PSYCHOMETRIC PROPERTIES OF THE COPENHAGEN BURNOUT INVENTORY IN A SOUTH AFRICAN CONTEXT

by

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ABSTRACT

Burnout is a prevalent problem in South Africa, affecting individuals and organisations in various industries. The study of burnout in South Africa is important in order to solve the burnout problem. Valid and reliable measurement instruments are necessary to conduct studies on burnout. The Copenhagen Burnout Inventory was developed as a result of criticism against the most popular burnout measure, namely the Maslach Burnout Inventory. The Copenhagen Burnout Inventory measures burnout in terms of three factors, namely personal burnout, work-related burnout and client-related burnout.

Although the Copenhagen Burnout Inventory is a unique tool for the measurement of burnout, very little attention has been paid to determining the psychometric properties of this instrument.

The purpose of the study was to determine whether the Copenhagen Burnout Inventory can be used as a valid and reliable measure for burnout in South Africa.

The research methodology followed a quantitative survey research approach. A non-probability snowball sample of 215 respondents completed the Copenhagen Burnout Inventory. Data obtained was used to conduct an exploratory factor analysis and internal reliability analysis.

The study proved that the Copenhagen Burnout Inventory can be used in South Africa to measure two factors with high internal reliabilities, namely exhaustion ($\alpha=0.935$) and client-related burnout ($\alpha=0.913$). It is recommended that additional items based on withdrawal should be added to the work-related burnout scale of the Copenhagen Burnout Inventory. Such additional items might possibly lead to confirmation of the original three-factor model in a South African context.

DECLARATION

I, *Anna Maria Smit*, declare that *Psychometric properties of the Copenhagen Burnout Inventory* is my own work. All the resources I have used for this study are cited and referred to in the reference list by means of a comprehensive referencing system. I declare that the content of this dissertation has never been used for any qualification at any tertiary institution before.

Anna Maria Smit   _____   _____

NAME   SIGNATURE   DATE

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CHAPTER 1

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1   INTRODUCTION

The purpose of this study is to determine the psychometric properties of a burnout inventory that was developed as a result of criticism against the most popular measure of burnout in the history of the concept, namely the Maslach Burnout Inventory (MBI).

The Maslach Burnout Inventory was developed in 1981 and has been the most popular measure for burnout ever since. Kristensen, Borritz, Villadsen and Christensen (2005), disagreed with the Maslach Burnout Inventory on several grounds, and therefore developed the Copenhagen Burnout Inventory (CBI).

Although the Copenhagen Burnout Inventory is a unique measurement of burnout, not much attention has been paid to determining the psychometric properties of this unique questionnaire.

Chapter 1 discusses the background to the research, as well as the research problem related to the study.

1.2   BACKGROUND TO THE RESEARCH

Burnout is a phenomenon that has been responsible for physical, emotional, behavioural and interpersonal symptoms causing harm to the many individuals suffering from this phenomenon, their fellow beings and their organisations.

Although the burnout phenomenon existed before 1947, it was only termed *burnout* in the 1970s (Maslach, Schaufeli & Leiter, 2001). In 1974, the first psychological piece on burnout was published, written by Freudenberger (Savicki & Cooley, 1982).

Since 1974, researchers have never lost interest in this phenomenon and literature has grown tremendously.

The most widely accepted definition for burnout is the three-component definition of Maslach et al. (2001), which defines burnout as a syndrome of emotional exhaustion, depersonalisation and diminished personal accomplishment which often appears in individuals who work with other people.

The Maslach Burnout Inventory (MBI) was developed in 1981 to measure burnout in terms of emotional exhaustion, depersonalisation, and personal accomplishment, in accordance with the developers' three-component definition of burnout (Maslach & Jackson, 1981). Since the development of this burnout inventory, it has been the most common measure of professional burnout in the empirical literature (Evans & Fischer, 1993; Maslach, Schaufeli & Leiter, 2001; Worley, Vassar, Wheeler & Barnes, 2008).

Although the Maslach Burnout Inventory is the most widely used measure of burnout, various papers criticised this measure and its underlying model. One such paper is that of Kristensen et al. (2005), developers of the Copenhagen Burnout Inventory. The Copenhagen Burnout Inventory (CBI) was developed as a result of its developers' criticism against the Maslach Burnout Inventory (Kristensen et al., 2005). Kristensen et al. (2005) disagreed with the popular three-component conceptualisation of Maslach and Jackson, and based the Copenhagen Burnout Inventory on their own understanding of *burnout*.

Kristensen et al. (2005) understood *burnout* as a phenomenon with fatigue and exhaustion as its core, but the attribution of fatigue and exhaustion to specific domains in a person's life is the additional key feature. These domains include work, and a more specific domain, client work. Based on this understanding, Kristensen et al. (2005) developed the Copenhagen Burnout Inventory to measure personal burnout, work-related burnout, and client-related burnout. Although Kristensen et al. (2005) state that the Copenhagen Burnout Inventory can be used to measure burnout by comparing the scale for personal burnout with the scales related to work,

the developers did not test the construct validity of the questionnaire. In the broad array of burnout research, only one study determining the psychometric properties of the Copenhagen Burnout Inventory could be found by the researcher, and after thorough research, no studies testing the CBI in a South African context could be found.

The aim of this study is to determine the psychometric properties of the Copenhagen Burnout Inventory in a South African context.

1.3   PROBLEM STATEMENT

There are numerous reasons why research on burnout is important and why research has the potential to enhance understanding of health and performance consequences of stress at work. One of the reasons is that burnout appears to be quite prevalent in developed countries (Shirom, 2005) and involves high costs for employers (Maslach, Schaufeli & Leiter, 2001; Shirom, 2005). Another reason is that burnout is remarkably stable when studied across time on the same individuals (Shirom, 2005), and therefore research should be done to decrease individuals' levels of burnout. A third reason is that the chronic nature of burnout is probably due to work-related characteristics, and not due to genetic or personality origins (Maslach et al., 2001; Shirom, 2005). Therefore, research should be conducted to determine those work-related characteristics leading towards burnout, as well as to determine successful strategies for reducing burnout as a result of work-related characteristics.

In order to obtain empirical evidence regarding the burnout phenomenon, it is necessary that reliable and valid measuring instruments are in place to measure burnout and aspects related to burnout. By making use of valid and reliable burnout measurement instruments, general work-related characteristics can be identified in order to prevent or decrease burnout among employees, and therefore to minimise the effects of burnout on employers. As South Africa is generally classified as a developing country (American Mathematical Society, 2011), and since several studies such as Montgomery, Mostert and Jackson (2005); Rothmann (2008) and Stodal and Stewart-Smith (2011) indicate that burnout is a prevalent problem among

South African employees in various occupations, the study of burnout in South Africa is a matter of importance.

The Copenhagen Burnout Inventory is a questionnaire that was developed to measure burnout. The Copenhagen Burnout Inventory is thus a potential method for obtaining valuable empirical evidence regarding the burnout phenomenon. In order to obtain valuable empirical evidence by making use of the CBI, it is important that this measure is valid and reliable. Valid and reliable burnout measures are not only important for empirical research, but also for individual assessment (Schaufeli, Enzmann & Girault, 1993).

After conducting a search on EBSCOHost, the researcher could not find any studies determining the psychometric properties of the Copenhagen Burnout Inventory in a South African context. Only 14 results were generated with *Copenhagen Burnout Inventory* and *psychometric properties* as keywords. Only six results were generated where *Copenhagen Burnout Inventory* appeared in the title of the article. It is thus clear that the evaluation of psychometric properties of this burnout measurement has not received much attention from researchers yet. The need therefore exists to determine the psychometric properties of the Copenhagen Burnout Inventory in a South African context.

1.4 PURPOSE STATEMENT

The purpose of this study is to determine the psychometric properties of the Copenhagen Burnout Inventory in order to discover whether the three constructs of the inventory are valid, and whether the inventory is reliable when completed by individuals of the South African workforce.

1.5 RESEARCH OBJECTIVES

The study has been guided by the following specific objectives:

- To conduct a research study on the concept of *burnout;*
- To determine the psychometric properties of the Copenhagen Burnout Inventory by means of exploratory factor analysis and Cronbach's alpha coefficients;
- To determine whether differences between biographical groups exist in terms of their responses towards each extracted construct.

1.6 SIGNIFICANCE OF THE STUDY

After a thorough search through the array of literature on burnout, it seems that this study is the first study to use the Copenhagen Burnout Inventory as burnout measurement instrument in a South African context.

Although the Copenhagen Burnout Inventory was published in 2005 (Kristensen et al., 2005) with the purpose of measuring persons' levels of burnout, the developers never determined the construct validity of the questionnaire. After searching through the literature available on the Copenhagen Burnout Inventory, the researcher became aware that very little attention was given to determining the psychometric properties of the Copenhagen Burnout Inventory.

This study is therefore significant since it is possibly the first study to use the Copenhagen Burnout Inventory in a South African context, and one of few studies to determine the psychometric properties of this instrument.

Further to the abovementioned points of significance, the Copenhagen Burnout Inventory was developed in such a way that the questionnaire could distinguish between an individual's feelings of burnout due to his/her job, and feelings of burnout due to personal problems (Kristensen et al., 2005). This characteristic of the

Copenhagen Burnout Inventory contributes to the significance of the study since individuals who are exhausted due to personal problems, will most probably score high on any burnout questionnaire due to a continuous feeling of exhaustion. High burnout scores on an instrument developed to measure burnout at work could thus incorrectly lead to assumptions that burnout exists due to organisational factors. By making use of the Copenhagen Burnout Inventory, scores will indicate when a person's feelings of burnout originate from personal problems. However, this point of significance is only valid if this study could proof that the personal burnout scale does indeed exist, and that there is a clear distinction between the work-related scales and the personal burnout scale.

1.7 ABBREVIATIONS

The researcher used several abbreviations in conducting the study. Table 1.1 provides an explanation of the abbreviations that has been used in this research study.

Table 1.1: Abbreviations used in the study

Abbreviation	Explanation
CBI	Copenhagen Burnout Inventory
SPSS	Statistical Package for the Social Sciences
MBI	Maslach Burnout Inventory
MBI-GS	Maslach Burnout Inventory – General Survey
ANOVA	Analysis of variance

1.8 CHAPTER OUTLINE

The study consists of a literature study (**Chapter 2**), a discussion of the research design and methods used to conduct this study (**Chapter 3**), a representation of the results of the study (**Chapter 4**), and finally, a thorough discussion of the results (**Chapter 5**).

The literature study involves a discussion of the burnout phenomenon as a result of an in-depth literature study on burnout. This discussion of the phenomenon is followed by a discussion of the most popular measurement instrument for burnout, namely the Maslach Burnout Inventory, and the way in which its existence relates to the development of the Copenhagen Burnout Inventory.

After an in-depth discussion on the burnout phenomenon and the evolution of the questionnaire in question, **Chapter 3** provides a detailed description of the research design and the methods used in order to determine the psychometric properties of the Copenhagen Burnout Inventory. This chapter consists of discussions on the overall research design, the population and research sample, the data collection methods, and the procedure of statistical analysis used.

Chapter 4 provides the reader with images and tables of the results obtained from the statistical analysis, as well as written explanations thereof.

In **Chapter 5,** the researcher provides a discussion and interpretation of results, as well as limitations and recommendations.

CHAPTER 2
LITERATURE REVIEW

2.1   INTRODUCTION

Chapter 2 is based on the work of previous researchers to firstly, provide the reader with a conceptual framework of burnout, factors influencing burnout, consequences of burnout, and finally, strategies for reducing burnout. Secondly, this chapter discusses the Maslach Burnout Inventory as well as criticism against the MBI and how the points of criticism led to the development of the Copenhagen Burnout Inventory.

2.2   EVOLUTION OF THE BURNOUT PHENOMENON

According to Maslach et al. (2001), the term *burnout* was derived from *A burnt-out case,* a novel written by Greene in 1961. This novel is about a disenchanted and spiritually tormented architect who quit his job to withdraw into the African jungle. According to Maslach et al*.* (2001), even earlier fictional and non-fictional writings describe a phenomenon consisting of tremendous fatigue together with loss of idealism and passion for one's work.

It seems as if the first psychological article on burnout was published in 1974, written by Freudenberger (Savicki & Cooley, 1982). The use of the term *burnout* started to appear more regularly in the 1970s, especially among employees in the human service sector (Maslach et al. 2001). Although burnout probably existed before 1974, it was labelled and explained differently (Savicki & Cooley, 1982).

The now so popular burnout phenomenon was at first seen as non-scholarly popular psychology (Maslach et al., 2001). The approach used for burnout research was initially a bottom-up approach, which means that research was derived from people's workplace experiences. This is interesting since most research on the workplace

uses a top-down approach, which means that research is derived from a scholarly theory (Maslach et al., 2001).

It is the significant power of the term *burnout* to capture people's experiences at work that has made it important in the research field (Maslach et al., 2001). According to Savicki and Cooley (1982), the term *burnout* and the growing literature on the burnout concept since 1974 represented a confidence that burnout should be studied as a phenomenon of the helping profession, rather than as a result of an individual defect.

Burnout was discovered by people who were in actual fact conducting studies on emotion, more specifically, on how people interpret and understand their own emotions. Interviews were conducted on healthcare professionals, since they were the people most likely to experience the phenomenon in question. One of the themes that were derived from these interviews was that the process of healthcare can be excessively emotionally stressful for the provider. This emotional stress was often harmful or unbearable. Results of these interviews happened to dovetail with phenomena in legal services where poverty lawyers experienced a similar phenomenon, which they called burnout. Except for subscribing the useful term *burnout* to the found phenomena, this parallel finding also contributed to the realisation that emotional strain was not unique to the healthcare profession, but rather that there was something unique about people work that could result in burnout if not dealt with effectively (Maslach & Jackson, 1984).

Now that the evolution of the now-so-popular burnout phenomenon has been described, definitions and understandings of researchers in the field will be provided in the following section.

2.3   CONCEPTUALISATION OF BURNOUT

Daley (1979) defines burnout as a reaction to job-related stress, which varies with regard to the intensity and duration of the stress itself. He further explains that

burnout may be visible in workers who become emotionally detached from their jobs, and might eventually lead to them leaving their jobs.

Maslach and Jackson (1981, p. 99), two pioneers in the study of the burnout concept, define burnout as "a syndrome of Emotional Exhaustion and Cynicism that occurs frequently among individuals who do people work". According to Cordes and Dougherty (1993), the three-component conceptualisation used by Maslach and Jackson is the most commonly accepted definition of burnout. More recent literature also clearly indicates that the three-component conceptualisation is still the most widely used definition for burnout. Maslach and Jackson (1984) define *burnout* more specifically as a syndrome of emotional exhaustion, depersonalisation and diminished personal accomplishment, which often appears in individuals who work with other people.

2.3.1 Emotional exhaustion

According to Maslach and Jackson (1984), *emotional exhaustion* is a key aspect of the burnout syndrome. Emotional exhaustion is the feelings of being emotionally drained by contact with other people. Emotionally exhausted employees may also feel that they cannot give any more of themselves at a psychological level since their emotional resources are depleted (Maslach & Jackson, 1981; Maslach & Jackson 1984).

2.3.2 Depersonalisation/Cynicism

Depersonalisation, also called dehumanisation, is the development of cynical feelings and callous attitudes by burnt-out employees towards their clients (Maslach & Jackson, 1981; Maslach & Jackson, 1984). *Depersonalisation* is an attempt by individuals to distance themselves from their clients by discarding the qualities that make them unique persons (Maslach et al., 2001).

2.3.3 Diminished personal accomplishment

Diminished personal accomplishment is a tendency in employees to evaluate themselves negatively, especially with regard to their work with clients. These individuals will feel that they have become less competent, and less successful in their work (Maslach & Jackson, 1981; Maslach & Jackson, 1984).

Although the three-component conceptualisation remains the most commonly accepted definition of *burnout*, it has become increasingly clear from empirical studies using the MBI, that the personal accomplishment component, termed professional efficacy in the general survey, might not be part of the total concept of burnout since it develops largely independent from the other two components (Schutte, Toppinen, Kalimo & Schaufeli, 2000). However, it is possible that the findings of the empirical studies reflect a statistical artefact (Schaufeli & Taris, 2005). The items of the efficacy component are positively worded, while the items of the other two components are negatively worded. Since low levels of efficacy indicate burnout, the scores for efficacy are reversed (Schaufeli & Salanova, 2007). Schaufeli and Salanova (2007) found that correlations between the efficacy component and the other two components increased significantly when the Efficacy items were worded negatively. Therefore, these authors suggested that an inefficacy scale should be used in future, rather than an efficacy scale.

Kristensen et al. (2005), the developers of the Copenhagen Burnout Inventory, do not agree with the three-component definition of *burnout* and understand the burnout concept as mainly fatigue and exhaustion. The additional key feature, according to Kristensen et al. (2005), is the attribution of the experienced fatigue and exhaustion to specific domains in a person's life. According to Kristensen et al. (2005), their understanding of the burnout concept corresponds with historical definitions of *burnout*, as well as with the recent definition by leading researchers in the burnout field, Schaufeli and Greenglass (2001, p. 501), who defines burnout as "a state of physical, emotional and mental exhaustion that results from long-term involvement in work situations that are emotionally demanding". However, Schaufeli and Taris (2005) disagree with the understanding of burnout by Kristensen et al. (2005), by

stating that *burnout* should be conceptualised as a work-related phenomenon consisting of at least two factors, namely fatigue and withdrawal. According to Schaufeli and Taris (2005), the distinction between fatigue and burnout could become vague when the definition of *burnout* is extended to include the non-work domain, or if the definition focuses only on the single dimension of exhaustion or fatigue.

Now that a framework has been provided for the conceptualisation of the term *burnout*, the following section will explain the factors influencing individuals' predisposition to burnout.

2.4   PREDISPOSITION TO BURNOUT

Human service professionals often have to deal with people who are suffering and in need. These professionals are confronted with emotionally demanding relationships with their clients. Since such relationships could be inherently upsetting and difficult, these professionals are generally at high risk of burnout (Bakker, Van der Zee, Lewig & Dollard, 2006). Although early burnout research was conducted only on healthcare professions, later studies found that burnout was related to all occupations (Bakker, Demerouti & Schaufeli, 2002). The study of Demerouti, Bakker, Nachreiner and Schaufeli (2001) was one of the first to provide empirical evidence that burnout could be found in any occupation, and not just within the human services sector. According to these authors, burnout develops in any occupation when the job demands are high and when job resources are limited. Studies have shown that situational factors, such as job demands, are the strongest predictors of burnout (Maslach et al., 2001), and that individual factors also contribute to individuals' predisposition to burnout (Bakker et al., 2006; Kim, Shin & Swanger, 2009). The factors influencing burnout are represented by Figure 2.1.

Figure 2.1:   Factors influencing burnout
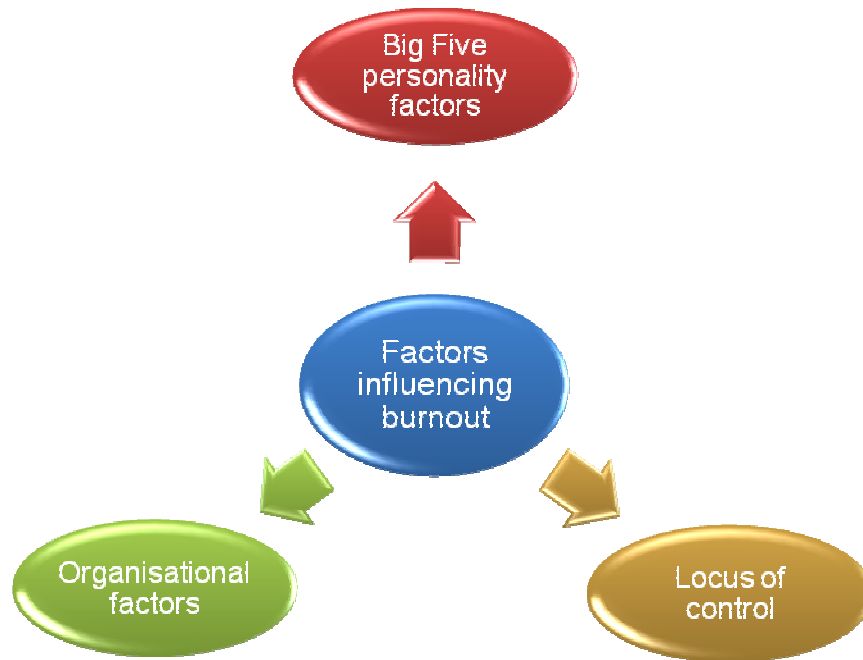
Source: Author's own.

Burnout is influenced by the Big Five personality factors, locus of control, as well as organisational factors. Each of these factors is explained in the following sections.

2.4.1   Big Five personality factors related to burnout

Previous research showed relationships between burnout and individual differences such as personality (Bakker et al., 2006; Kim, Shin & Swanger, 2009; Morgan & De Bruin, 2010). More specifically, a number of studies focused on determining relationships between the Big Five personality traits, and burnout. Five basic factors can be used to describe *personality* (Bakker et al., 2006). These factors are often referred to as the Big Five (Digman, 1990). The Big Five personality traits are neuroticism, extraversion, agreeableness, conscientiousness and openness to experience as represented in Figure 2.2.

Figure 2.2:   Big Five personality factors influencing burnout
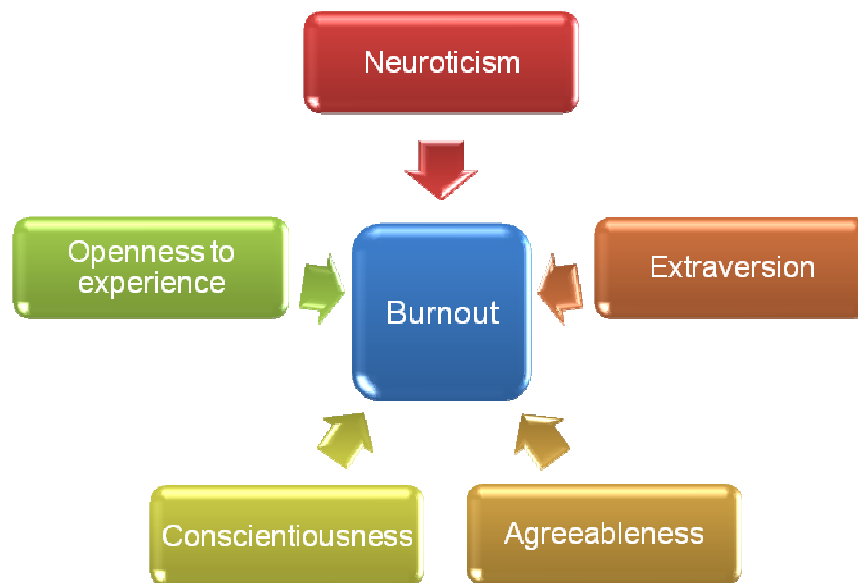
Source: Digman, 1990.

The Big Five personality traits are discussed below.

Neuroticism

Neuroticism is a personality trait related to the experience of high levels of negative affect (Watson & Clark, 1992). Individuals high in neuroticism will thus tend to expect the worst from situations, and will also react with self-criticism in stressful situations (Bolger, 1990). Research shows that this personality factor is positively related to burnout (Bakker et al., 2006; Kokkinos, 2007; Miner, 2007; Morgan & De Bruin, 2010). Individuals high in neuroticism are thus predisposed to experiencing burnout.

Extraversion

Individuals low in extraversion appear quiet, while those high in extraversion are cheerful, enthusiastic, energetic and optimistic (Kokkinos, 2007; Watson & Clark, 1992). While individuals high in neuroticism tend to experience higher levels of negative affect, individuals high in extraversion tend to experience a positive affect

(Watson & Clark). Research shows that extraversion is negatively related to burnout (Kokkinos, 2007; Morgan & De Bruin, 2010; Tomic, Tomic & Evers, 2004). Individuals high in extraversion are thus less likely to experience burnout. Reduced tendencies to experience burnout in individuals high in extraversion might be due to their ability to engage in activities to overcome stressful situations more easily, or to seek assistance (Kokkinos, 2007; Morgan & De Bruin, 2010).

Agreeableness

According to Digman (1990), *agreeableness* involves the humane aspects of humanity which include characteristics such as selflessness, nurturance, emotional support and caring. McCrae and Costa (1989) explain *agreeableness* as the personality factor encompassing co-operation, trust, sympathy and selflessness. Agreeableness is shown to have a negative relationship with burnout (Deary et al., 1996; Kokkinos, 2007; Morgan & de Bruin, 2010). This means that individuals high in agreeableness are less prone to burnout. One of the reasons for this negative relationship between agreeableness and burnout might be because of individuals' willingness to nurture others. Since individuals high in agreeableness want to constantly nurture others, they might not get emotionally exhausted as easily. A second possible reason might be because such individuals are unlikely to see clients as objects since they focus on the well-being of others. A third reason might be that, because individuals high in agreeableness rely more on feelings than on reason, they could experience personal accomplishment by nurturing and caring for others (Zellars, Perrewé & Hochwarter, 2000).

Conscientiousness

This personality factor consists of determination, thoroughness and need for achievement (McCrae & Costa, 1989). Individuals high in conscientiousness use problem solving as a coping strategy and are hardworking and achievement-orientated (Bouchard, Guillemette & Landry-Léger, 2004; DeLongis & Holtzman, 2005). Although insignificant results were obtained regarding the relationship between burnout and conscientiousness (Zellars et al., 2000), studies show that

there exists a negative relationship between conscientiousness and burnout (Kokkinos, 2007; Morgan & De Bruin; 2010). Individuals high in conscientiousness are thus less prone to burnout.

<u>Openness to experience</u>

Individuals high in this personality factor are imaginative, creative and curious (Goldberg, 1993; Watson & Hubbard, 1996). These individuals use problem-solving, as well as humour as a coping mechanism in dealing with stress (Bouchard et al., 2004; MCrae & Costa, 1986). They are also able to create diverse, creative solutions for their problems (Watson & Hubbard). Researchers have found the openness to experience personality factor to be negatively related to burnout (Deary et al., 1996; Storm & Rothmann, 2003; Zellars et al., 2000). This means that individuals high in the openness to experience personality factor will be less predisposed to being affected by burnout.

Although there is evidence that all five of the Big Five personality factors are predictors of burnout levels, research agrees that neuroticism and extraversion are the strongest predictors.

2.4.2   Locus of control and burnout

Locus of control refers to the way in which people view themselves and their opportunities (Engelbrecht, Bester, Van den Berg & Van Rensburg, 2008). Two types of loci of control exist, namely internal and external locus of control. Individuals with an internal locus of control believe that they are in control of their destiny, while individuals with an external locus of control believe that their lives are mainly controlled by sources beyond their control (Engelbrecht et al., 2008). Research shows that individuals who believe they are in control of their destiny, thus with an internal locus of control, are less prone to burnout (Kalbers & Fogarty, 2005; Lunenburg & Cadavid, 1992).

2.4.3 Organisational factors related to burnout

In the past three decades, numerous studies showed that unfavourable job characteristics have a significant impact on burnout (Bakker, Demerouti & Euwema, 2005). Although individuals differ with regard to factors provoking stress reactions in them, certain common factors relating to stress do exist (Daley, 1979). Common organisational factors influencing levels of burnout among employees are physical workload, community, physical environment, rewards, fairness, job control, participation, job security and supervisor support (Demerouti et al., 2001; Maslach et al., 2001). Figure 2.3 represents organisational factors that influence burnout.

Figure 2.3:   Organisational factors influencing burnout

Source: Author's own.

A description of the organisational factors influencing burnout is provided below.

Physical workload

Quantitative workload is shown to be a predictor of burnout, more specifically of emotional exhaustion (Engelbrecht et al., 2008; Jackson, Turner & Arthur, 1987).

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This means that individuals who perceive their workload to be heavier than they can handle in the given time will be at higher risk of burnout. Workload not only refers to the quantity of work, but a mismatch in workload can also occur where an individual has to perform the wrong kind of work, even when required in reasonable quantities. This means that individuals will also be more prone to burnout if they need to do a certain type of work, but they lack the skills or relevant interest (Maslach et al., 2001).

Community

People function best when they share happiness, humour and comfort with other people they like and respect. When interpersonal contacts are negative because of various conflicts between people, the likelihood of burnout increases (Leiter & Maslach, 1988). The lack of cohesive groups or support groups might also lead to burnout since this lack of support prevents employees from obtaining the information they need in order to cope with work demands (Jackson & Schuler, 1983).

Physical environment

Research indicates that a relationship does exist between the physical environment of a job, and burnout of individuals on the job (Goddard, O'Brien & Goddard, 2006; Friedman, 1991). Interestingly, the study of Friedman shows that schools in which the hallways were outstandingly clean had a higher level of burnout than schools that were not especially clean. The high-burnout schools provided a clear assignment of physical spaces to defined purposes whereas teachers at low-burnout schools could move audio equipment and other aids freely in and out of classes. Friedman explains that a disagreeable physical environment might lead to burnout.

Rewards

A mismatch in rewards occurs when individuals perceive their rewards to be insufficient in relation to the amount of effort they put into their work. Rewards may be financial rewards, rewards in the form of benefits or social rewards such as

appreciation (Maslach et al., 2001). When employees perceive a mismatch between the amount of effort put into their work and the rewards received, they are more prone to experiencing burnout than individuals perceiving equity in the effort-reward transaction (Goddard et al., 2006; Laschinger & Finegan, 2008).

Fairness

Unfairness can occur when an individual perceives inequity of workload or pay (Maslach et al., 2001). Empirical evidence shows that individuals are more prone to burnout when they perceive unfairness in their job (VanYperen, 1998).

Job control

Mismatches in control occur when individuals perceive their responsibilities to exceed their authority. Such mismatches also often indicate insufficient control of employees over the resources needed to perform their job (Maslach et al., 2001). Employees who are provided more control over their jobs are less likely to show typical symptoms of burnout, such as tardiness and sick leave (Dwyer & Ganster, 1991). Studies show that the lack of perceived control is negatively related to burnout (Day, Sibley, Scott, Tallon & Ackroyd-Stolarz, 2009; Demerouti et al., 2001; Engelbrecht et al., 2008). Individuals who feel that they have control over their job will thus be at a lower risk of burnout.

Participation

When employees perceive that their jobs do not allow them to participate in decision-making, or when decision-making participation is low, they will be more prone to burnout (Jackson et al., 1987).

Job security

Job insecurity reflects the uncertainty of workers regarding their job security. Workers who experience job insecurity have no idea of what to expect, and therefore

do not know what to cope with. Job insecurity is another organisational factor that might lead to burnout (Dekker & Schaufeli, 1995; Taylor & Barling, 2004).

<u>Supervisor support</u>

Supervisor support has a negative relationship to burnout (Demerouti et al., 2001; Gibson, Grey & Hastings, 2009). Employees will thus be less prone to burnout if they perceive high levels of supervisory support.

This section discussed factors that enhance individuals' chances to suffer from burnout. The following question could now arise: What are the consequences of an individual suffering from burnout? To answer this question, the following section will discuss the consequences related to burnout.

2.5   CONSEQUENCES OF BURNOUT

"If you've been noticing a corporate phenomenon lately which seems to be striking dedicated accomplishing staff members, making them gradually less productive, less energetic, and saddest of all, less interested in their jobs, you may be witnessing burn-out…" (Freudenberger, 1977, p. 26). From this quotation in an early research article, followed by numerous later articles over time, it is clear that burnout caused problems years ago, and is still causing problems today.

The reason for the significance of the burnout phenomenon for both organisations and individuals lies in its association with important outcomes (Maslach et al., 2001). Burnout is associated with various negative organisational and personal outcomes, such as physical and emotional symptoms, behavioural symptoms, and interpersonal symptoms as represented in figure 2.4. These outcomes illustrate the importance of burnout as a practical concern (Cordes & Dougherty, 1993).

Figure 2.4:   Consequences of burnout
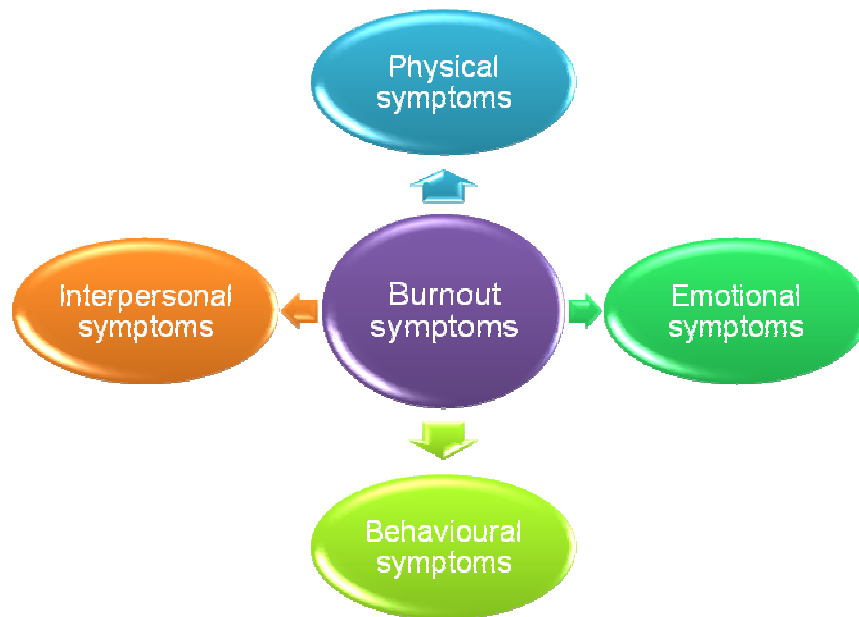
Source: Author's own.

The symptoms associated with burnout are discussed below.

2.5.1   Physical symptoms of burnout

Burnout might eventually lead to the development of health-related problems (Jackson & Schuler, 1983). Several studies and literature indicate that burnout is associated with physical symptoms such as headaches (Nadaoka, Kanda, Morioka, Kashiwakura & Totsuka, 1997), fatigue, and significant gain or loss of weight (Hoopes, 2006; Anonymous, 2005). Numerous studies also indicate a positive relationship between burnout and insomnia (Armon, 2009; Jackson & Maslach, 1982; Vela-Bueno et al., 2008). This means that individuals suffering from burnout might experience headaches, weight problems, continuous fatigue, and difficulty in falling asleep or staying asleep.

2.5.2 Emotional symptoms of burnout

Burnout leads to deterioration of mental health (Cordes & Dougherty, 1993). The deterioration in mental health can be characterised by feelings of hopelessness (Ericson-Lidman & Strandberg, 2009), anxiety, anger (Jackson & Maslach, 1982), and depression (Takai et al., 2009; Toppinen-Tanner, Ojajarvi, Vaanaanen, Kalimo & Jappinen, 2005). Persons suffering from burnout will thus experience decline in their overall emotional wellbeing.

2.5.3 Behavioural symptoms of burnout

Behavioural symptoms of burnout involve organisation-related behaviours as well as consumption behaviours (Cordes & Dougherty, 1993). Several empirical studies such as Chen and Cunradi (2008) measured relationships between burnout and the use of substances such as alcohol and cigarettes. These studies indicate that a high level of burnout is often associated with the use of substances as an attempt to cope with job stress.

Research studies further found that high levels of burnout are also associated with decreases in job performance (Taris, 2006), increases in absenteeism (Toppinen-Tanner et al., 2005), and finally, increases in job turnover (Lambert, Hogan & Altheimer, 2010; Visser & Rothmann, 2008).

Burnt-out employees develop withdrawal behaviours since they typically try to avoid the factors causing them discomfort. Therefore employees suffering from burnout might withdraw by coming late for work, leaving early from work, and taking long breaks in order to avoid being at the workplace as much as possible (Jackson & Schuler, 1983).

2.5.4 Interpersonal consequences of burnout

Burnout has damaging effects on social and family relationships (Cordes & Dougherty, 1993). Jackson and Maslach (1982) found that people with high levels of

burnout were likely to show anger, and to withdraw from their family and friends. As burnout causes employees to develop callous attitudes towards others, small conflicts might lead to enormous arguments, which cause friends to be perceived as enemies (Jackson & Schuler, 1983).

Now that the consequences of burnout, and its significant effects on both organisations and individuals have been discussed, it is necessary to know whether a cure for the burnout syndrome exists in order to reduce the above-mentioned consequences. The following section will discuss strategies for reducing burnout.

2.6   STRATEGIES FOR REDUCING BURNOUT

Jackson and Schuler (1983, p. 58) state: "Increasing numbers of once qualified, energetic, and productive employees are becoming victims of burnout. And unless organizations act now, it is likely that these numbers will continue to increase." When reviewing the wide array of recent literature on burnout, it is clear that the burnout syndrome is still a significant problem, and therefore organisations need to act in order to prevent and reduce the burnout problem.

Although individuals differ with regard to factors provoking stress reactions in them, certain common factors relating to stress do exist. Because of these factors producing stress in the majority of workers, administrators of agencies are enabled to develop agency-wide strategies for reducing burnout (Daley, 1979). Strategies for reducing burnout are thus directed towards detecting those situational factors in an agency leading towards burnout, and then towards creating buffers against burnout.

No single strategy for a definite cure for burnout exists. It is necessary to take into consideration that each organisation is unique, and therefore this uniqueness should be kept in mind when strategies for dealing with burnout are developed (Jackson & Schuler, 1983). However, Jackson and Schuler did propose interventions that could be considered by organisations concerned about burnout. These interventions include the increase of participation in decision-making and the increase of feedback on performance. Literature indicates that social support is a popular situational factor

that can act as a buffer against burnout (Bakker et al., 2005; Dignam, Barrera & West, 1986).

The job demands-resources model of leading researchers in the field, Demerouti et al. (2001), explains how adequate job resources can buffer the effects of job demands. This model is therefore a valuable tool which can be used for creating strategies to reduce or prevent burnout. These leading researchers explain *burnout* as a phenomenon that develops as a result of exhaustion and withdrawal due to one's work. This understanding of burnout is in accordance with the understanding of other leading researchers in the field who state that *burnout* should be conceptualised as a work-related phenomenon consisting of at least two factors, namely fatigue and withdrawal (Schaufeli & Taris, 2005).

Job demands are those aspects of a job that involve continued physical or emotional effort and could therefore lead to exhaustion (Bakker et al., 2005). Typical job demands are physical workload, physical environment, recipient contact and time pressure (Demerouti et al, 2001). *Job resources* refer to those aspects of a job that could be functional in reaching work goals, reducing job demands and its associating physical and emotional costs and stimulating personal development and growth (Bakker et al., 2005). Typical job resources are feedback, job security, job control and rewards (Demerouti et al., 2001).

The job demands-resources model assumes that high job demands primarily predict feelings of exhaustion while low job resources predict withdrawal from work, and therefore high job demands together with low resources predict the highest levels of burnout (Demerouti et al., 2001). A number of studies such as Bakker, Demerouti, Taris, Schaufeli and Schreurs (2003) and Bakker et al. (2005) tested this assumption and found evidence for the job demands-resources model. By ensuring that employees have adequate resources to comply with work demands, levels of burnout in an organisation can thus be decreased since high levels of resources act as a buffer against the strain caused by high job demands (Bakker, et al., 2005).

By making use of the job demands-resources model as a strategy for reducing burnout, the destructive symptoms associated with burnout, such as absenteeism and turnover, could be prevented by employers.

2.7   MEASUREMENT OF BURNOUT

Since the discovery of the burnout phenomenon in the 1970s, a number of measurements have been developed to measure individuals' levels of burnout such as the Oldenburg Burnout Inventory (Demerouti & Bakker, 2007), the Burnout Inventory (Warley, 1992), the Burnout Measure of Pines and Aronson (Schaufeli, Bakker, Hoogduin, Schaap & Kladler, 2001), and the Maslach Burnout Inventory (Maslach & Jackson, 1981). In the following section only the Maslach Burnout Inventory will be discussed since it is the best-known measure for burnout, and its pitfalls were the inspiration for the development of the Copenhagen Burnout Inventory.

2.7.1   The Maslach Burnout Inventory

Christina Maslach and Susan Jackson developed the Maslach Burnout Inventory (MBI) in 1981. Since the development of this burnout inventory, it has continued to be the most common measure for professional burnout in the empirical literature (Evans & Fischer, 1993; Maslach et al., 2001; Worley et al., 2008). The Maslach Burnout Inventory was developed to measure burnout levels of staff in human service institutions.

The items of the Maslach Burnout Inventory were designed to measure hypothesis of burnout, and were written as statements about personal feelings and attitudes such as "I feel burned out from my work", and "I can easily understand how my recipients feel about things" (Maslach & Jackson, 1981, p. 102). The term *recipients* was used in order to refer to clients to whom the respondent provided service. Each item was rated on two dimensions, namely frequency and intensity. On the frequency scale, the respondent rated the frequency at which he/she experienced burnout while the

intensity scale measured how strong the personal feeling or attitude was experienced (Maslach & Jackson, 1981).

The Maslach Burnout Inventory was designed to measure various aspects of burnout. After this scale had been administered by a wide range of employees of the human service profession, and multiple factor analysis had been performed, three subscales emerged, namely emotional exhaustion, depersonalisation and personal accomplishment (Maslach & Jackson, 1981). The outcome of this factor analysis was confirmed by various research studies such as Byrne (1991); and Worley et al. (2008). Figure 2.5 represents the three subscales of the Maslach Burnout Inventory.

Figure 2.5: **Subscales of the Maslach Burnout Inventory**
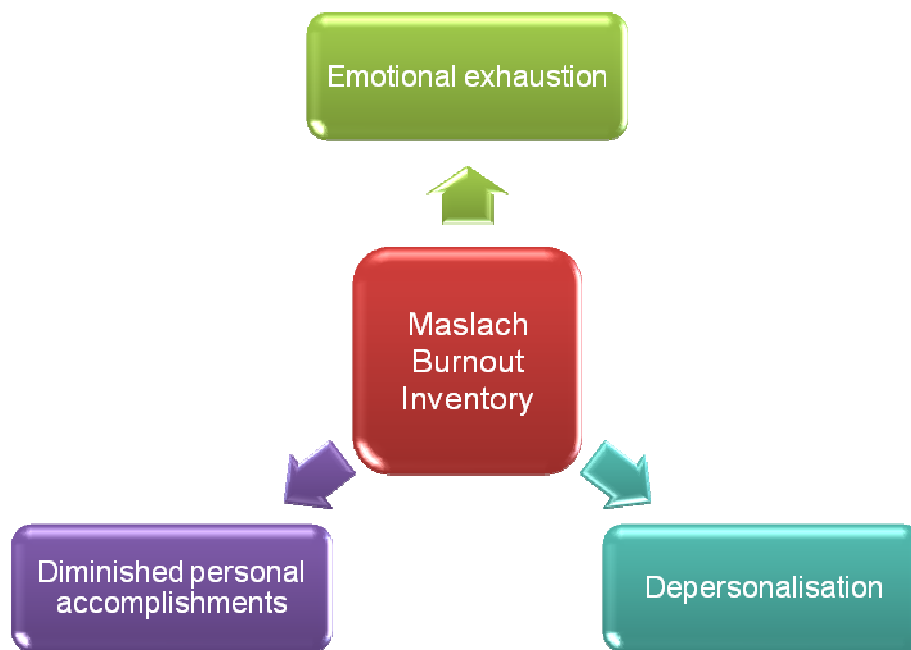
Source: Maslach & Jackson, 1981.

Emotional exhaustion subscale

This subscale consists of nine statements describing feelings of emotional overextension and exhaustion as a result of one's work. The item with the highest factor loading under this construct refers directly to burnout, 'I am burned out by my

work'. For this subscale, higher mean scores indicate higher levels of burnout experienced (Maslach & Jackson, 1981).

Depersonalisation subscale

This subscale exists out of five items which all describe attitudes of unfeeling and impersonal responses towards recipients of care or service. Higher mean scores for the depersonalisation scale correspond with higher levels of burnout experienced (Maslach & Jackson, 1981). A moderate correlation was found between the emotional exhaustion factor and the depersonalisation factor, which, according to Maslach and Jackson, meets theoretical expectations that these two factors would be separate, but related.

Personal accomplishment subscale

The personal accomplishment subscale contains eight items which all measure respondents' perceptions of competence and successful achievements in their work with people. Unlike the other two scales of the Maslach Burnout Inventory, higher mean scores for this scale correspond with lower levels of burnout experienced by respondents. Correlations indicated that the personal accomplishment factor is independent from the other two factors (Maslach & Jackson, 1981).

The Maslach Burnout Inventory has both high reliability and validity as a measure of burnout. Reliability coefficients for all three of the subscales were above .7 and several types of validation evidences proved that the scale is valid (Maslach & Jackson, 1981).

Traditionally, burnout research has been conducted only on healthcare professions because of the associated emotional demands, but later studies found that burnout was related to all occupations (Bakker et al., 2002) where the job demands are high and job resources are limited (Demerouti et al., 2001). As the Maslach Burnout Inventory was developed to explicitly measure burnout levels of human service workers, the applicability of the scale is limited to human service occupations

(Bakker et al., 2002). As a result of the increasing interest in burnout in occupations outside the human service sector, the Maslach Burnout Inventory-General Survey (MBI-GS) was developed (Bakker et al., 2002; Maslach et al., 2001). The MBI-GS consists of three subscales that are parallel with those of the original MBI. These three subscales are exhaustion, cynicism and professional efficacy. *Exhaustion* is a generic scale without directly relating negative feelings towards people as in the original MBI. *Cynicism* refers to a distant attitude towards one's work, and not towards recipients as in the depersonalisation subscale of the original MBI. Professional efficacy is a broader scale than the personal accomplishment scale of the original MBI since *professional efficacy* refers to both social and non-social aspects of accomplishments at work, while personal accomplishment only refers to accomplishments related to work with people (Schutte, Toppinen, Kalimo & Schaufeli, 2000).

2.7.2   Criticism of the Maslach Burnout Inventory

Kristensen et al. (2005) criticises the Maslach Burnout inventory by pointing out six reasons why they chose not to use the MBI-Human Services Survey.

Firstly, the Maslach Burnout Inventory was designed for use in the human service sector. According to Kristensen et al. (2005), items of this measure for burnout was designed in such a way that only employees from the human service sector could answer these questions, although Maslach and Jackson agreed that burnout is also caused by the factors associated with people work. Schaufeli and Taris (2005) disagree with this point of criticism since they believe this was only the case until after the development of the Maslach Burnout Inventory (MBI-GS) in 1996. As explained in a later point of criticism, Kristensen et al. (2005) do not agree that the MBI-GS is adequate for acting as a general survey to be used in all occupations.

Secondly, Kristensen et al. (2005) state that there is an unclear relationship between the burnout concept and the burnout instrument since the Maslach definition includes three dimensions, but factor analysis and the test manual indicate three independent dimensions or factors. According to Kristensen et al. (2005), it is thus difficult to

understand how three independent factors measure the same concept. Although Maslach and Jackson (1981) found by means of factor analysis that the personal accomplishment factor is an independent factor, they also found that the emotional exhaustion factor and the depersonalisation factor were separate, but related. As discussed earlier, the possibility exists that the third factor, personal accomplishment or efficacy, is also related to the other two factors when its items are negatively worded, instead of its scores reversed (Schaufeli & Salanova, 2007).

A third point of criticism includes the fact that the MBI measures emotional exhaustion, depersonalisation and reduced personal accomplishment, which are, according to Kristensen et al. (2005) theoretically distinct aspects, namely an individual state, coping strategy, and consequence respectively. Kristensen et al. (2005) state that these theoretical aspects should be studied in their own right, and not lumped together under the same concept. This point of criticism is the most important since this issue has been the main reason for developing an alternative measurement instrument. Schaufeli and Taris (2005) disagree with Kristensen et al. (2005) on this point of criticism against the MBI. According to Schaufeli and Taris (2005), there is nothing wrong with combining an individual state with specific coping strategies. These authors state that symptoms could also be combined with the individual state and specific coping strategies. They further state that it should be the smallest number of core symptoms, holding theoretical meaning, and being sufficient to characterising burnout.

Unacceptable questions are a fourth criticism of this popular measure. According to Kristensen et al. (2005), some of the items, such as "I feel I treat some recipients as if they were impersonal objects", trigger hostile responses from respondents due to their outspoken nature. Schaufeli and Taris (2005) agree with Kristensen et al. (2005) on this point of criticism by stating that the problem of unacceptable questions leads to violation of assumptions of normality with more extreme items.

Fifthly, Kristensen et al. (2005) criticise the MBI by declaring that it is not clear what the generalised scale measures. This general scale (MBI-GS) was based on the original scale and the term *recipients* was removed. While the MBI-GS measure

consists out of 16 items related to the domain of paid work, the MBI consists of nine items related to "recipients", nine to work, and four to individual symptoms (Kristensen et al., 2005). According to Kristensen et al. (2005) it is difficult to understand how these two instruments can measure the same concept.

Finally, Kristensen et al. (2005) criticises the MBI for being protected by copyright and only being distributed by a commercial publisher, which means that these questionnaires have to be bought. Schaufeli and Taris (2005) agree with this point of criticism although they state that in practice, the MBI is used freely by the scientific community since its items have been published by Maslach and Jackson.

As a result of the above six points of criticism, Kristensen et al. (2005) developed an alternative burnout measure, the Copenhagen Burnout Inventory.

2.7.3   Development of the Copenhagen Burnout Inventory

Although various researchers differ from Kristensen et al. (2005) with regards to most of the points of criticism against the Maslach Burnout Inventory, the Copenhagen Burnout Inventory is a unique burnout instrument that resulted from these points of criticism.

The main reason for the development of the Copenhagen Burnout Inventory is the fact that Kristensen et al. (2005) disagreed with the three-component definition of Maslach and Jackson (1981). Kristensen and his colleagues believe that an individual state (emotional exhaustion), coping strategy (depersonalisation), and effect (diminished personal accomplishment) should be studied independently, and should not be combined to define the burnout syndrome. As a result of this point of criticism, the Copenhagen Burnout Inventory was developed, based on the understanding of Kristensen et al. (2005), namely that burnout is a concept with fatigue and exhaustion as its core. According to Schaufeli and Taris (2005), the distinction between fatigue and burnout could become vague when the definition of *burnout* is extended to include the non-work domain, or if the definition focuses only on the single dimension of exhaustion or fatigue. Kristensen et al. (2005) state that

the burnout concept would not be unnecessary if burnout existed only of fatigue and exhaustion. These authors further explain that the attribution of fatigue and exhaustion to specific domains in a person's life is the distinguishing factor of burnout. Such domains are work and client work (Kristensen et al., 2005).

The Copenhagen Burnout Inventory intends to measure three scales, namely personal burnout, work-related burnout and client-related burnout. While personal burnout is a truly generic scale that can be answered by all human beings, the work-related burnout scale assumes that the person has some kind of paid work, and the client-related burnout scale assumes that the person's work requires work with others (Kristensen et al., 2005). Figure 2.6 represents the three intended scales of the Copenhagen Burnout Inventory.

Figure 2.6: **Intended subscales of the Copenhagen Burnout Inventory**
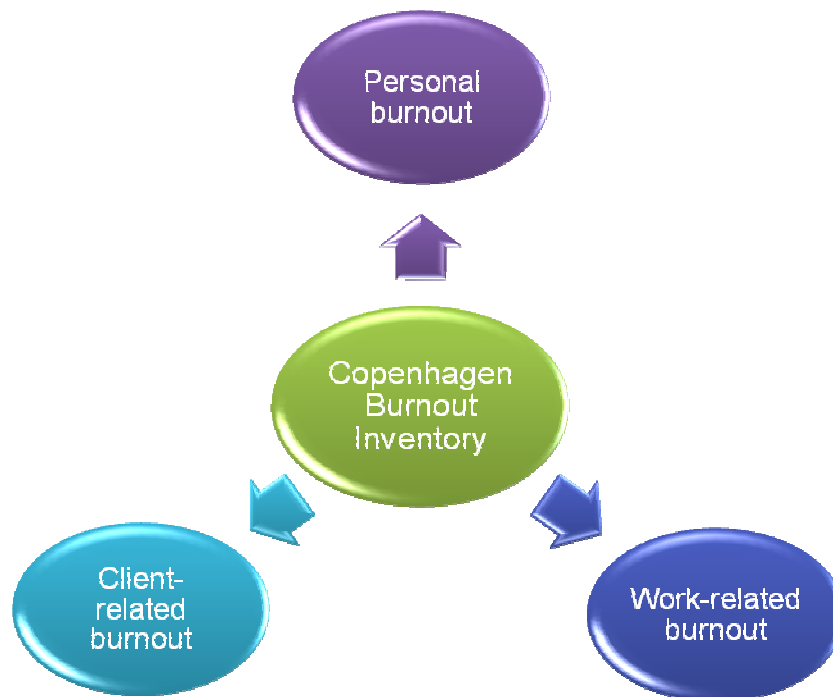
Source: Kristensen et al., 2005.

Personal burnout

As Kristensen et al. (2005) does not believe that the Maslach Burnout Inventory is truly generic, they developed the Personal burnout scale in order to assure that

individuals can be compared, regardless of their occupational status. This scale is intended to measure an individual's perceived level of physical and psychological fatigue and exhaustion. The personal burnout scale only measures fatigue and exhaustion, but the term *burnout* was kept in order to indicate that it is part of the Copenhagen Burnout Inventory (Kristensen et al., 2005).

Work-related burnout

Work-related burnout refers to the degree to which a person attributes his/her perceived feelings of physical and emotional fatigue and exhaustion to his/her work. Kristensen et al. (2005) explains that, by comparing this scale to the personal burnout scale, it would be possible to determine whether persons experiencing fatigue attribute their fatigue to work or personal factors. Personal factors could include problems such as marital problems and health problems.

Client-related burnout

The term *client* on this scale is a broad concept and includes terms such as *co-workers*, *students*, *trainees*, *pupils*, or any other work-related persons. This scale refers to the degree to which an individual attributes his/her perceived feelings of physical and emotional fatigue and exhaustion to his/her work with clients. As people can attribute their feelings of tiredness to other factors than their work with clients, the aim of this scale is specifically to determine the degree to which a person sees a connection between his/her fatigue and client-work (Kristensen et al., 2005).

2.8   CONCLUSION

The most popular definition of *burnout* describes the *burnout* phenomenon as a syndrome of emotional exhaustion, depersonalisation and diminished personal accomplishment, which often appears in individuals who work with other people (Maslach & Jackson, 1984). Emotionally exhausted employees may feel that they cannot give any more of themselves at a psychological level since their emotional resources are depleted. Depersonalisation is the development of cynical feelings and

callous attitudes by burnt-out employees towards their clients. Diminished Personal Accomplishment is a tendency in employees to evaluate themselves negatively, especially with regards to their work with clients (Maslach & Jackson, 1981).

Although early burnout research was conducted only on healthcare professions, later studies found that burnout was related to all occupations where job demands are high and job resources limited (Demerouti, Bakker, Nachreiner & Schaufeli, 2001). Numerous studies have been done to discover the causes or predictors of burnout. Researchers found that organisational factors are stronger predictors of burnout than personal factors (Maslach et al., 2001). A number of studies focused on determining relationships between the Big Five personality traits and burnout, and found that burnout is associated with low levels of extraversion, agreeableness, conscientiousness and openness to experience. High levels of neuroticism were also associated with burnout.

Research also shows that individuals with an internal locus of control, thus believing that they are in control of their destiny, are less prone to burnout (Kalbers & Fogarty, 2005; Lunenburg & Cadavid, 1992). In the past three decades, numerous studies have shown that unfavourable job characteristics have a significant impact on burnout (Bakker et al., 2005). Common organisational factors influencing levels of burnout among employees include physical workload, community, physical environment, feedback, rewards, job control, participation, job security and supervisor support (Demerouti et al., 2001; Maslach et al., 2001).

Burnout is associated with various negative organisational outcomes as well as personal outcomes such as physical and emotional symptoms, and interpersonal outcomes (Cordes & Dougherty, 1993). Physical symptoms include headaches (Nadaoka et al., 1997), fatigue, significant gain or loss of weight (Hoopes, 2006), and insomnia (Armon, 2009; Jackson & Maslach, 1982). Emotional symptoms refer to deterioration of mental health (Cordes & Dougherty, 1993), which can be characterised by feelings of hopelessness (Ericson-Lidman & Strandberg, 2007), anxiety, anger (Jackson & Maslach, 1982) and depression (Takai et al., 2009). Behavioural symptoms of burnout involve organisation-related behaviours such as

decreases in job performance (Taris, 2006) and increases in absenteeism (Toppinen-Tanner et al., 2005), job turnover (Lambert et al., 2010), as well as consumption behaviours such as the use of alcohol and cigarettes as coping strategies. Interpersonal symptoms refer to the fact that people with high levels of burnout are likely to show anger, and to withdraw from their family and friends (Maslach & Jackson, 1982).

As burnout clearly involves high costs for organisations and individuals, organisations need to act in order to prevent and reduce burnout. Although individuals differ with regard to factors provoking stress reactions in them, certain common factors relating to stress do exist. Because of these factors producing stress in the majority of workers, administrators of agencies are enabled to develop agency-wide strategies for reducing burnout (Daley, 1979).

In order to determine levels of burnout in individuals, the Maslach Burnout Inventory (MBI) was developed in 1981. Since its development, the MBI has continued to be the most common measure for professional burnout in the empirical literature (Evans & Fischer, 1993). Kristensen et al. (2005) criticise the Maslach Burnout inventory by pointing out six pitfalls of the instrument. They developed the Copenhagen Burnout Inventory as an attempt to overcome the pitfalls of the MBI. Although the work of several researchers indicates disagreement with many of the points of criticism against the Maslach Burnout Inventory such as Schaufeli and Taris (2005) and Malach and Jackson (1981), the Copenhagen Burnout Inventory is a unique measurement for burnout, which attempts to distinguish between perceived levels of burnout due to personal factors, work-related factors, and more specifically factors related to work with others (Kristensen et al., 2005).

CHAPTER 3
RESEARCH DESIGN AND METHODS

3.1 INTRODUCTION

Chapter 3 provides an explanation of the research design that was used in order to conduct the study. The sampling methods, data collection methods, as well as data analysis methods, which were applied, will also be described. Chapter 3 further discusses the ethical considerations that were kept in mind while conducting this study.

3.2 DESCRIPTION OF INQUIRY STRATEGY AND BROAD RESEARCH DESIGN

3.2.1 Description of the strategy of inquiry

The research paradigm that was applied in this particular study is positivism. Positivism posits that the methods of inquiry used in natural sciences are the appropriate methods for social sciences. Phenomena should be observable or discovered by the senses in order to be considered as scientific knowledge, and the researcher should be completely objective while interpreting findings. Quantitative research typically applies a positivist approach (Bryman, 1984; Struwig & Stead, 2001). The researcher made completely objective interpretations by using statistical analysis to empirically test a previously developed instrument. By empirically testing the instrument, the researcher made the non-observable observable by providing statistical proof of findings.

The internal reliability as well as the validity of the Copenhagen Burnout Inventory was determined through correlations among results. Saunders, Lewis and Thornhill (2007) define *correlations* as the strength of the relationship between two or more variables. This study determined, by looking at the strength of the relationship between items of the Copenhagen Burnout Inventory, whether the items of the inventory actually measure the constructs they are intended to measure, and also

whether the items consistently measure the same construct. With quantitative research, questions about relationships between measured variables can be answered in order to explain, predict and control phenomena. Quantitative research is used to establish, confirm, or validate relationships and generalise findings that contribute to theory (Leedy & Ormrod, 2005). In this particular study, the researcher aimed to answer questions about relationships among measured variables in order to determine correlations between items of the Copenhagen Burnout Inventory. These correlations or strength of relationships allowed the researcher to determine the internal reliability and validity of the Copenhagen Burnout Inventory in a South African context. Given the purpose of quantitative research, and the aim of the researcher in conducting this study, it is understandable why quantitative research was used as strategy of inquiry for this research study.

3.2.2   The distinguishing characteristics of quantitative research

The purpose of quantitative research is to provide researchers with explanations and predictions that can be generalised to other persons and places. Quantitative research intends to establish, confirm, or validate relationships (Leedy & Ormrod, 2005; Struwig & Stead, 2001). Quantitative research also intends to generalise findings beyond the research sample (Struwig & Stead, 2001). This study aimed to establish, confirm and validate correlations between items of the Copenhagen Burnout Inventory. The findings of this study were generalised from the sample to all employees in South Africa, working with, or together with other people.

Replication is another characteristic of quantitative research (Bryman, 1984). When conducting quantitative research studies, structured guidelines exist. Hypothesis, concepts, measurements and methods tend to be defined before commencing the study, and then stay consistent throughout the study (Leedy & Ormrod, 2005). These formerly defined and consistent methods make a study replicable, which allow other researchers to repeat the study if they wish (Struwig & Stead, 2001).

Quantitative research can also be distinguished by its unique data analysis characteristic. This research inquiry strategy tends to rely more on deductive

reasoning. Reasoning is deductive when it begins with definite grounds, like theories or hypotheses, and then draws logical conclusions from them (Leedy & Ormrod, 2005). As this study aimed to determine whether the already established constructs of the Copenhagen Burnout Inventory are valid in South Africa, it relies on deductive reasoning.

Another distinguishable characteristic of quantitative research is the data collection. The researcher intends to collect data of a defined variable, or set of variables. Specific measures with high validity and reliability are then identified, developed and standardised in order to measure the defined variables. Data obtained by these measurements can be easily transformed into numerical indices (Leedy & Ormrod, 2005). In this study, the researcher used the Copenhagen Burnout Inventory to obtain data of levels of burnout in order to standardise the questionnaire by testing its reliability and validity.

Objectivity is also a distinguishing characteristic of quantitative research (Bryman, 1984). Quantitative researchers tend to use methods that will allow them to objectively measure variables (Bryman, 1984; Leedy & Ormrod, 2005), and therefore surveys are a popular method in quantitative research (Bryman, 1984). For this study, the Copenhagen Burnout inventory was consistently used as measurement instrument throughout the study to objectively measure variables.

Another characteristic of quantitative research is the way in which findings are reported. Although quantitative research focuses on obtaining responses from individuals (Struwig & Stead, 2001), there will be no use for making use of individual results (Leedy & Ormrod, 2005). When applying quantitative research, data is rather reduced to means, modes, medians, correlations and other summarising statistics in order to obtain overall measures for a sample (Leedy & Ormrod, 2005; Struwig & Stead, 2001). Results of such studies will usually be reported formally, passively and impersonally (Leedy & Ormrod, 2005). In this study, the researcher used mean results of the research sample, rather than results of individuals, to obtain all information needed for conducting this study. All results of this study were reported impersonally.

3.2.3   Description of the general characteristics of the research design

The following seven descriptors best describe this research study:

- *Empirical research* – According to Struwig and Stead (2001), empirical studies generally entail the obtaining of data from respondents by making use of questionnaires or interviews. This study is empirical by nature since the researcher used primary data obtained from the Copenhagen Burnout Inventory.

- *Basic research* – A project will fall under basic research when such research is undertaken in universities with the academic community as key consumer and where little attention will be given to its practical consequences (Saunders et al., 2007). This is a basic research study since the academic community will be the key consumer of the findings and little attention will be given to the practical consequences of the findings.

- *Evaluative research* – Evaluation is the process where materials or methods are judged in terms of its internal accuracy and consistency (Saunders et al.*,* 2007). The researcher judged the Copenhagen Burnout Inventory in terms of its internal accuracy by determining the validity and reliability of the survey.

- *Cross-sectional research* – A study is cross-sectional when responses regarding a phenomenon are obtained at a single point in time (Babbie & Mouton, 2001; Saunders et al., 2007). Since the researcher determined levels of the burnout phenomenon at a particular time, this study is seen as a cross-sectional study.

- *Non-experimental research* – This study is not an experimental study since the researcher did not attempt to control all influential factors except those fundamental to the study. Experimental research intends to determine whether a certain treatment influences an outcome (Creswell, 2009).

- *Primary data* is data that will be collected specifically for the purpose of the study being conducted and the researcher will therefore not use secondary data that already existed prior to this study (Babbie & Mouton, 2001; Saunders et al., 2007). The data that was used for this particular study was the results

obtained from the respondents after completion of the Copenhagen Burnout Inventory. Therefore, the data that was used was primary data.

- *Quantitative data* – This refers to numerical data, or data that has been quantified (Saunders et al., 2007). Quantitative data was used to conduct this study since the data obtained from the respondents was quantified for the purpose of the study.

3.2.4   Survey research as a form of quantitative research

The research design that was used in this study is survey research. Survey research is used when the researcher obtains information about a person or groups of people about their characteristics, attitudes, or opinions by asking them questions and tabulating their answers (Leedy & Ormrod, 2005). The survey strategy allows the researcher to collect quantitative data, which can be analysed by making use of descriptive and inferential statistics. Survey research is a popular strategy to use in business research (Saunders et al., 2007). This specific research design was used for the study since quantitative data about the respondents' level of burnout needed to be obtained. The quantitative data enabled the researcher to use inferential statistics to determine the reliability and validity of the Copenhagen Burnout Inventory in a South African context.

A major advantage of the survey research strategy is the fact that it allows a researcher to obtain a large amount of data from a considerable size sample in an economical way. When using survey research, a researcher also has more control over the research process. Another advantage of survey research is that a researcher is not dependent on others once the questionnaires have been collected. Chances of delays due to dependence on others for information will thus be minimised. A major disadvantage of using a questionnaire such as the Copenhagen Burnout Inventory while conducting survey research, is the capacity to do it badly. Another disadvantage is the fact that data analysis and data interpretation are time-consuming, regardless of analysis software such as SPSS (Saunders et al., 2007).

3.3 SAMPLING

By making use of sampling techniques, a range of methods is provided in order to enable a researcher to reduce the amount of data he/she needs to collect, by considering data from only a subgroup rather than all possible elements (Saunders et al., 2007). In order to conduct this study, the researcher used non-probability sampling since this sampling method is most commonly associated with the survey-based research strategy (Saunders et al., 2007), which was used in conducting this study.

3.3.1   Target population

The target population for this study was South African citizens who were employees working with, or together with other people during 2011 when the survey was completed by them. The Copenhagen Burnout Inventory was developed for assessing the levels of burnout of individuals on a personal, work-related, and client-related dimension. The term *client* could be replaced with similar terms such as *student*, *patient*, *inmate* or *colleague* (Kristensen et al., 2005). In order to obtain sufficient responses on all three constructs of the Copenhagen Burnout Inventory, the researcher decided that the target population should be employees working with, or together with other people. Since this study aimed to determine the psychometric properties of the survey in a South African context, the researcher further decided that the target population should be South African citizens.

3.3.2   Sample size

In order for factor analysis to be performed, a minimum of 10 participants per item are required according to the common rule (Field, 2005). Since the Copenhagen Burnout Inventory consists of 19 items, the sample should consist of at least 190 participants according to the common rule. Several authors stated that the larger the sample, the better (Leedy & Ormrod, 2005; Saunders et al*.,* 2007). A sample of 215 respondents completed the Copenhagen Burnout Inventory. The minimum requirements with regard to sample size were thus met and exceeded.

3.3.3 Application to the study

Table 3.1 provides detailed information about the demographical characteristics of the 215 respondents who completed the Copenhagen Burnout Inventory.

Table 3.1: Demographical information of respondents

	Frequency	Percentage	Cumulative %
GENDER			
Male	78	36.28	36.28
Female	137	63.72	100
Total	215	100.00	
RACE			
Black	19	8.84	8.84
Coloured	8	3.72	12.56
Asian	17	7.91	20.47
White	171	79.53	100.00
Total	215		
AGE			
18-24	19	8.84	8.84
25-29	81	37.67	46.51
30-34	34	15.81	62.33
35-39	24	11.16	73.49
40-49	29	13.49	86.98
50-59	21	9.77	96.74
60 or older	7	3.26	100.00
Total	215		
YEARS AT ORGANISATION			
Less than 1 yr.	39	18.14	18.14
1-2yrs.	24	11.16	29.30
More than 2yrs.-5yrs.	73	33.95	63.26
More than 5yrs.-10yrs.	33	15.35	78.60
More than 10 yrs.	46	21.40	100.00
Total	215		
LEVEL IN ORGANISATION			
Top management	15	6.98	6.98
Senior management	23	10.70	17.67
Middle management	50	23.26	40.93

Supervisory	32	14.88	55.81
Staff	95	44.19	100.00
Total	215		
EDUCATIONAL LEVEL			
Lower than Grade 12	3	1.40	1.40
Grade 12	56	26.05	27.44
Diploma	61	28.37	55.81
Degree	44	20.47	76.28
Postgraduate Degree	51	23.72	100.00
Total	215		
INDUSTRY			
Financial services	44	20.47	20.47
Information technology	8	3.72	24.19
Education/Training	18	8.37	32.56
Government	6	2.79	35.35
Telecommunications	2	0.93	36.28
Mining	12	5.58	41.86
Manufacturing & Production	18	8.37	50.23
Professional services	53	24.65	74.88
Other	54	25.12	100.00
Total	215	100.00	

The sample consisted of 36.28% (n=78) male respondents, and 63.72% (n=137) female respondents. The race groups included in this sample consisted of 8.84% (n=19) black respondents, 3.72% (n=8) coloured respondents, 7.91% (n=17) Asian respondents and 79.53% (n=171) white respondents. With regards to age, 8.84% (n=19) respondents were between the ages of 18 and 24, 37.67% (n=81) respondents were between the ages of 25 and 29, 15.81% (n=34) respondents were between the ages of 30 to 34, 11.16% (n=24) respondents were between 35 to 39, 13.49% (n=29) respondents were between 40 to 49, 9.77% (n=21) were between 50 to 59, and 3.26% (n=7) were older than 60. The years spent at their current organisation were less than one year for 18.14% (n=39) respondents, one to two years for 11.16% (n=24) respondents, more than two years to five years for 33.95% (n=73) respondents, more than five years to 10 years for 15.35% (n=33) respondents, and more than 10 years for 21.4% (n=46) respondents. Approximately 7% (n=15) of the respondents indicated they were in top management positions,

11% (n=23) in senior management positions, 23% (n=50) in middle management, 15% (n=32) in supervisory positions, and 44% (n=19) in staff positions. With regard to levels of education, 1.4% (n=3) of the respondents indicated that their highest level of education was less than Grade 12. The highest level of education for 26.05% (n=56) of the respondents was matric, 28.47% (n=61) indicated that a diploma was their highest level of education, 20.47% (n=44) indicated that they were educated up to the level of a degree, while 23.72% (n=51) obtained a postgraduate degree. Responses indicated that 20.47% (n=44) of respondents worked in the financial industry, 3.72% (n=8) in the information technology industry, 8.37% (n=18) in the education or training industry, 2.79% (n=6) in the government sector, 0.93% (n=2) in telecommunications, 5.58% (n=12) in mining, 8.37% (n=18) in manufacturing and production and 24.65% (n=53) in professional services and 25.12% (n=54) of the respondents worked in other industries than the above-mentioned.

3.3.4 Sampling method

The sample for this study was obtained by non-probability sampling. *Non-probability sample selection* is a sampling technique in which the probability for each case to be selected from the population is unknown (Saunders et al., 2007). For this particular study snowball sampling was used. *Snowball sampling* refers to situations in which the researcher uses participants with whom contact has already been made to refer the researcher to other participants who could be potential participants in the study (Nieuwenhuis, 2007). This sampling technique is often used when the research interest is in an interconnected group (Maree & Pietersen, 2007). Snowball sampling was used in this study because of the fact that South African employees are usually part of an interconnected group of colleagues who would be potential participants for the study.

3.3.5 Limitations to the chosen sampling method

When using any of the four existing non-probability sampling methods, a researcher should keep in mind the limitations with regard to representing the population, as well as generalising the results obtained from the sample to the population (Maree &

Pietersen, 2007). The main aim was to determine the psychometric properties of the questionnaire, and not to generalise findings with regard to levels of burnout. Although relationships exist between burnout and personal factors including demographic variables, situational factors are the strongest predictors of burnout (Maslach et al., 2001), and therefore representativeness of the sample should not have a considerable effect on the findings of this study.

3.4 DATA COLLECTION

In this section the type of data, as well as the type of questionnaire that was used for data collection is discussed. A description of the purpose and scales of the Copenhagen Burnout Inventory is also provided.

3.4.1 Type of data

Primary data is new information that is obtained from existing sources. Information obtained from completed questionnaires is an example of primary data (Struwig & Stead, 2001). For the purpose of the study, the researcher used primary data since participants were asked to complete the Copenhagen Burnout Inventory, and results obtained from participants were used to conduct the proposed study.

3.4.2 Type of questionnaire

Self-administered questionnaires were distributed to a sample of South African citizens working with or together with other people. The type of self-administered questionnaire that was distributed to the sample was internet-mediated questionnaire since questionnaires were administered electronically by making use of the internet (Saunders et al., 2007).

One of the most important advantages of using the self-administered, internet-mediated type of questionnaire is that the researcher has high confidence that the right person will respond, especially when making use of e-mail as distribution channel (Saunders et al., 2007). For this study, a link was sent to participants via e-

mail, which allowed them to complete the Copenhagen Burnout Inventory online after reading the instructions. Another advantage of internet-mediated questionnaires is the fact that the sample can be large and geographically dispersed. Since the sample size of this research study was quite large, and the target population was South African citizen employees, this advantage was particularly valuable for the research study.

A major disadvantage of the self-administered, internet-mediated type of questionnaire is the fact that the response rate is likely to be low, and also that the population should be computer-literate individuals who can be contacted by e-mail (Saunders et al., 2007). Since most South African citizen employees have access to e-mail and the internet, the latter disadvantage should not have affected this study.

3.4.3 Assessing and demonstrating the quality and rigour of the research design

Bias and errors

Bias in research is an influence or condition that distorts data and has a negative impact on the truthfulness of facts. The biggest impact caused by bias occurs when the bias problem affects the research system but remains unobserved (Leedy & Ormrod, 2005).

In this particular survey research, chances were big that measurement bias could arise in which deliberate distortion could occur since respondents could have adjusted their responses in order to please the researcher. In an attempt to overcome this problem of measurement bias, respondents were informed about the complete anonymity of their results.

Changes in measurement bias can also occur when data collecting methods change (Saunders et al., 2007). Therefore, the researcher made certain that the way in which data was collected remained consistent throughout the study.

Construct bias can occur when the construct being measured is not the same across different cultures (Van de Vijver & Tanzer, 2004). Respondents of this study only included South African citizens, which already limits culture differences to those differences in the South African population. During the conduction of the literature study, the researcher did not detect a difference in the conceptualisation of burnout between cultures. The main aim of this study was also not to determine differences between cultural groups with regard to burnout, but rather to determine the psychometric properties of the instrument in a South African context. Based on the above reasoning, the researcher therefore assumed that construct bias would not have a considerable effect on this study.

Sample bias could also occur during this research study. Sample bias is present in a study when respondents' results are influenced due to incomparability of the sample on other variables than the target variable (Van de Vijver & Tanzer, 2004). In order to minimise the effect of sample bias, the researcher did not set unnecessary boundaries with regard to the sample being used. By this minimisation of boundaries, the researcher attempted to obtain a sample including as much as possible differences with regard to participants and their backgrounds.

Instrument bias is typically present when different cultures will score differently on a concept due to the specific instrument used, and not due to true differences on the variable being measured (Van de Vijver & Tanzer, 2004). The researcher determined whether differences between demographic groups exist with regard to the constructs of the instrument being used. By determining whether differences exist between groups, and by comparing the results to existing literature, it can be determined whether possible instrument bias was present.

Administration bias can occur when communication problems exist between administrators and respondents. Since the researcher was not present while respondents completed their surveys, this bias could be a problem in the research study. In order to minimise administration bias, the researcher's contact details were provided to respondents.

Possible errors that might affect the quality of the study are summarised in table 2.2.

Table 2.2:   Possible errors affecting the quality of the survey research study

Error	Explanation of error	Methods followed to reduce impact
Measurement error	The answer of a respondent is unclear, inaccurate and incomparable to the answer of other respondents.	• No open ended questions were used. • Respondents could only continue to a question after completing the previous questions
Processing error	Data of open-ended questions is coded or entered incorrectly.	• No open-ended questions were used.
Sampling error	The sample frame is not matched by the sample used in the study.	• A general rule for determining an appropriate sample size was adhered to.
Non-response error	Sample members do not respond, or do not respond to all questions.	• Non-probability snowball sampling was used to recruit as many sample members as possible and minimise non-response. • Respondents could not continue to a next question without responding to the previous question.

Source: Umbach, 2005.

Reliability and validity

In the study, data was obtained about the level of burnout that people experience. The data was used to determine, through correlations among results, the psychometric properties of the Copenhagen Burnout Inventory. The psychometric properties that were investigated by the researcher include the validity and reliability of the questionnaire.

Four different types of validities exist, as represented in Figure 3.1 below. *Face validity* cannot be proved statistically and refers to the extent to which a measurement instrument looks valid. *Content validity* refers to the extent to which a questionnaire measures all aspects related to the phenomena being measured (Pietersen & Maree, 2007b). *Construct validity* refers to the extent to which the items of the measurement actually measures the constructs that it is supposed to

measure. *Criterion validity* refers to a questionnaire's ability to make accurate predictions (Saunders et al., 2007). For this study, the validity of the Copenhagen Burnout Inventory was determined by making use of construct validity.

Figure 3.1:   Types of validities
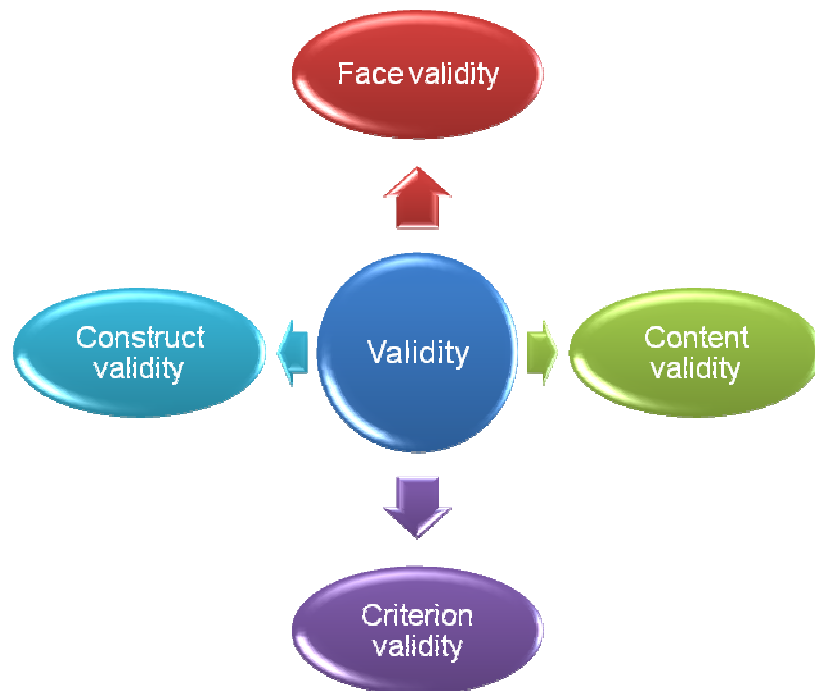
Source: Pietersen & Maree, 2007b.

There are also four types of reliabilities as represented by Figure 3.2. Test-retest reliability requires from the researcher to administer the questionnaire to the same subjects two or more times. The first set of results is compared with the second set. If the results are consistent, the test is reliable. Equivalent reliability is based on the same concept as test-retest reliability, but requires from a researcher to administer an equivalent questionnaire on a second occasion to the same subjects. With split-half reliability, the items of the instrument are divided into two to test the consistency of results. Internal reliability determines inter-item correlations between items. There should be a high degree of similarity among items since they are supposed to measure one common construct (Pietersen & Maree, 2007b). A measure has high internal reliability when a respondent's responses to all items are similar, showing that all items consistently measure the same construct. This study determined the internal reliability of each valid scale of the Copenhagen Burnout Inventory.

Figure 3.2: **Types of reliabilities**
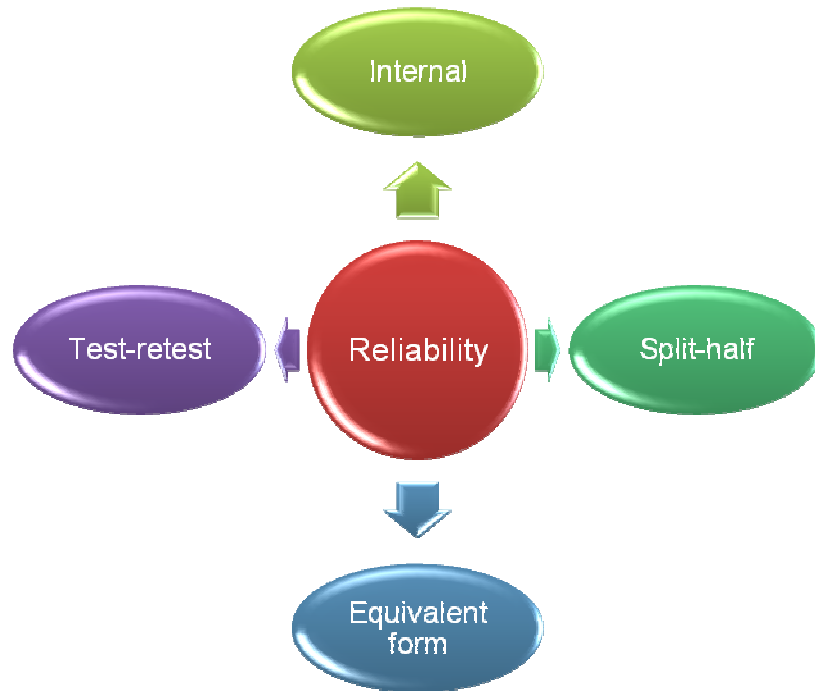
Source: Pietersen & Maree, 2007b.

The aim of this study was thus to determine the psychometric properties of the Copenhagen Burnout Inventory by means of construct validity and internal reliability.

3.4.4 Measurement instrument: Copenhagen Burnout Inventory

In general, *measurement* can be defined as the process of assigning numbers to objects in such a way that specific characteristics of the objects are faithfully represented by properties of those numbers (Murphy & Davidshover, 2005). The measurement instrument that was used for this study is included in Appendix A (p. 93).

The Copenhagen Burnout Inventory was developed to avoid pitfalls of the Maslach Burnout Inventory as identified by Kristensen et al. (see Section 2.7.2, p. 28), and also to remain within the general frame of reference of the burnout research (Kristensen et al., 2005).

The Copenhagen Burnout Inventory is a questionnaire consisting of three sub-dimensions, namely personal burnout, work-related burnout and client-related burnout. These three dimensions were designed so that burnout can be measured in different domains. The personal burnout subscale is a truly generic scale since questions on personal burnout were formulated in such a way that all human beings can respond to them. The work-related burnout subscale assumes that respondents have paid work of some kind, and the client-related burnout subscale includes questions with the term *client*, which can be replaced by terms such as *colleague*, *customer*, or *patient* (Kristensen et al., 2005). The client-related burnout subscale thus assumes that respondents are working with, or together with other people.

The core of burnout in the Copenhagen Burnout Inventory is fatigue and exhaustion, which is, according to Kristensen et al. (2005), in accordance with the historical development of the burnout concept, as well as a recent definition of burnout by Schaufeli and Greenglass (2001) who are leading researchers in the field. According to Kristensen et al. (2005), *burnout* is not just fatigue and exhaustion, and in their understanding of the concept, the attribution of fatigue and exhaustion to specific domains in a person's life is the additional key feature. The three scales of the Copenhagen Burnout Inventory are explained below.

The personal burnout scale is the generic part of the questionnaire with which the developers want to ensure that individuals can be compared, regardless of their occupational status, and answers the simple question of how tired or exhausted a person is (Kristensen et al., 2005).

The work-related burnout scale measures the degree to which an individual perceives physical and psychological exhaustion as a result of his or her work (Kristensen et al., 2005).

The client-related burnout scale aims to determine an individual's perceived physical and Emotional Exhaustion that can be attributed to his/her work with other people (Kristensen et al., 2005).

3.5 DATA ANALYSIS

Data analysis is the process in which the data collected for the study is translated and segmented into outputs, valuable for the researcher, in order to answer the specific research objectives.

An important aspect of data analysis is the way in which data is presented, such as tables, graphs or quotations (Maree & Van der Westhuizen, 2008). For this particular study, the researcher used graphs and tables to present the data created by SPSS.

SPSS is a computer program, which can be used for entering results obtained from questionnaires into a data set. Various statistical procedures can be performed by making use of the data set, and SPSS automatically creates results for specific requests entered by the researcher. SPSS thus acts as a substitute for the traditional, time-consuming pen and paper method of determining statistical results for a bunch of completed questionnaires.

The aim of this study was to determine the psychometric properties of the Copenhagen Burnout Inventory. Firstly, the researcher determined whether the three constructs of the questionnaire are valid, and secondly, the researcher determined the internal reliability of the extracted scales by making use of Chronbach's alpha coefficients. For this study, an exploratory factor analysis was conducted in order to determine the number of factors that could be extracted from the Copenhagen Burnout Inventory, as well as the variables loading on these extracted factors.

3.5.1 Data screening

The first thing to do before a factor analysis is conducted, is to look at the intercorrelation between variables to determine whether all items of the questionnaire measure the same underlying dimension (Field, 2005). Since all items of the Copenhagen Burnout Inventory are supposed to contribute to measuring burnout, all items should be correlated to one another. The purpose of this data screening technique is to exclude items for which the correlation is too low or too

high (Field, 2005). When the correlation of items is too low, these items do not predict the same underlying dimension as the other variables. When the correlation of items is too high, it becomes difficult to determine the unique contribution of such items to a factor (Field, 2005). In order to determine whether intercorrelation between variables was suitable for factor analysis, Bartlett's test of sphericity was used. Bartlett's test of sphericity determines the probability that the correlations between items are 0 (Worthington & Whittaker, 2009).

The researcher further determined the suitability of factor analysis by determining whether correlations are due to underlying constructs, or simply due to chance correlations between small sets of items. The Kaiser-Meyer-Olkin (KMO) measure is useful for determining factorability. This KMO measure is used to determine the extent to which correlations are due to similarity between groups of variables (constructs), or simply due to chance correlations between small sets of variables (Worthington & Whittaker, 2009). The KMO statistic can vary between 0 and 1 where 0 indicates that correlation between variables is mainly due to chance correlations between small sets of variables, and not due to underlying constructs. If the KMO statistic is close to 0, it means that correlations are due to chance correlations and factor analysis is not suitable.

3.5.2   Descriptive statistics

As the term *descriptive* states by itself, descriptive statistics can be used to obtain a general description of the data being used in the study. For the purpose of this study, descriptive statistics were obtained for describing the respondents in terms of biographical data. Descriptive statistics were also obtained to describe the overall response on each scale extracted during factor analysis.

Descriptive statistics provide a description of the characteristics of a set of observations by means of percentages, means, standard deviations, modes, medians and much more as required by the researcher. For this particular study, descriptive statistics were firstly used to perform a descriptive analysis of biographical data, in order to provide more detail regarding the nature of the

research sample. A descriptive analysis of the scales of the Copenhagen Burnout Inventory was also conducted after the underlying constructs had been discovered. Responses on each scale were described in terms of its mean, standard deviation, skewness and kurtosis.

The next section provides an explanation of the factor analysis method and describes the steps followed in conducting the analysis.

3.5.3   Factor analysis

Factor analysis is a technique which determines whether correlations between a set of variables are a result of their relationship to one or more underlying variables in the data (Field, 2005, p. 731). Factor analysis can also be explained as a procedure to determine which items belong together, based on the fact that respondents answered these items similarly (Pietersen & Maree, 2007b). The reason for conducting a factor analysis for this particular study was to determine whether correlating sets of variables from the Copenhagen Burnout Inventory could be attributed to their relationship with the same latent factor.

Two main categories of factor analysis exist, namely exploratory factor analysis and confirmatory factor analysis. In order to use confirmatory factor analysis, clear predictions are needed regarding factors, their relationships with variables, and their relationships to each other (Gorsuch, 1997). Kristensen et al. (2005), developers of the Copenhagen Burnout Inventory, stated that they have not determined the construct validity of the questionnaire since the rational for having the three constructs is theoretical and methodological, and not statistical. It is thus obvious that there are no clear predictions regarding the factors and their relationships with items and the other constructs. Although the researcher did find one study that determined the construct validity of the Copenhagen Burnout Inventory (Milfont, Denny, Ameratunga, Robinson & Merry, 2007), the population of this study consisted of New Zealand teachers. Pietersen and Maree (2007b) state that exploratory factor analysis should be used when the researcher is dealing with an entirely new population. No studies could be found that determined the construct validity of the

Copenhagen Burnout Inventory with the South African workforce as population. Based on the above discussion, the researcher decided that it would be most suitable to use an exploratory factor analysis in order to extract factors of the Copenhagen Burnout Inventory that are valid for a South African population. The steps that were used in conducting the factor analysis are discussed below.

Factor extraction

The first step of factor analysis is factor extraction. A number of methods exist to assist researchers in the decision regarding the number of factors to retain. The two most widely known methods for factor extraction are Kaiser's eigenvalues-greater-than-one rule and Catell's scree test (Worthington & Wittaker, 2009). Catell's scree plot represents each eigenvalue on a graph. Since there are usually a few factors with quite high eigenvalues and many factors with relatively low eigenvalues, these graphs have a common shape in which a sharp descent followed by a tailing-off is clearly visible. The visible elbow of this graph will represent the cut-off point for the number of factors. When Kaiser's criterion is used for factor retention, all factors with eigenvalues greater than one are retained (Field, 2005). Although these two methods are well known and frequently used by researchers, they do not always result in reliable components (O'Connor, 2000). Another less-known method for factor extraction is the parallel analysis.

Although the parallel analysis is not yet a well-known method, more and more statisticians agree that parallel analysis is the most reliable factor retention method (Hayton, Allen & Scarpello, 2004). The parallel analysis method was therefore used in this study to assist the researcher in the decision regarding the number of factors to retain. A parallel analysis involves the extraction of eigenvalues from random data sets that are similar to the actual data set with regard to the number of cases and variables (O'Connor, 2000). To obtain a random data set parallel to the actual data set, researchers generally order participants' scores on the data set randomly. The number of factors to retain is decided on by comparing the random eigenvalues with eigenvalues obtained from factor analysis on the actual data set. A factor is retained when the actual eigenvalue is greater than the random eigenvalue (Worthington &

Whittaker). Further to simply conducting the analysis, the researcher represented the comparison between the actual and the random values on a plot.

This step, factor extraction, thus involved the determination of the number of latent factors measured by the Copenhagen Burnout Inventory for the sample of South-African employees.

Factor rotation

The next step of the exploratory factor analysis involves factor rotation. Factor rotation is used to make it easier for the researcher to determine which variables relate to which underlying factors (Garson, 2011e). There are ways to determine the degree to which variables load onto extracted factors. Since a questionnaire is usually designed to measure one construct, burnout in this case, it will usually happen that most variables will have high loadings on the most important factor and low loadings on all the other factors. This makes interpretation difficult for the researcher. Factor rotation is used to discriminate between factors in order to make interpretation easier. If a factor is represented by an axis on which variables can be plotted, factor rotation will rotate the axis, or factors, so that variables will be loaded maximally on only one factor (Field, 2005).

Factor rotation was thus used in order to rotate the factors extracted in the previous step, in order to discriminate clearly between extracted factors so that interpretation could be done effectively.

Two types of factor rotations can be done: orthogonal rotation and oblique rotation. When performing orthogonal rotation, factors are kept independent. Oblique rotation, on the other hand, is performed when there is a good theoretical reason to believe that the factors should be related (Worthington & Whittaker, 2009). In conducting this study, an oblique rotation was performed.

Interpretation of factor analysis

After factor extraction and factor rotation had been performed, SPSS was further used to create a factor loading matrix, called the pattern matrix. The pattern matrix was used to group the items of the questionnaire into their latent factors. According to Field (2005), it is important for the researcher to assess the statistical significance of factor loadings during interpretation of the matrix. Researchers typically accept a loading with an absolute value of more than .3 as statistically important (Costello & Osborne, 2005; Field, 2005). For this study, the researcher accepted loadings with an absolute value of .32 and more. The pattern matrix was further investigated in order to exclude problematic items with cross-loadings. When items cross-load too highly on two or more factors, these items are problematic since they reflect an influence of more than one factor. In such a case, a researcher should consider deletion of the problematic item (Worthington & Whittaker, 2009).

After the interpretation of the factor analysis on the Copenhagen Burnout Inventory, the researcher was able to conclude whether the three constructs (personal burnout, work-related burnout and client-related burnout) are valid for the use in South Africa.

The next section provides an explanation of the reliability analysis method that was used in this study.

3.5.4 Reliability analysis

The reliability of the Copenhagen Burnout Inventory was evaluated by means of Cronbach's alpha. For the purpose of this study, Cronbach's alpha was determined for each scale that was extracted during factor analysis. When a scale is reliable, it tells the researcher that this scale consistently represents the construct being measured (Field, 2005). When a scale is reliable, the results of a different sample from the same population will generate the same findings (Pietersen & Maree, 2007b). The reliability of the Copenhagen Burnout Inventory informed the researcher whether the items of each extracted construct consistently measure its construct.

There are a variety of ways to determine the reliability, or consistency, of a questionnaire. Test-retest reliability measures whether a respondent will obtain the same score the second time he/she completed the questionnaire than when he/she did the first time. Split-half reliability, for instance, measures whether a respondent will score the same on the one half of a questionnaire than on the other half. Since the questionnaire is randomly split into two, the problem of split-half reliability is that the result can be a product of the way in which the data was split (Field, 2005; Pietersen & Maree, 2007b). For this study, as already mentioned, Cronbach's alpha was used to determine consistency. Cronbach's alpha is the most popular measure for scale reliability and more importantly, a critical statistic for research where tests are being used or constructed (Cortina, 1993; Field, 2005). Cronbach overcame the weakness of the split-half reliability method by splitting the data into two in every possible way and then calculating the reliability for each split. After the reliability of each split is calculated, an average of the reliability measures is then obtained. SPSS was also used for the calculation of Cronbach's alpha (Field, 2005).

Computing and interpreting Cronbach's Alpha

By making use of SPSS, an output was derived showing the results of the basic reliability analysis of each subscale. The item-total correlation column in the output provides a researcher with correlations between each item of the Copenhagen Burnout Inventory and the total score of the survey (Field, 2005). Each of the values in the item-total correlation column should be .3 and above to show that each item correlates with the total scale (Garson, 2011d). When an item does not seem to correlate sufficiently it means that this item might be problematic. The researcher further used the Alpha if item deleted column in the output. This column provided the researcher with the reliabilities of a scale excluding each item respectively. According to Field (2005), a researcher should exclude an item which, when excluded, causes the reliability of the scale to increase significantly to above the overall alpha. It is generally agreed that .8 is a good value for Cronbach's alpha (Field, 2005; Garson, 2011d). Therefore, the scales of the Copenhagen Burnout Inventory were seen as reliable when their Cronbach's alpha coefficients were .8 or above.

3.5.5   Analysis of variance (ANOVA)

The analysis of variance, also referred to as ANOVA is a technique used for comparison of two or more independent groups by making use of a single quantitative score (Pietersen & Maree, 2007a). This technique was used in the study in order to compare variables in a certain biographic group by using the single score obtained by the group (for instance, to compare responses of men and women on a factor by making use of the score from the gender group).

There are certain assumptions that need to be true before an ANOVA will be appropriate. Firstly, homogeneity of variables should be present. When this assumption is met, the spread of the factor should be equal to the spread in each category of the biographical group. Secondly, multivariate normality should be present. When this assumption is met, the dependent responses on the factor will be normally distributed in each category of the biographic group (Garson, 2011b).

There are several tests available in order to test whether assumptions are true. In a case where assumptions are not met, there are procedures available to transform data in order to be appropriate for the analysis of variance to be performed (Garson, 2011b). The researcher therefore tested the data in order to determine whether the assumptions for ANOVAS are true for the data obtained in this study. Both of the assumptions were untrue, and therefore the data was transformed to be appropriate for the analysis of variance.

ANOVA are based on the assumption of relative homogeneity of means and therefore tests the null hypotheses that group means do not differ (Garson, 2011a). This hypothesis is generally rejected when the significance value is less than 0.05 (Field, 2005; Pietersen & Maree, 2007a). The researcher therefore assumed a significance level (p-value) of 0.05 throughout the analysis. Although the statistical significance (p-value) indicates the probability of differences between groups, it is necessary to further determine the importance of the difference. In order to determine the importance of significant results, effect sizes should be determined (Vacha-Haase & Thompson, 2004). The partial eta squared value (η^2) was

determined while conducting the ANOVA, in order to further evaluate effect sizes. Effect sizes are reported as small (η^2 =.0099), medium (η^2 =.0588), or large (η^2 =.2000) (Cohen, 1988).

The analysis of variance only indicates whether statistically significant differences between biographical groups exist, and not also between which subgroups the significant differences exist. In order to further determine between which subgroups differences exist, a least squares means Sheffe post hoc test was performed.

3.6   ETHICAL CONSIDERATIONS

Research ethics refer to a researcher's appropriateness in terms of his/her behaviour regarding the rights of human beings affected by the work of the researcher. In order for a research study to be ethical, the research design should be methodologically sound and also morally acceptable for those people who are involved (Saunders et al*., 2007).

Whenever the focus of the investigation of a research study is on human beings, researchers should thoroughly consider the ethical implications of the study he/she proposes to conduct (Leedy & Ormrod, 2005). For this particular study, respondents were asked to complete the Copenhagen Burnout Inventory, measuring individuals' levels of burnout. The information given by the respondent is quite confidential since it involves individuals' state of mental health. The researcher therefore ensured that the research design used was methodologically sound and morally acceptable in order to protect respondents from any possible harm due to this study.

3.6.1   Protection from harm

It will be unethical if researchers, in any case, expose participants to unnecessary physical or psychological harm. The general rule is that researchers should not expose participants to more harm than the general day-to-day living. Participants should also not be exposed to unusual stress, loss of self-esteem or embarrassment (Leedy & Ormrod, 2005). In this particular study, anxiety or stress might have been

experienced by participants since questionnaires are potentially intrusive (Saunders et al., 2007). In order to minimise anxiety, respondents were informed about the anonymity of the questionnaire. Respondents were also informed about the fact that participation in this study was completely voluntary.

It is of extreme importance that researchers should give participants the choice to participate or not participate in a study, by making use of informed consent (Leedy & Ormrod, 2005). Participation thus has to be voluntary at all times and participants have to be free to withdraw at any time during the study.

The requirements for informed consent as listed by Saunders et al. (2007) are:

- Participants should be informed about the nature of the research.

- Respondents also have to be familiar with what will be required of them when participating.

- Respondents should be informed about the implications when participating, as well as their rights as participants.

- The way in which data will be collected and reported should be revealed to the participants.

- Participants should also be given a contact number, should there be any enquiries about the research.

The researcher adhered to the above ethical requirements in terms of informed consent by providing participants with proper information in terms of all the above points. Participants also needed to provide their consent prior to participation in the study.

3.6.2 Privacy and anonymity

Participants' right to privacy should be respected by researchers such that research reports should not be conveyed in a manner revealing to others the way a particular participant responded (Leedy & Ormrod, 2005). The researcher protected participants' right to privacy by assuring that their participation was completely anonymous.

3.6.3 Voluntary participation

Before conducting a study, it is necessary that participants voluntary agree to take part in the research study. Participants should also know that they could freely withdraw at any time during the study (Struwig & Stead, 2001). The researcher clearly stated to participants that their participation is voluntary and that they could withdraw from the study at any time by not submitting their completed questionnaires.

It will be unethical of a researcher to provide individuals with incentives of any kind in order to encourage participation. Therefore, no incentives were provided to participants in order to encourage them to participate in the research study. Participants had therefore no reason to feel pressurised to participate in the study, and could freely withdraw at any time.

3.6.4 Honesty with other professionals

It will be unethical conduct when researchers manipulate their findings and misrepresent data intentionally to conclude to desired findings (Leedy & Ormrod, 2005). In this study, responses obtained from participants were statistically analysed and no findings were manipulated or misrepresented.

3.6.5   Plagiarism

Plagiarism is an important ethical issue for a researcher when conducting a literature review. Plagiarism typically occurs when the researcher uses someone else's work and represents it as the researcher's own by not giving credit to the original author (Struwig & Stead, 2001). In order to protect the researcher from this ethical misconduct, the American Psychological Association (APA) referencing style was used to guide the researcher throughout the study.

3.7   CONCLUSION

While conducting this study, the researcher made use of quantitative survey research. A sample of 215 South African employees working with, or together with other people was obtained by means of non-probability snowball sampling. The responses of the 215 respondents on the Copenhagen Burnout Inventory were analysed by means of EFA and reliability analysis to determine the psychometric properties of the Copenhagen Burnout Inventory in a South African context. The researcher further used ANOVA to determine whether statistically significant differences exist between demographic groups in terms of the two factors extracted during factor analysis. Ethical considerations were kept in mind throughout the study.

CHAPTER 4

RESEARCH RESULTS AND FINDINGS

4.1   INTRODUCTION

Chapter 3 provided a thorough explanation of the statistical methods that were used in order to obtain results from which the researcher would be able to determine the psychometric properties of the Copenhagen Burnout Inventory. Further to the methods followed, the ethical considerations, which were taken into account while conducting this study, were also discussed. In Chapter 4, the results are presented by means of tables and figures as well as written explanations.

4.2   EXPLORATORY FACTOR ANALYSIS

Before a researcher can perform an EFA, it is necessary to first determine the factorability of the data. Table 4.1 shows the results from the Kaiser-Meyer-Olkin measure and Bartlett's test of sphericity.

The Kaiser-Meyer-Olkin (KMO) measure is useful for determining factorability. This KMO measure is used to determine the extent to which correlations are due to similarity between groups of variables (constructs), or simply due to chance correlations between small sets of variables (Worthington & Whittaker, 2009). The KMO statistic can vary between 0 and 1 where 0 indicates that correlation between variables are mainly due to chance correlations between small sets of variables, and not due to underlying constructs. The output in table 4.1 shows a KMO statistic of .939, a superb value, which indicates compact patterns of correlations, and means that factor analysis should produce distinct and reliable factors (Field, 2005).

Bartlett's test indicates a value of .000, which is significant. When factor analysis is performed, Bartlett's test should have a value of less than .05, which confirms that relationships between variables exist. Since factor analysis is a process in which

correlating variables are grouped together to form a factor, Bartlett's test should be significant in order for a researcher to proceed with factor analysis (Field, 2005).

Table 3.1:   KMO and Bartlett's test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin measure of sampling adequacy.		.939
Bartlett's test of sphericity	Approx. chi-square	2941.314
	df	171
	Sig.	.000

As the KMO and Bartlett's test indicated that the data has high factorability, the researcher proceeded by determining the number of factors that should be extracted by means of parallel analysis. When using parallel analysis as factor retention method, the number of factors to retain is decided on by comparing the random eigenvalues with eigenvalues obtained from factor analysis on the actual data set. A factor is retained when the actual eigenvalue is greater than the random eigenvalue (Worthington & Wittaker, 2009).

Figure 4.1 illustrates the number of factors to be retained according to results of factor analyses on both a random data set and the actual data set. This plot indicates that in order for eigenvalues from the actual data set to be higher than eigenvalues from the random data set, the number of factors to retain should be two.

Figure 4.1: Parallel analysis plot
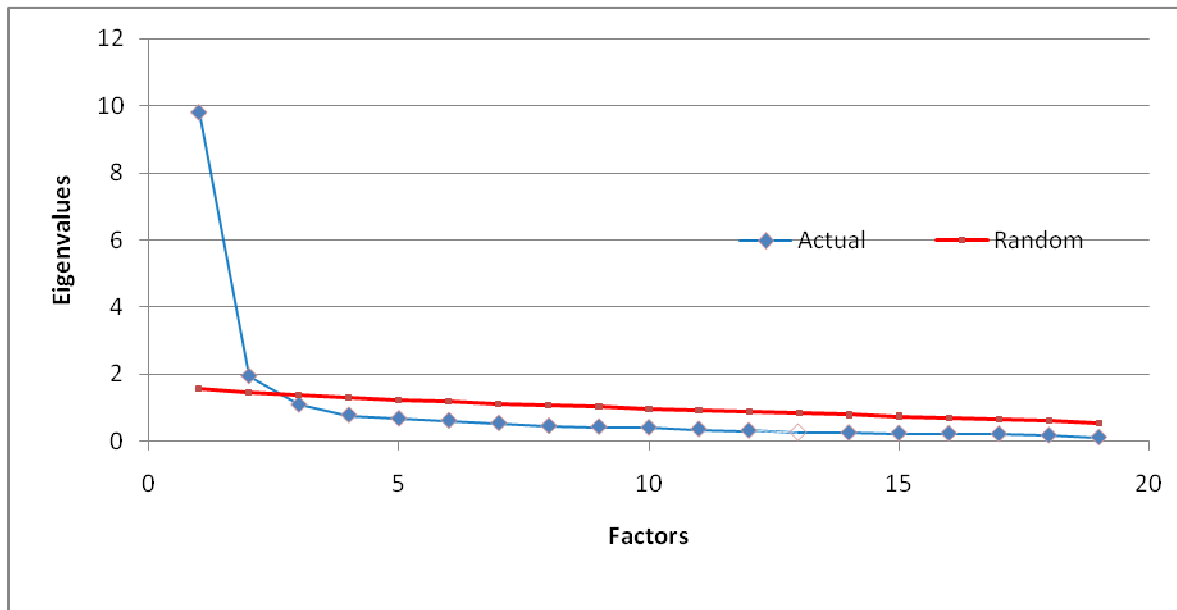
Table 4.2 lists the eigenvalues associated with each factor before factor extraction. The 'total' column lists the eigenvalues which represent the variance explained by its associated factor. The '% of variance' column lists this variance explained by each factor in terms of percentage variance explained (Field, 2005). From this table, it is thus clear that two factors explain 61.953% of the total variance, which is acceptable since a researcher should keep as many common factors as possible to explain at least 50% of the variance in the data set (Hayton et al., 2004).

Table 4.2:   Total variance explained

Factor	Initial eigenvalues		
	Total	% of variance	Cumulative %
1	9.821	51.690	51.690
2	1.950	10.263	61.953
3	1.092	5.746	67.699
4	.785	4.130	71.829
5	.680	3.581	75.410
6	.619	3.255	78.665
7	.542	2.851	81.516
8	.458	2.411	83.927
9	.435	2.291	86.218
10	.412	2.167	88.384
11	.364	1.915	90.300
12	.321	1.690	91.990
13	.270	1.421	93.411
14	.255	1.343	94.754
15	.243	1.277	96.030
16	.235	1.237	97.268
17	.220	1.160	98.428
18	.178	.939	99.366
19	.120	.634	100.000

Table 4.3 presents the pattern matrix. The pattern matrix is produced after factor extraction and factor rotation has been performed. This matrix consists of a set of factor loadings explaining the importance of each variable to each of the two extracted factors (Field, 2005), thus making it possible to see which items fit best to which factor. For the study, the researcher accepted factor loadings with an absolute value of .32 and more. As there are no cross-loadings, no items will be removed from the questionnaire at this stage. When items cross-load too highly on two or more factors, these items are problematic since they reflect an influence of more than one factor. In such a case, a researcher should consider deletion of the problematic item (Worthington & Whittaker, 2009). The pattern matrix indicates that 13 items loaded on Factor 1, while the other six items loaded on Factor 2. The first factor mainly includes items related to exhaustion and fatigue and will therefore be labelled *exhaustion.* The second factor deals with exhaustion and frustration due to people work. The original scale name as given by the developers of the

questionnaire will be kept, as the original scale has been proved valid. The second factor will thus keep its original label, *client-related burnout*.

Table 4.3: **Pattern matrix**

| | Pattern Matrix[a] | |
	Factor 1	Factor 2
q1	**.735**	.067
q2	**.709**	.112
q3	**.654**	.007
q4	**.790**	.005
q5	**.796**	-.015
q6	**.844**	.088
q7	**.732**	.011
q8	**.760**	-.062
q9	**.653**	-.211
q10	**.531**	-.066
q11	**.559**	-.166
q12	**.571**	-.203
q13	**.743**	-.106
q14	-.014	**-.834**
q15	.004	**-.888**
q16	-.065	**-.946**
q17	.230	**-.442**
q18	.053	**-.805**
q19	.063	**-.733**

4.3 DESCRIPTIVE STATISTICS AND RELIABILITY ANALYSIS

Table 4.4 indicates the descriptive statistics on the two scales of the Copenhagen Burnout Inventory, as well as the alpha coefficients of these scales. The mean, standard deviation, skewness and kurtosis describe how the participants responded to the two scales. Skewness and kurtosis values between -1 and 1 indicate a distribution, not significantly different from a normal distribution (Garson, 2011c). The descriptive statistics indicate that both scales do not differ significantly from a normal distribution. Exhaustion is normally distributed with positive skewness, while client-related burnout is normally distributed with negative skewness.

Table 4.4:   Descriptive statistics of the CBI scales

	Mean	SD	Skewness	Kurtosis
Exhaustion	2.919	0.740	0.264	-0.730
Client-related burnout	3.395	0.887	-0.222	-0.445

Table 4.5 represents results from the reliability analysis. Cronbach's alpha indicates the extent to which each scale consistently represents the construct being measured (Field, 2005). An alpha coefficient of 0 indicates that the scale does not represent the construct being measured at all, while an alpha coefficient of 1 indicates that all items measure only the construct, and no error is present (Garson, 2011d). It is widely accepted that the alpha coefficient of a scale should be .8 or higher (Garson, 2011d). Field (2005) states that .8 is a good value for Cronbach's alpha. The internal consistency of both scales is acceptable with a Cronbach alpha of .935 for the exhaustion scale, and .913 for the client-related burnout scale. The item-total correlation column provides correlations between the score of each item in a factor and the total score of all the other items in that factor (Field, 2005). According to Field (2005), each of these values should be .3 and above to show that each item correlates with the total scale. When an item does not seem to correlate sufficiently, it means that this item might be problematic. Table 4.5 indicates clearly that the correlation values for all items are above .3, and therefore there is no need to remove any items due to unacceptable correlation with the total scale. The alpha if item deleted column provides the reliabilities of a scale excluding each item respectively. An item is seen as problematic when it causes the reliability of the scale to increase significantly to above the overall alpha when this item is excluded from the questionnaire (Field, 2005). Table 4.5 indicates that all items, except for Item 17 in client-related burnout, contribute positively to the overall reliability of its scale. Although the overall reliability of the blient-related burnout scale increases when Item 17 is excluded, the increase is small. However, there might be a need to review this item for use in a South African context as it impacts negatively on the reliability of the client-related burnout scale.

Table 4.5:   Item reliability analysis

		Item total correlation	Alpha if item deleted
EXHAUSTION	Scale reliability .935		
	Item 1	0.670	0.931
	Item 2	0.605	0.933
	Item 3	0.618	0.932
	Item 4	0.753	0.928
	Item 5	0.774	0.927
	Item 6	0.742	0.928
	Item 7	0.702	0.930
	Item 8	0.777	0.927
	Item 9	0.776	0.927
	Item 10	0.555	0.934
	Item 11	0.654	0.931
	Item 12	0.681	0.930
	Item 13	0.795	0.926
CLIENT-RELATED BURNOUT	Scale reliability .913		
	Item 14	0.764	0.897
	Item 15	0.826	0.888
	Item 16	0.845	0.886
	Item 17	0.568	0.926
	Item 18	0.809	0.890
	Item 19	0.761	0.897

4.4   COMPARATIVE ANALYSIS OF BIOGRAPHICAL DATA

ANOVAS are based on the assumption of relative homogeneity of means and therefore tests the null hypothesis that group means do not differ (Garson, 2011a). This hypothesis is generally rejected when the significance value is less than 0.05 (Field, 2005; Pietersen & Maree, 2007a). The researcher has therefore assumed a significance level (p-value) of 0.05 throughout the analysis. A p-value of less than 0.05 thus indicates that the null hypothesis has been rejected, and therefore differences in terms of reaction towards the relevant factor do exist between subgroups of a biographical group. Table 4.6 indicates that there are no significant difference between men and women in terms of both the exhaustion factor and the client-related burnout factor since both p-values are higher than 0.05.

Table 4.6:   ANOVA and post hoc results for gender

Factors	*F*-value	*p*-value	Subgroups	N	Mean	Standard deviation	Partial eta squared
Exhaustion	1.27	0.262	Male	78	3.005	0.767	0.007
			Female	137	2.870	0.723	
Client-related burnout	0.43	0.513	Male	78	3.357	0.796	0.002
			Female	137	3.416	0.937	

*p<.05

Table 4.7 indicates a statistically significant difference between race groups on client-related burnout (F=3.17; p=0.025). Black respondents (mean=3.746) showed statistically significant lower levels of client-related burnout than white respondents (mean=3.323). (Note that a score of 5 on the 5-point Lickert scale of the Copenhagen Burnout Inventory indicates no client-related burnout, or client-related burnout to a very low degree.) The partial eta squared value (η^2) was determined while conducting the ANOVA, in order to further evaluate effect sizes. Effect sizes are reported as small (η^2 =.0099), medium (η^2 =.0588), or large (η^2 =.2000) (Cohen, 1988). Partial eta squared showed that the effect size of the statistically significant difference between black and white respondents on client-related burnout was small (η^2 =.047).

Table 4.7:   ANOVA and post hoc results for race

Factors	*F*-value	*p*-value	Subgroups	N	Mean	Standard deviation	Partial eta squared
Exhaustion	0.43	1.733	Black	19	2.996	0.833	0.007
			Coloured	8	2.913	0.838	
			Asian	17	2.765	0.635	
			White	171	2.926	0.739	
Client-related burnout	3.17	0.025*	Black	19	3.746*	0.851	0.047
			Coloured	8	3.833	0.900	
			Asian	17	3.520	0.726	
			White	171	3.323*	0.895	

*p<.05

Table 4.8 shows that no significant differences in levels of exhaustion and client-related burnout occur between groups in terms of the number of years spent at their current organisations.

Table 4.8:   ANOVA and post hoc results for years worked at current organisation

Factors	*F*-value	*p*-value	Subgroups	N	Mean	Standard deviation	Partial eta squared
Exhaustion	0.08	0.988	Less than 1 yr	39	2.911	0.764	0.002
			1 – 2 yrs	24	2.878	0.817	
			More than 2 yrs – 5 yrs	73	2.924	0.731	
			More than 5 yrs – 10 yrs	33	2.830	0.738	
			More than 10 yrs	46	3.003	0.718	
Client-related burnout	0.85	0.494	Less than 1 yr	39	3.436	0.882	0.017
			1 – 2 yrs	24	3.201	0.958	
			More than 2 yrs – 5 yrs	73	3.447	0.935	
			More than 5 yrs – 10 yrs	33	3.424	0.783	
			More than 10 yrs	46	3.355	0.868	

*p<.05

Table 4.9 indicates that no significant differences in terms of exhaustion and client-related burnout exist between different age groups.

Table 4.9:   ANOVA and post hoc results for age

Factors	*F*-value	*p*-value	Subgroups	N	Mean	Standard deviation	Partial eta squared
Exhaustion	2.01	0.79	18-24	19	2.810	0.891	0.049
			25-29	81	2.880	0.750	
			30-34	34	2.842	0.620	
			35-39	24	2.984	0.643	
			40-49	29	2.798	0.756	
			50 or older	28	3.269	0.752	
Client-related burnout	1.37	0.238	18-24	19	3.263	0.977	0.034
			25-29	81	3.335	0.941	
			30-34	34	3.402	0.837	
			35-39	24	3.444	0.916	
			40-49	29	3.328	0.872	
			50 or older	28	3.673	0.708	

*p<.05

Table 4.10 shows no significant difference in terms of exhaustion and client-related burnout between groups differing in terms of their level in their organisations.

Table 4.10: ANOVA and post hoc results for level in organisation

Factors	*F*-value	*p*-value	Subgroups	N	Mean	Standard deviation	Partial eta squared
Exhaustion	1.76	0.138	Top management	15	3.333	0.848	0.035
			Senior management	23	2.873	0.659	
			Middle management	50	2.812	0.743	
			Supervisory	32	2.834	0.588	
			Staff	95	2.950	0.774	
Client-related burnout	0.95	0.437	Top management	15	3.600	0.779	0.019
			Senior management	23	3.449	0.811	
			Middle management	50	3.267	0.955	
			Supervisory	32	3.260	0.713	
			Staff	95	3.461	0.936	

*p<.05

Table 4.11 indicates that no statistically significant differences exist in terms of exhaustion and client-related burnout between groups in terms of highest level of education.

Table 4.11: ANOVA and post hoc results for educational level

Factors	*F*-value	*p*-value	Subgroups	N	Mean	Standard deviation	Partial eta squared
Exhaustion	0.88	0.454	Grade 12 or lower	59	3.018	0.781	0.013
			Diploma	61	2.960	0.683	
			Degree	44	2.832	0.849	
			Postgraduate Degree	51	2.831	0.655	
Client-related burnout	2.18	0.091	Grade 12 or lower	59	3.630	0.903	0.033
			Diploma	61	3.418	0.7970	
			Degree	44	3.250	0.841	
			Postgraduate Degree	51	3.219	0.966	

*p<.05

4.5 CONCLUSION

Findings obtained by exploratory factor analysis on the results of respondents indicate that two underlying factors exist for the Copenhagen Burnout Inventory, namely exhaustion and client-related burnout. No problematic items were indicated during the EFA, and therefore the researcher did not need to remove any of the 19 items from the questionnaire. The reliability analysis indicated high reliability for both the exhaustion scale (α = .915) and the client-related burnout scale (α = .913). Reliability analysis on the items of the CBI indicated that deletion of Item 17 caused a slight increase in the overall reliability of the client-related burnout scale. The ANOVA indicated that a statistically significant difference with small effect size existed between black and white groups in terms of client-related burnout. The black race group indicated lower levels of client-related burnout than the white race group.

CHAPTER 5

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

In Chapter 2, a discussion of the burnout phenomenon was provided, based on an in-depth literature study on burnout. This discussion of the burnout phenomenon was followed by a discussion of the most popular measurement instrument for burnout, namely the MBI, and the way in which its existence relates to the development of the Copenhagen Burnout Inventory. Chapter 3 involved a detailed description of the research design and the methods used in order to determine the psychometric properties of the Copenhagen Burnout Inventory. In Chapter 4, the results of the study were represented by means of tables, figures and a written discussion.

Chapter 5 will now conclude the findings of the study by means of a discussion of the interpretation of results, as well as limitations to the study and recommendations for future research.

5.2 SUMMARY OF RESULTS

Kristensen et al. (2005) developed the Copenhagen Burnout Inventory as a result of criticism against the most famous measure for burnout, the Maslach Burnout Inventory (Maslach & Jackson, 1981). The Copenhagen Burnout Inventory was developed to measure burnout in terms of personal burnout, work-related burnout and client-related burnout. This inventory is unique in the sense that its scales were developed in such a way that the inventory should be able to indicate whether individuals' feelings of burnout are due to personal factors, or work-related factors. A problem with the Copenhagen Burnout Inventory is that not much attention has been paid by researchers to determine its psychometric properties.

The main aim of this study was to determine the psychometric properties of the Copenhagen Burnout Inventory in a South African context by performing exploratory factor analysis and internal reliability analysis.

Results from the exploratory factor analysis rejected the three-factor model of Kristensen et al. (2005), leaving only two factors. The client-related burnout factor was confirmed by the factor analysis performed with this study, but items forming the personal burnout factor and the work-related burnout factor according to Kristensen et al. (2005), formed one factor, which has been labelled *exhaustion* by the researcher. The factor analysis did not indicate any problematic items, and therefore no items were removed from the Copenhagen Burnout Inventory.

The reliability analysis indicated high internal reliability for both the exhaustion and client-related burnout scale. The alpha coefficients were 0.935 for the exhaustion scale and 0.913 for the client-related burnout scale. Field (2005) states that .8 is a good value for Cronbach's alpha. The reliability analysis indicated that Item 17 might be problematic since the overall reliability of the client-related burnout scale is higher when this item is deleted.

Further to determining the psychometric properties of the Copenhagen Burnout Inventory, the researcher also determined whether this inventory discriminated against biographical groups in terms of responses on the two constructs. Analysis of variance was performed to determine whether statistically significant differences existed between biographical groups. The only statistically significant difference found was between race groups in terms of client-related burnout. A post hoc test further indicated that results on the Copenhagen Burnout Inventory only indicated a statistically significant difference between responses of the black and white race groups towards client-related burnout. The group of white respondents showed statistically significant higher levels of client-related burnout than black respondents.

5.3   INTERPRETATION OF RESULTS

According to results from the factor analysis, this study proved that the Copenhagen Burnout Inventory can be used in South Africa to measure two factors, namely exhaustion and client-related burnout.

The Copenhagen Burnout was developed in such a way that the inventory should be able to indicate whether individuals' feelings of burnout are due to personal factors, or work-related factors (Kristensen et al., 2005). This significant feature of the Copenhagen Burnout is not present for a South African population, as the personal burnout scale was not a valid factor.

In order for the significant feature of the Copenhagen Burnout Inventory to be valid in a South African context, the personal burnout scale should exist. This personal burnout scale could just as well be termed *fatigue* (Kristensen et al., 2005). While Kristensen et al.(2005) developed the Copenhagen Burnout Inventory to measure personal burnout (or fatigue), work-related burnout, and client-related burnout, the factor analysis of this study resulted in two factors. Client-related burnout was proved valid, but the items of personal burnout (or fatigue) and work-related burnout formed one mutual factor. As Kristensen et al. (2005) disagreed with the three-factor model of the Maslach Burnout Inventory, the Copenhagen Burnout Inventory was based on fatigue as its core. Withdrawal was seen as a coping strategy, which should be studied on its own, and therefore no items of the Copenhagen Burnout Inventory were based on withdrawal (Kristensen et al., 2005). According to Schaufeli and Taris (2005), the distinction between fatigue and burnout could become vague if the burnout definition focuses only on the single dimension of fatigue. Burnout should be conceptualised as a work-related phenomenon consisting of at least two factors, namely fatigue and withdrawal (Shaufeli & Taris, 2005).

Although the work-related burnout scale included items related to work, all items were based on fatigue at work. No items based on withdrawal were included. It is possible that the distinction between the personal burnout (or fatigue) scale, and the work-related burnout scale was vague due to the lack of items based on withdrawal. It is therefore likely that additional items based on withdrawal might lead to a clear distinction between the personal burnout scale and the work-related burnout scale.

Results of the ANOVA and post hoc test indicated that no statistically significant differences exist between demographic groups, except for race groups in terms of client-related burnout. This finding contrasts general findings of previous burnout

literature studying differences between demographic groups. Generally, age has been showed to be the demographic variable that has been most consistently related to burnout (Cordes & Dougherty, 1993; Maslach et al., 2001).

This study found that the white race group showed statistically significant higher levels of client-related burnout than the black race group. When looking at the items under the client-related burnout scale, it is clear that these items mostly relate to fatigue and frustration regarding work with other people.

By comparing the cultural background of black and white groups in South Africa, it is quite understandable why this background could be the possible cause of the difference between groups in terms of the client-related burnout scale. While black South Africans have a cultural background of collectivism, white South Africans' culture is based on individualism. In collectivist cultures, shared goals are more important than individual goals (Kreitner & Kinicki, 1989), and employees of this culture prefer group work (Rego & Cunha, 2009). In individualistic cultures, individuals give priority to individual choice (Kreitner & Kinicki, 1989), and prefer solitary work (Rego & Cunha, 2009). It is thus highly possible that white respondents scored higher on items related to fatigue due to work with other people, since the effect of conflicting goals will probably be higher on white employees than black employees due to cultural differences.

5.4 LIMITATIONS AND RECOMMENDATIONS

From a survey research perspective, one limitation to the study is the absence of the researcher during completion of the questionnaires. Respondents could therefore not request any clarification with regard to questions from the researcher and this could have influenced the quality of results.

When using any of the four existing non-probability sampling methods, a researcher should keep in mind the limitations with regard to representing the population, as well as generalising the results obtained from the sample to the population (Maree & Pietersen, 2007). Although the main aim of this study was to evaluate the

Copenhagen Burnout Inventory in a South African context, the researcher did make use of ANOVA to determine differences between groups. The limitation of the non-probability snowball sampling method used should therefore be kept in mind with regard to the generalisation of results obtained from the ANOVA.

From the perspective of a cross-sectional research design, another limitation to this study is the fact that this study did not allow the researcher to determine whether burnout levels increase or decrease with changing age. Although this study found that no significant difference exists between different age groups, this finding only refers to difference between age groups at a certain point in time. With a longitudinal study, the researcher would be able to determine whether perceived levels of burnout are related to increasing age.

It is recommended that items based on withdrawal are added to the work-related burnout scale. Future studies could then determine whether additional items based on withdrawal will lead to confirmation of the three original factors of the Copenhagen Burnout Inventory in a South African context. These additional items might lead to a clear distinction between the personal burnout scale and the work-related burnout scale. If future studies could confirm the original three-factor model in a South African context by adding additional items based on withdrawal, the significant feature of the Copenhagen Burnout Inventory will also be valid. This significant feature involves the ability of the questionnaire to determine whether high levels of burnout are due to personal factors or work-related factors.

It is recommended that future studies should also be conducted to determine whether the two-dimensional structure which has been obtained by this study can be confirmed by employing structural equation modelling.

The reliability analysis showed that Item 17 might be problematic since deletion of this item results in an increase of the overall reliability of the scale. It is therefore further recommended that Item 17 should be revised.

5.5 CONCLUSION

The Copenhagen Burnout Inventory was developed to measure burnout in terms of personal burnout, work-related burnout and client-related burnout. A unique characteristic of the Copenhagen Burnout Inventory is the fact that results of the questionnaire could indicate whether feelings of burnout are due to personal problems or work-related problems. However, for this characteristic to be valid in the South African context, the personal burnout scale should exist separately from the scales related to work. Findings of the EFA rejected the three-factor model of Kristensen et al. (2005) and indicated two underlying factors. While the original client-related burnout scale was proved valid, items of the personal burnout scale combined with items of the work-related burnout scale to form one common scale, namely Exhaustion. The reliability analysis indicated high reliability for both the exhaustion and the client-related burnout scale. The reliability analysis further indicated that Item 17 might need to be revised. The above-mentioned unique characteristic of the Copenhagen Burnout Inventory is not valid in a South African context since the personal burnout scale was proved to be an invalid scale. The researcher therefore recommends that future studies add items based on withdrawal to the personal burnout sale and work-related burnout scale of the Copenhagen Burnout Inventory. By adding such items to the Copenhagen Burnout Inventory, a clear distinction between the personal burnout scale and the work-related burnout scale could be obtained, and the unique characteristic might thus be valid. It is further recommended that future studies revise Item 17 of the Copenhagen Burnout Inventory since it has a negative effect on the overall reliability of the scale. It is also recommended that future studies should make use of structural equation modelling to determine whether the 2-factor structure found in this study by means of EFA could be confirmed.

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APPENDIX A

Data collection instrument

DATA COLLECTION INSTRUMENT

THE COPENHAGEN BURNOUT INVENTORY
Kristensen, Borritz, Villadsen & Christensen (2005)

The Copenhagen Burnout Inventory measures burnout in three sub-dimensions, namely personal burnout, work-related burnout and client-related burnout. The core of burnout measured by the Copenhagen Burnout Inventory is fatigue and exhaustion. This questionnaire will take about five minutes to complete.

CONSENT

By ticking the box below, consent is given to the researcher to use your results in an academic study. Please note that your participation will stay completely anonymous.

I hereby give my consent	1

BIOGRAPHICAL INFORMATION

Please complete your biographical information by marking the appropriate block:

Gender
Please indicate your gender by choosing only one of the following:

male	female
1	2

Race
Please indicate your ethnic group by choosing only one of the following:

Black	Coloured	Asian	White
1	2	3	4

Years at organisation

Please indicate how long you have been working at your current organisation by choosing only one of the following:

Less than 1	1 to 2	More than2 to 5	More than 5 to 10	More than 10
1	2	3	4	5

Age

Please indicate your age by choosing only one of the following:

18-24	25-29	30-34	35-39	40-49	50-59	60 or older
1	2	3	4	5	4	5

Level in organisation

Please indicate your level at your current organisation by choosing only one of the following:

Top management	Senior management	Middle management	Supervisory	Staff
1	2	3	4	5

Industry

Please indicate the job sector you are currently working in by choosing only one of the following:

Financial Services	1
Chemical / Petroleum	2
Information Technology	3
Education / Training	4
Government (governmental responsibilities fulfilled)	5
Telecommunications	6
Mining	7
Manufacturing & Production	8
Professional Services	9
Other	10

Qualification

Please indicate your highest level of education by choosing only one of the following:

Lower than Grade 12	Grade 12	Diploma	Degree	Postgraduate Degree
1	2	3	4	5

BURNOUT SCALES

5-point scale

1	2	3	4	5
Always or To a very high degree	Often or To a high degree	Sometimes or Somewhat	Seldom or To a low degree	Never or To a very low degree

Please note that the term "client" refers to any person you have contact with during your working hours.

Personal Burnout					
1. How often do you feel tired?	1	2	3	4	5
2. How often are you physically exhausted?	1	2	3	4	5
3. How often are you emotionally exhausted?	1	2	3	4	5
4. How often do you think: "I can't take it anymore"?	1	2	3	4	5
5. How often do you feel worn out?	1	2	3	4	5
6. How often do you feel weak and susceptible to illness?	1	2	3	4	5
Work-related Burnout					
7. Do you feel worn out at the end of the working day?	1	2	3	4	5

8. Are you exhausted in the morning at the thought of another day at work?	1	2	3	4	5
9. Do you feel that every working hour is tiring for you?	1	2	3	4	5
10. Do you have enough energy for family and friends during leisure time? (inverse score)	1	2	3	4	5
11. Is your work emotionally exhausting?	1	2	3	4	5
12. Does your work frustrate you?	1	2	3	4	5
13. Do you feel burnt out because of your work?	1	2	3	4	5
Client-related burnout					
14. Do you find it hard to work with clients (or co-workers, students, trainees, pupils, or any other work-related persons)?	1	2	3	4	5
15. Does it drain your energy to work with clients (or co-workers, students, trainees, pupils, or any other work-related persons)?	1	2	3	4	5
16. Do you find it frustrating to work with clients (or co-workers, students, trainees, pupils, or any other work-related persons)?	1	2	3	4	5
17. Do you feel that you give more than you get back when you work with clients (or co-workers, students, trainees, pupils, or any other work-related persons)?	1	2	3	4	5
18. Are you tired of working with clients (or co-workers, students, trainees, pupils, or any other work-related persons)?	1	2	3	4	5
19. Do you sometimes wonder how long you will be able to continue working with clients (or co-workers, students, trainees, pupils, or any other work-related persons)?	1	2	3	4	5