.

5.1.4 Relationship between organisational constraints and burnout

The stress factor of organisational constraints was significantly positively associated with the emotional exhaustion and depersonalisation aspects of burnout and significantly negatively associated with the personal accomplishment aspect of burnout. Organisational constraints accounted for the variance in emotional exhaustion, depersonalisation, and personal accomplishment aspects of burnout at rates of 3%, 4%, and 4% respectively.

Some support was found internationally for a significant relationship between organisational constraints and levels of burnout among nurses (Van Bogaert et al., 2009; Van der Doef et al., 2012). In a study among Belgian nurses, hospital management and organisational support directly influenced levels of emotional exhaustion (path coefficient: $-.26$) as well as levels of personal accomplishment (path coefficient: $.36$) (Van Bogaert et al., 2009). Among a sample of nurses from East Africa information provision significantly predicted the emotional exhaustion aspect of burnout ($\beta = -.20$, $p < .001$) (Van der Doef et al., 2012). Aspects of hospital management and organisational support, as well as information provision, are included in the 11 organisational constraints measured by the Organisational Constraints Scale (Spector & Jex, 1997) used in the present study.

A significant relationship between organisational constraints and levels of burnout among nurses was also found locally within South Africa (Coetzee et al., 2013; Engelbrecht et al., 2008; Van der Colff & Rothmann, 2009). Among a sample of South African nurses, participants from hospitals with more favourable practice environments, which included good leadership from nursing management and sufficient material resources, were less likely to report high levels of

burnout ($OR = 0.55$, 95% CI [0.41, 0.75]) (Coetzee et al., 2013). In a study among another sample of South African nurses, a lack of organisational support combined with job demands predicted 14% of the variance in emotional exhaustion and 7% of the variance in depersonalisation (Van der Colff & Rothmann, 2009). In the aforementioned study, the variance accounted for by organisational constraints alone (separately from job demands) was however not stated, thereby not enabling direct comparisons to be made.

The present findings could be contrasted more directly with findings from a study among nurses from the Free State (Engelbrecht et al., 2008). They found that organisational constraints alone accounted for the variance in the emotional exhaustion, depersonalisation, and personal accomplishment aspects of burnout, at rates of 14%, 5%, and 11% respectively. In the present study, organisational constraints accounted for less of the variance in levels of emotional exhaustion, depersonalisation, and personal accomplishment at rates of 3%, 4%, and 4% respectively.

5.1.5 Relationship between HIV/AIDS stigma by association and burnout

The occupational stressor of HIV/AIDS stigma by association in the nursing environment was significantly positively associated with the depersonalisation aspect of burnout and significantly negatively associated with the personal accomplishment aspect of burnout. HIV/AIDS stigma by association significantly accounted for 3% of the variance in depersonalisation and was also a significant individual predictor of personal accomplishment.

Existing literature supports HIV/AIDS stigma by association experienced by nurses as a significant occupational stress factor (Chirwa et al., 2009; Haber et al., 2011; Li et al., 2007). Only one study could however be located supporting a direct relationship between HIV/AIDS stigma by association and levels of burnout (Hayter, 1999). Among a sample of community nurse specialists in the United Kingdom, a significant relationship was found between the reported experience of stigma and discrimination and the emotional exhaustion dimension of burnout. The current finding therefore contributes to the existing literature by supporting a significant relationship between HIV/AIDS stigma by association in the nursing environment and the depersonalisation and personal accomplishment dimensions of burnout.

5.1.6 Relationship between death and dying-related stress and burnout

Death and dying-related stress was significantly positively associated with the emotional exhaustion and depersonalisation aspects of burnout and significantly negatively associated with the personal accomplishment aspect of burnout. This occupational stress factor did however not act as a significant predictor of burnout levels among the present sample of nurses.

Although death and dying-related stress was found to rank second among the seven sources of nursing stress measured by the Nursing Stress Scale both internationally and in South Africa (Chang et al., 2006; Lambert et al., 2004; Makie, 2006), only one study could be located supporting a significant relationship between death and dying-related stress and levels of burnout among nurses (Garrosa et al., 2008). In this particular study, experience with pain and death was one of three predictors accounting for 26%, 23%, and 21% of the variance in emotional exhaustion, depersonalisation, and personal accomplishment respectively. Workload and

conflictual interaction were the other predictors of emotional exhaustion and depersonalisation, while conflictual interaction and role ambiguity were the other predictors of personal accomplishment. The present finding advances the existing literature by providing more support for a significant association between death and dying-related stress and all three dimensions of burnout, specifically in the South African context.

5.1.7 Relationship between age and burnout

In the present study, the demographic characteristic of age did not demonstrate any significant relationship with levels of burnout among nurses. This finding is in contrast to the existing literature which overwhelmingly supports a significant negative association between age and levels of burnout among nurses both internationally and in South Africa (Garrosa et al., 2008; Ilhan et al., 2008; Patrick & Lavery, 2007; Poncet et al., 2007; Van der Colff & Rothmann, 2012; Xie et al., 2011). Results similar to the present finding could only be located in a study among a sample of German nurses (Kowalski et al., 2010).

5.2 Average level of burnout

A secondary aim of the research study was to determine the average level of burnout (as expressed in terms of emotional exhaustion, depersonalisation, and personal accomplishment) reported by the sample. Maslach et al. (1996) recommends cut-off points for low, average and high levels of emotional exhaustion, depersonalisation, and personal accomplishment. Levels of burnout reported by the present sample were not very high when compared with burnout levels reported by other samples of South African nurses (Coetzee et al., 2013; Engelbrecht et al., 2008; Klopper et al., 2012)

5.2.1 Average level of emotional exhaustion

In the present sample, the mean score of 20.87 for emotional exhaustion fell in the average range. In contrast, mean scores fell in the elevated range for two other samples of South African nurses (Engelbrecht et al., 2008; Klopper et al., 2012).

In the present sample 33.6% reported levels of emotional exhaustion that fell in the elevated range. This percentage is similar to a finding by Van der Colff and Rothmann (2012) among a sample of 818 South African nurses. In contrast, in two other South African nurse samples, a larger proportion of participants reported elevated levels of emotional exhaustion at rates of 45.8% and 68.7% respectively (Coetzee et al., 2013; Engelbrecht et al., 2008).

5.2.2 Average level of depersonalisation

The reported mean score for depersonalisation of 5.52 fell in the low range of burnout levels. In contrast, among a sample of Free State nurses, the mean score for depersonalisation fell in the elevated range ($M = 17.8$) (Engelbrecht et al., 2008). Only 12.7% of the current participants reported levels of depersonalisation within the elevated range. Among other South African samples, the percentage of participants with elevated levels of depersonalisation was substantially higher at rates of 20.4%, 21%, and 85.1% respectively (Engelbrecht et al., 2008; Heyns et al., 2003; Van der Colff & Rothmann, 2012).

5.2.3 Average level of personal accomplishment

The mean score on the Personal Accomplishment subscale of the Maslach Burnout Inventory was 38.13. Only 16.4% of the sample reported levels of personal accomplishment within the

elevated range. Among other samples of South African nurses, scores for personal accomplishment also supported lower levels of burnout (Akintola et al., 2013; Heyns et al., 2003).

5.3 Average level of occupational stress factors

The final secondary aim of the research was to determine the average level of the occupational stress factors of workload, interpersonal conflict at work, organisational constraints, death and dying-related stress, and HIV/AIDS stigma by association reported by the sample.

5.3.1 Average level of workload

Workload has been identified as a leading workplace stressor within the nursing profession internationally and locally in South Africa (C. L. Bester & Engelbrecht, 2009; Glazer & Gyurak, 2008; Lambert et al., 2004; Pillay, 2009). The present sample reported a high level of workload as measured by Spector and Jex's Quantitative Workload Inventory (QWI), with an average score of 19.83 out of a possible score of 25 (Spector & Jex, 1998). Very similar to the present finding, a sample of nurses from the Free State province also reported a high level of workload on average, with a mean score of 20.8 on the QWI (C. L. Bester & Engelbrecht, 2009). In the aforementioned sample workload was found to be the strongest determinant of job dissatisfaction. Among another South African sample of professional nurses, workload was reported as the second largest determinant of job dissatisfaction with public health sector nurses scoring a mean of 1.94 out of a possible 5 for workload satisfaction (Pillay, 2009).

5.3.2 Average level of interpersonal conflict at work

Numerous studies conducted elsewhere in the world have reported that nurses are subjected to both physical and non-physical violence at the workplace (AbuAlRub & Al-Asmar, 2011; Estryin- Béhar et al., 2008; Gascon et al., 2012; Nachreiner et al., 2007; Pai & Lee, 2011). In South Africa, findings regarding interpersonal conflict in the nursing environment are however somewhat mixed (C. L. Bester & Engelbrecht, 2009; Crabbe et al., 2004; Khalil, 2009; Makie, 2006). In a study conducted among healthcare staff (including nurses) in a Johannesburg trauma unit, participants reported the following for the preceding two years: the experience of verbal abuse from patients (92%), threatened assault from patients (76%), as well as physical violence from patients (42%) (Crabbe et al., 2004). Among a sample of nurses from Cape Town public hospitals, 54% of participants agreed that violence existed among nurses, with psychological violence ranked as the most commonly experienced form of violence among the six forms of violence investigated (Khalil, 2009). In this study, psychological violence was defined as all non-physical behaviours contributing to emotional discomfort for a co-worker.

In contrast, in a study among 84 nurses from the Groote Schuur Hospital in Cape Town, it was found that conflict among nurses was the least frequently reported source of stress among the seven workplace stressors measured by Gray-Toft and Anderson's (1981) Nursing Stress Scale (Makie, 2006). Among another sample of South African nurses, participants reported that among 13 aspects of job satisfaction, they were most satisfied with their relationships with patients, nursing colleagues, and doctors (Pillay, 2009).

The present sample reported low levels of interpersonal conflict at work with an average score of 9.04 out of a possible score of 20 on Spector and Jex's Interpersonal Conflict at Work Scale (ICAWS) (Spector & Jex, 1998). Very similar to the present finding, a sample of nurses in the Free State also reported low levels of interpersonal conflict on the ICAWS with a mean score of 8.9 (C. L. Bester & Engelbrecht, 2009).

5.3.3 Average level of organisational constraints

Organisational constraints include both a lack of material resources and a lack of support from management. Internationally, in low-and-middle income countries as well as in high-income countries, organisational constraints have widely been reported as a substantial occupational stress factor for nurses (Demir et al., 2003; Glazer & Gyurak, 2008; Harrowing & Mill, 2010; Wang et al., 2011).

In South Africa, among a sample of 1,187 nurses, 71% of the participants from public hospitals rated the practice environment, which included aspects such as nursing management leadership and material resources, as only poor or fair (Coetzee et al., 2013). In a study among nurses from Johannesburg, 40% reported being dissatisfied due to issues with management and 38.8% reported being dissatisfied with physical work conditions (Bruce & Sangweni, 2012).

For the present sample, a mean score of 24.29 out of a possible score of 55 was reported on the Organisational Constraints Scale (Spector & Jex, 1998), indicating a moderate number of organisational constraints. Very similar to the present finding, a sample of nurses in the Free State also reported a moderate number of organisational constraints on Spector and Jex's

Interpersonal Organisational Constraints Scale with a mean score of 24.8 (C. L. Bester & Engelbrecht, 2009). Presently, among the 11 items included in the Organisational Constraints Scale (Spector & Jex, 1998), the highest mean scores were reported for the items “Poor equipment and supplies” and “Lack of equipment and supplies”. In numerous studies among South African nurses, a lack of both medical equipment and supplies have been reported (C. L. Bester & Engelbrecht, 2009; Pendleton et al., 2007; Smit, 2005).

5.3.4 Average level of death and dying-related stress

Internationally and locally within South Africa, death and dying-related stress has been ranked second highest among the seven sources of nursing stress measured on Gray-Toft and Anderson’s Nursing Stress Scale (Chang et al., 2006; Lambert et al., 2004; Makie, 2006). In South Africa, in terms of HIV-specific care, nearly 90% of a sample of nurses caring for PLWH in the Limpopo Province reported finding it very difficult to see their patients suffer and die (Davhana-Maselesele & Igumbor, 2008). Participants from this study reported that they did not cope well with the large number of deaths due to HIV and AIDS, with three out of four reporting depression ranging from mild mood disturbance to extreme depression as measured by the Beck Depression Inventory.

In the present sample, the average score reported for death and dying-related stress was 9.81 out of a possible score of 21 on the Death and Dying subscale of the Nursing Stress Scale (Gray-Toft & Anderson, 1981). It is possible that the reported level of death-and dying related stress was not high because of the fact that nurses were recruited from all areas of the hospital. In certain areas of the hospital, such as in the theatre and in the outpatients division, nurses would possibly less

regularly come into contact with the process of death and dying than in the medical wards and in the high-care unit for example.

5.3.5 Average level of HIV/AIDS stigma by association

HIV-related stigma had been defined as “a ‘process of devaluation’ of people either living with or associated with HIV and AIDS” (UNAIDS, 2007 p. 9 cited in Haber et al., 2011, p. 541).

More specifically, associated HIV/AIDS stigma has been defined as “incidents that describe stigma against people who work or associate with HIV/AIDS-affected people” (Greeff et al., 2008, p. 91).

Both internationally and locally in South Africa, the presence of HIV/AIDS stigma by association in the nursing profession has been reported widely (Haber et al., 2011; Pham et al., 2012; Smit, 2005; Turan et al., 2008; Ullah, 2011). However, in South African studies which reported the actual proportion of participants experiencing HIV/AIDS stigma by association, the rates were not excessively high (Singh et al., 2011; Van Dyk, 2007). Among South African HIV caregivers, 32% reported fear of stigmatisation as a result of working with AIDS patients and among a sample of caregivers from hospices in Kwazulu-Natal only 13.7% reporting the experience of discrimination as a result of working with AIDS patients.

Very similar to the aforementioned rate of 13.7%, the present sample reported an average score for HIV/AIDS stigma by association of 0.43 out of a possible score of 3 on the Nurses Being Stigmatised subscale of the HIV/AIDS Stigma Instrument – Nurse (HASI-N) (Uys et al., 2009). In a more direct comparison, a sample of 1,474 nurses from five African countries (including

South Africa) scored slightly higher than the present sample on the applicable subscale of the HASI-N with a reported mean score of 0.59 (Uys et al., 2009). Again, it is possible that the reported level of HIV/AIDS stigma by association was low as nurses were recruited from all areas of the hospital. In certain areas of the hospital, nurses could possibly more regularly come into contact with HIV/AIDS patients receiving antiretroviral treatment than in other areas of the hospital.

5.4 Implications

Framed within the ecological model of human development (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2006), certain stress factors in the microsystem of occupational environment as well as the person characteristic of job status were found to significantly predict levels of burnout among nurses at Helderberg Hospital, a public hospital in the Western Cape. In terms of the microsystem, it is not only the objective properties of the environment that play a role, but also how individuals perceive these properties (Bronfenbrenner, 1979). As self-report measures were used in the present study, the focus was on participants' perceptions of the occupational stress factors in the nursing profession. Workload, interpersonal conflict at work, organisational constraints, and HIV/AIDS stigma by association were found to significantly predict levels of burnout.

Death and dying-related stress was found to be significantly correlated with all three dimensions of burnout. This occupational stress factor did however not account for a significant variance in burnout levels. In contrast to findings in existing literature, no significant relationship was found in the present sample between the demographic characteristic of age and levels of burnout.

On average, levels of burnout among the present sample of South African nurses were not found to be very high. It was however noted that 33.6% of the sample suffered from high levels of emotional exhaustion (Maslach et al., 1996). On average, a high level of workload was reported by the sample. The levels of the other occupational stress factors investigated were found to be low to moderate only.

The implication of these findings for Helderberg Hospital specifically, is that nurses' level of workload could be managed more optimally. Workload alone accounted for 24% of the variance in levels of emotional exhaustion. Due to the nature of the sample used, findings from the present study could not be generalised to the entire population of South African nurses. It is however possible that the demographic characteristic of job status and the aforementioned occupational stress factors could also predict burnout levels among nurses from other public hospitals in South Africa. Future research studies will need to establish whether this is the case.

5.5 Limitations

The sample size of 110 participants was more than adequate to investigate the seven predictor variables via the statistical technique of multiple regression analysis (Field, 2009). However, the different sources of interpersonal conflict in the nursing profession could not be investigated separately, as three additional predictor variables could not be accommodated.

A second limitation of the study is that participants were convenience sampled from only one public hospital in the Western Cape, South Africa. Findings from the present study may therefore

not be generalised to the entire population of South African nurses. The possibility of external variables being correlated with the current predictor variables could also not be eliminated, which further limits the generalisation of the regression models.

A third limitation is that because nurses were recruited from all the different areas of the hospital, all participants were likely not significantly exposed to the same level of occupational stress factors. For example, in the theatre and in the outpatients division, nurses were less likely to come into contact with the process of death and dying than in the medical wards and in the high-care unit. Nurses who care specifically for patients receiving antiretroviral treatment were also more likely to be exposed to HIV/AIDS stigma by association compared to other nurses.

A fourth limitation is that as a result of the questionnaires being self-administered, the possibility exists that participants could have been influenced by others during the completion of questionnaires. In an effort to address this risk, participants were requested via instructions included in the questionnaire pack to complete the questionnaires entirely by themselves.

The fifth limitation of the study includes the general limitations inherent to self-report measures, including social desirability bias. Participants may have viewed it as socially undesirable to suffer from high levels of burnout, to not be affected by the process of death and dying, or to be involved in interpersonal conflict at work. The titles of the measuring instruments were removed in an effort to limit the risk of social desirability bias. The anonymity of participants' responses is expected to have also decreased the risk of such bias. Finally, due to feeling vulnerable, participants may have inhibited the severity of their ratings of unfavourable work conditions. The

measures taken to ensure complete anonymity, including the option of an informed consent with no signature, may have limited this risk.

Lastly, it was noted as a limitation that the informed consent forms were only made available in Afrikaans and English. Some participants may therefore not have been provided with informed consent forms in the language of their personal choice.

5.6 Recommendations for future studies

First and foremost, taking into account the present findings regarding predictors of burnout among South African nurses, the development and evaluation of interventions to ameliorate burnout among South African nurses are recommended.

The present study could be replicated fully or partially at other public hospitals in South Africa. In this manner additional support could be gained for workload, interpersonal conflict at work, job status, organisational constraints, and HIV stigma by association as significant predictors of burnout levels among South African nurses. In the present study, age and death and dying-related stress were not found to significantly predict levels of burnout. The contribution of these variables to burnout levels among South African nurses could be investigated in additional samples.

If time and funding allows, a large scale study with a sample randomly selected from public hospitals covering all nine provinces in South Africa would be recommended. Findings from

such a study could be generalised to the entire population of South African nurses on condition that all other assumptions for generalisation are met.

Numerous factors which contribute to high levels of burnout have been documented (Maslach et al., 2001). Due to time constraints, the present study investigated only some of these factors which were regarded as significant for South African nurses. In future research, the contribution of other occupational stress factors, other demographic characteristics, and also personality factors (Maslach et al., 2001), to burnout levels among South African nurses could be investigated. The different sources of interpersonal conflict in nurses' occupational environment could also be investigated separately. Sources of interpersonal conflict could for example include patients, physicians, other nurses, and supervisors (Guidroz et al., 2012).

5.7 Concluding remarks

High levels of burnout have been linked to nurses' intention to leave the profession (Estryn-Béhar et al., 2007; Pienaar & Bester, 2011). The public health system in South Africa is already characterised by a shortage of nurses (Oosthuizen, 2012; Solidarity Helping Hand, 2010), which could potentially have adverse consequences for general patient care as well as HIV/AIDS specific care in South Africa (Kagee et al., 2012; Rafferty et al., 2007). The present contribution to the literature regarding predictors of burnout among South African nurses could act to guide policy and interventions for retaining nurses in the nursing profession in South Africa.

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Appendix A**Flyer****ADVERTISEMENT*****NURSES REQUIRED***

You are invited to participate in a study about burnout among nurses. To participate, you will need to complete questionnaires which will be available in both English and Afrikaans. It will take approximately 45 minutes of your time. You will receive a grocery shopping voucher worth R50 as a gesture of thanks. Your identity will remain anonymous. If you would like to participate, please sign up with the night supervisors or day shift coordinators. Please ask them for the researcher's contact details if you would like to find out more about the study before signing up.

ADVERTENSIE***VERPLEEGSTERS BENODIG***

U word uitgenooi om deel te neem aan 'n studie oor uitbranding onder verpleegsters. Om deel te neem, sal u vraelyste moet voltooi wat beskikbaar sal wees in beide Engels en Afrikaans. Dit sal ongeveer 45 minute van u tyd in beslag neem. U sal 'n kruideniersware geskenkbewys ter waarde van R50 ontvang as 'n gebaar van dank. U identiteit sal anoniem bly. As u wil deelneem, teken asseblief in by die nag toesighouers of dagskof koördineerders. Vra hulle asseblief vir die navorser se kontakbesonderhede indien u graag meer wil uitvind oor die studie voor u inteken.

Appendix B

Demographic questionnaire

Please state your age: _____ Date of Birth: Day / Month / Year

PLEASE INDICATE THE FOLLOWING ANSWERS BY MAKING AN (X) IN THE APPROPRIATE BOX.

Gender:

- Male Female

Race:

- African Indian
 Coloured Other (Please state: _____).
 White

What is your current marital status?

- Single Widowed
 Separated Married or living with a significant other in a marriage-like relationship
 Divorced

What is your current living situation?

- Live alone Live with children only
 Live with other adults(s), no children Live in an institution or retirement home
 Live with other adults and children

Please select the highest level of education that you have completed:

- No formal education Three year bachelor's degree or equivalent
 Primary school Honours degree
 Matric Advanced degree
 Some college, university or technikon

What is your current job status?

- Enrolled nurse assistant (ENA) Completing community service
 Enrolled nurse (EN) Professional nurse

In which area of the hospital do you work mostly?

- A-ward High-care unit
 B-ward Office
 E-ward Maternity ward
 G-ward Casualty / D-ward
 P-ward Theatre
 Outpatients

Which shift do you work mostly?

- Day Night

How long have you been working as a nurse? ____ years ____ months

Which of the following best describes your approximate **annual** family income from all sources, before taxes?

- Less than R12,000
- R12,001-R40,000
- R40,001-R80,000
- R80,001-R110,000

- R110,001-R170,000
- R170,001-R240,000
- R240,001 and above
- Do not know

Where were you born? Town/ City: _____

What is your first language? _____

Which other languages do you speak? _____

Appendix C

Maslach Burnout Inventory – Human Services Survey (Maslach et al., 1996)

Please read each statement carefully and decide if you ever feel this way **about your job**. If you have **never** had this feeling, write a “0” (zero) before this statement. If you have had this feeling, indicate **how often** you feel it by writing the number (from 1 to 6) that best describes how frequently you feel that way. Your responses are strictly confidential.

| HOW OFTEN: | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|------------|-------|-------------------------------------|----------------------------|---------------------------|----------------|--------------------------|-----------|
| | Never | A few times a year or less | Once a month or less | A few times a month | Once a week | A few times a week | Every day |

HOW OFTEN

0-6

Statements:

1. _____ I feel emotionally drained from my work.
2. _____ I feel used up at the end of the workday.
3. _____ I feel fatigued when I get up in the morning and have to face another day on the job.
4. _____ I can easily understand how my patients feel about things.
5. _____ I feel I treat some patients as if they were impersonal objects.
6. _____ Working with people all day is really a strain for me.
7. _____ I deal very effectively with the problems of my patients.
8. _____ I feel burned out from my work.
9. _____ I feel I'm positively influencing other people's lives through my work.
10. _____ I've become more callous toward people since I took this job.
11. _____ I worry that this job is hardening me emotionally.
12. _____ I feel very energetic.
13. _____ I feel frustrated by my job.
14. _____ I feel I'm working too hard on my job.
15. _____ I don't really care what happens to some patients.
16. _____ Working with people directly puts too much stress on me.
17. _____ I can easily create a relaxed atmosphere with my patients.
18. _____ I feel exhilarated after working closely with my patients.
19. _____ I have accomplished many worthwhile things in this job.
20. _____ I feel like I'm at the end of my rope.
21. _____ In my work, I deal with emotional problems very calmly.
22. _____ I feel patients blame me for some of their problems.

Appendix D

Quantitative Workload Inventory (Spector & Jex, 1998)

Please read each statement carefully. Indicate **how often** this happens by writing the number (from 1 to 5) that best describes how frequently it happens. Your responses are strictly confidential.

| HOW OFTEN: | 1 | 2 | 3 | 4 | 5 |
|------------|--|----------------------------|---------------------------|--------------------------|--------------------------|
| | Less than once per month or never | Once or twice per month | Once or twice per week | Once or twice per day | Several times per day |

HOW OFTEN

1-5

Statements:

1. _____ How often does your job require you to work very fast?
2. _____ How often does your job require you to work very hard?
3. _____ How often does your job leave you with little time to get things done?
4. _____ How often is there a great deal to be done?
5. _____ How often do you have to do more work than you can do well?

Appendix E

Interpersonal Conflict at Work Scale (Spector & Jex, 1998)

Please read each statement carefully and decide if this ever happens at work. If this **never** happens at work, write a “1” (one) before this statement. If this has happened at work, indicate **how often** it happens by writing the number (from 2 to 5) that best describes how frequently it happens. Your responses are strictly confidential.

| HOW OFTEN: | 1 | 2 | 3 | 4 | 5 |
|------------|-------|--------|-----------|-------------|------------|
| | Never | Rarely | Sometimes | Quite often | Very often |

HOW OFTEN

1-5

Statements:

1. _____ How often do you get into arguments with others at work?
2. _____ How often do other people yell at you at work?
3. _____ How often are people rude to you at work?
4. _____ How often do other people do nasty things to you at work?

Appendix F

Organisational Constraints Scale (Spector & Jex, 1998)

Indicate **how often** you find it difficult or impossible to do your job because of the events described below. Write the number (from 1 to 5) that best describes how frequently you find it difficult or impossible to do your job because of the particular event. Your responses are strictly confidential.

| HOW OFTEN: | 1 | 2 | 3 | 4 | 5 |
|------------|--|----------------------------|---------------------------|--------------------------|--------------------------|
| | Less than once per month or never | Once or twice per month | Once or twice per week | Once or twice per day | Several times per day |

HOW OFTEN

1-5

Statements:

1. _____ Poor equipment or supplies.
2. _____ Organisational rules and procedures.
3. _____ Other employees.
4. _____ Your supervisor.
5. _____ Lack of equipment or supplies.
6. _____ Inadequate training.
7. _____ Interruptions by other people.
8. _____ Lack of necessary information about what to do or how to do it.
9. _____ Conflicting job demands.
10. _____ Inadequate help from others.
11. _____ Incorrect instructions.

Appendix G

Nursing Stress Scale – Death and Dying subscale (Gray-Toft & Anderson, 1981)

Please read each statement carefully. Below is a list of situations that commonly occur on a hospital unit. For each item indicate **how often** on your present unit you have found the situation to be stressful. If you have **never** found the situation to be stressful, write a “0” (zero) before this statement. If you have found the situation to be stressful, indicate **how often** you find it to be stressful by writing the number (from 1 to 3) that best describes how frequently you find it to be stressful. Your responses are strictly confidential.

| HOW OFTEN: | 0 | 1 | 2 | 3 |
|------------|-------|--------------|------------|-----------------|
| | Never | Occasionally | Frequently | Very frequently |

HOW OFTEN

0-3

Statements:

1. _____ Performing procedures that patients experience as painful
2. _____ Feeling helpless in the case of a patient who fails to improve
3. _____ Listening or talking to a patient about his/her approaching death
4. _____ The death of a patient
5. _____ The death of a patient with whom you developed a close relationship
6. _____ Physician not being present when a patient dies
7. _____ Watching a patient suffer

Appendix H

HIV/AIDS Stigma Instrument - Nurse - Nurses Being Stigmatised subscale (Uys et al., 2009)

Please read each statement carefully. We would like to know about your experiences as a nurse working with people living with HIV/AIDS. Please mark how often you have observed the described event during the past three months. If you have **never** observed the event, write a “0” (zero) before this statement. If you have observed the event, indicate **how often** you have observed it by writing the number (from 1 to 3) that best describes how frequently you have observed the event in the past three months. Your responses are strictly confidential.

| HOW OFTEN: | 0 | 1 | 2 | 3 |
|------------|-------|---------------|---------------|------------------|
| | Never | Once or twice | Several times | Most of the time |

HOW OFTEN

0-3

Statements:

1. _____ People said nurses who provide HIV/AIDS care are HIV-positive.
2. _____ People said nurses would only work with HIV/AIDS patients if they had AIDS themselves.
3. _____ Someone said that nurses who care for HIV/AIDS patients spread the disease.
4. _____ People said nurses who work in homecare are HIV-positive.
5. _____ Someone called a nurse names because she takes care of HIV/AIDS patients.
6. _____ A nurse was stigmatised because of the HIV/AIDS services she provides.
7. _____ The spouse of a nurse who cares for HIV/AIDS patients feared that the nurse would bring the virus from work and give it to him/her.
8. _____ People said that nurses get infected by taking care of people with HIV/AIDS.
9. _____ People made negative remarks about nurses involved with HIV/AIDS care.

Appendix I

Participant information and consent form

PARTICIPANT INFORMATION LEAFLET

TITLE OF THE RESEARCH PROJECT: Investigating Burnout among Nurses in the Western Cape

REFERENCE NUMBER: S13/05/098

PRINCIPAL INVESTIGATOR: Ms Jeanette Steenkamp

ADDRESS: Wilcocks Building, Ryneveld Street, Stellenbosch, 7600

CONTACT NUMBER: 083 417 8156

Dear Madam/Sir

My name is Jeanette Steenkamp and I am a Masters student in the Psychology Department at Stellenbosch University. I would like to invite you to participate in a research project that aims to investigate burnout among nurses.

Please take some time to read the information presented here, which will explain the details of this project and contact me if you require further explanation or clarification of any aspect of the study. Also, your participation is **entirely voluntary** and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

This study has been approved by the **Health Research Ethics Committee (HREC) at Stellenbosch University** and will be conducted according to accepted and applicable National and International ethical guidelines and principles, including those of the international Declaration of Helsinki October 2008.

The study will be conducted at Helderberg Hospital. The broad objectives of the research project are:

- To determine the level of burnout present among nurses
- To investigate to what extent certain stress factors at work and age and job status contribute to levels of burnout among nurses

You have been invited to participate in your capacity as a nurse employed at Helderberg Hospital. The aim is to recruit 105 nurses. To participate, you will need to complete seven questionnaires in paper form in your own time. It will take approximately 45 minutes to

complete. The research findings could guide interventions to address high levels of burnout present among nurses in South Africa.

Please note that your responses will be anonymous as your name will not appear on any of the questionnaires or on this consent form. Your identity will therefore remain anonymous in the event of the information being used in a thesis or publication. Furthermore, the completed questionnaires and consent forms will be stored in a locked drawer. The principal investigator and her supervisor will have access to research records. Additionally, study monitors or auditors or HREC members may need to inspect research records. All information collected will be treated confidentially.

There is a risk that you may experience slight psychological discomfort during or after answering the questions in the questionnaires. In such event, you may contact Lifeline Western Cape for free telephonic counselling support at 086 132 2322 or 021 461 1111. Alternatively, you may also contact their offices to make an appointment for free counselling in person: Bishop Lavis: 021 934 4822, Cape Town: 021 461 1113, Khayelitsha: 021 361 9197.

There will be no costs involved for you, if you do take part in this study. You will be presented with a grocery shopping voucher worth R50 to thank you for your time spent in taking part in this study. These costs will be funded from the research supervisor's discretionary research funds.

- You can contact Ms Jeanette Steenkamp at 083 417 8156 if you have any further queries or encounter any problems.
- You can contact the Health Research Ethics Committee at 021-938 9207 if you have any concerns or complaints that have not been adequately addressed by the principal investigator.
- You will receive a copy of this information and consent form for your own records.

If you are willing to participate in this study please sign the attached Declaration of Consent and hand it to the investigator.

Yours sincerely

Ms Jeanette Steenkamp

Declaration by participant

By signing below, I Subject No..... agree to take part in a research study entitled *Investigating Burnout among Nurses in the Western Cape*.

I declare that:

- I have read the attached information leaflet and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is **voluntary** and I have not been pressurised to take part.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to.

Signed at (*place*) On (*date*) 2013.

.....

Signature of participant

Appendix J

Participant information and consent form (alternative version)

PARTICIPANT INFORMATION LEAFLET

TITLE OF THE RESEARCH PROJECT: Investigating Burnout among Nurses in the Western Cape

REFERENCE NUMBER: S13/05/098

PRINCIPAL INVESTIGATOR: Ms Jeanette Steenkamp

ADDRESS: Wilcocks Building, Ryneveld Street, Stellenbosch, 7600

CONTACT NUMBER: 083 417 8156

Dear Madam/Sir

My name is Jeanette Steenkamp and I am a Masters student in the Psychology Department at Stellenbosch University. I would like to invite you to participate in a research project that aims to investigate burnout among nurses.

Please take some time to read the information presented here, which will explain the details of this project and contact me if you require further explanation or clarification of any aspect of the study. Also, your participation is **entirely voluntary** and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

This study has been approved by the **Health Research Ethics Committee (HREC) at Stellenbosch University** and will be conducted according to accepted and applicable National and International ethical guidelines and principles, including those of the international Declaration of Helsinki October 2008.

The study will be conducted at Helderberg Hospital. The broad objectives of the research project are:

- To determine the level of burnout present among nurses
- To investigate to what extent certain stress factors at work and age and job status contribute to levels of burnout among nurses

You have been invited to participate in your capacity as a nurse employed at Helderberg Hospital. The aim is to recruit 105 nurses. To participate, you will need to complete seven questionnaires in paper form in your own time. It will take approximately 45 minutes to

complete. The research findings could guide interventions to address high levels of burnout present among nurses in South Africa.

Please note that your responses will be anonymous as your name will not appear on any of the questionnaires. Your identity will also remain anonymous in the event of the information being used in a thesis or publication. Furthermore, the completed questionnaires and consent forms will be stored in a locked drawer. The principal investigator and her supervisor will have access to research records. Additionally, study monitors or auditors or HREC members may need to inspect research records. All information collected will be treated confidentially.

There is a risk that you may experience slight psychological discomfort during or after answering the questions in the questionnaires. In such event, you may contact Lifeline Western Cape for free telephonic counselling support at 086 132 2322 or 021 461 1111. Alternatively, you may also contact their offices to make an appointment for free counselling in person: Bishop Lavis: 021 934 4822, Cape Town: 021 461 1113, Khayelitsha: 021 361 9197.

There will be no costs involved for you, if you do take part in this study. You will be presented with a grocery shopping voucher worth R50 to thank you for your time spent in taking part in this study. These costs will be funded from the research supervisor's discretionary research funds.

- You can contact Ms Jeanette Steenkamp at 083 417 8156 if you have any further queries or encounter any problems.
- You can contact the Health Research Ethics Committee at 021-938 9207 if you have any concerns or complaints that have not been adequately addressed by the principal investigator.
- You will receive a copy of this information and consent form for your own records.

Yours sincerely

Ms Jeanette Steenkamp

Declaration by participant

I declare that:

- I have read the attached information leaflet and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is **voluntary** and I have not been pressured to take part.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to.
- My participation in the study entitled *Investigating Burnout among Nurses in the Western Cape* indicates that I consented to participation.