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IDENTIFYING MEDICAL CALL CENTRE STRESS: AN EVALUATION OF PSYCHOLOGICAL AND PHYSICAL WELLBEING

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2005

This research dissertation was submitted to the University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of Master of Arts (Industrial Psychology) by Coursework and Research Report.

DECLARATION

I declare this dissertation is my own, unaided work. It is being submitted for the degree of Master of Arts (Industrial Psychology) at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other university.

Josie Lutrin

February 2005

ABSTRACT

The current research focuses on stress within the medical call centre environment and the way in which organisational factors may impact on the psychological and physical wellbeing of employees in such a context. The rationale of the study occurs as a relative lack of current research in this area, particularly within the South African context. Furthermore, the study aimed to combine previous research conducted in call centres with other studies carried out on emergency medical service personnel, in order to generate distinctive findings for the unique environment of the emergency medical call centre.

The study was quantitative in nature and was based on the transactional model of stress. The participants were selected non-randomly from an accessible sample of convenience and elements of both purposive and convenience sampling procedures were used. One hundred and fifty questionnaires were distributed within the three medical call centres and 78 were completed and returned.

The findings indicate that medical call employees experience stress from environmental aspects such as support outside of work, organisational factors, feelings of being undervalued, support at work and the nature of the work itself. Additionally, findings indicated that the stress factors of support outside of work, organisational characteristics, being undervalued and support at work had an impact on the psychological and physical wellbeing of employees and increased absenteeism and their desire to leave the

organisation. Results also indicated that stress related to the nature of the work itself was not significant and decreased as tenure within the medical call centre industry increased.

Having identified the aspects of medical call centre stress and the way in which these factors impact on the psychological and physical wellbeing of employees, the implications of this work were discussed both theoretically and practically. Limitations of the study were acknowledged and further research directions were suggested.

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CHAPTER 1

INTRODUCTION

Medical call centres are organisations that are involved in the provision of primary, telephonic medical care and the dispatching of emergency medical vehicles when deemed appropriate. Emergency medical call centres combine aspects of the emergency medical services with those of a call centre and create a unique environment for assessing and managing medical emergencies.

Much research has been devoted to the study of the emergency work environment and the way in which the stressors of such an occupation impact on both the work and family lives of employees (Anshel, 2000). Studies have shown that emergency medical workers experience levels of psychological stress that are higher than those of the average population and that the demands of the job may impact negatively on the social, physical and psychological aspects of such individuals (Moran and Britton, 1994).

Emergency medical work has also been identified as ‘traumatic’ as the nature of the work is often extremely stressful and distressing for those who assist the accident or trauma situation (Anshel, 2000). Wilson (1989), develops this concept by expanding on the effects that ‘workplace trauma’ may have on an individual. Consequences included are those such as physical and emotional exhaustion, low morale, impaired work

performance, irritability towards co-workers and superiors, extended use of sick leave, increased absenteeism and in some instances the resignation of employees.

In addition, many studies have investigated stress with regards to the nature of the call centre environment and the way in which the simultaneous demands for technical and customer service skills often place much strain on call centre employees (Workman and Bonner, 2004). Call centres have been characterised as environments that often have high stress, unpleasant working or interpersonal conditions, and high turnover rates (Adorno, 1999).

Therefore, the current study intends to assess the unique environment of a medical call centre in which employees are required to answer calls that are of emergency medicine in nature and, if necessary, dispatch emergency vehicles to the appropriate areas. The medical call centre environment is distinctive in nature as it combines both the elements of a general call centre and an emergency medical services atmosphere. As there is little evidence of similar studies and a need for further research in the South African context, this study will attempt to provide insight into this environment within the framework of three medical call centres in Johannesburg.

Furthermore, while many other studies view stress as an outcome or response to a potentially damaging situation, the current study sees stress as an inherent element of the medical call centre environment as is therefore concerned with the impact of this potentially harmful situation on the wellbeing of employees. This study aims to

investigate this unique environment and identify the organisational risk factors that may impact on the physical and psychological wellbeing of employees within this context.

In the following sections, some of the literature relating to these possible work-related stressors will be reviewed as well as previous literature regarding the impact of the occupational environment on employee wellbeing.

CHAPTER 2

LITERATURE REVIEW

The present research intends to explore the risk factors implicated in medical call centre work and the extent to which these factors impact on the psychological and physical wellbeing of call centre staff. While much research exists on stress and wellbeing in the emergency medical services and call centres respectively, this study aims to combine previous findings in these areas and apply them to the unique environment of a medical call centre – a work context that merges the two perspectives. In order to do this, the nature of the call centre and the emergency services environment, as well as the theoretical constructs of stress and wellbeing need to be explored, and the relationships between these concepts require definition and development.

The relationship between work, stress and wellbeing has been long established (Jahoda, 1982; Warr, 1982). Research has shown that feelings of job-related wellbeing and context-free wellbeing are positively correlated and that stress, attitudes about the organisation, task demands and available resources impact on the way in which an individual feels about his/her life in general (Fisher, Katz, Miller and Thatcher, 2003).

However, the processes by which work can psychologically impact negatively on the individual are complex and difficult to isolate (Cooper, Dewe and O'Driscoll, 2001). A possible reason for this is that different individuals express different physical, mental and

psychological reactions to seemingly similar environmental stimuli (Harris, Daniels, Briner, 2003).

Therefore, in order to understand how work stressors may affect wellbeing, the subjective factors of the experience as well as the organisational factors must be analysed (Harris et al, 2003). Organisational factors refer to all policies –either formal or informal – and structures within an organisation that impact on personal and organisational performance (Schermerhorn, Hunt and Osborn, 1995). These would not only include the personal factors such as personal coping strategies, work/family conflicts or individual manifestations of stress (Vachon, 1997), but would also be focussed on the factors of the organisation that exist as stable constructs for all employees and only differ with regards to the perceived effectiveness or 'stressfulness' of such policies (Doyle, Hanks and MacDonald, 2001).

With regards to these 'stressors' and manifestations of stress, there are numerous frameworks and theories that can be used for defining and discussing these stresses and their impact on wellbeing. The following section looks at the theoretical expositions of stress that may be applicable to the medical call centre environment.

Stress

The majority of theories on stress can be grouped in terms of three different perspectives, namely those that are concerned with stress as the response of the individual, stress as the accumulation of difficulties in an individual's environment and stress as the interaction between personal characteristics and factors within the environment (Ross, 1997; Levert, 1999). While the first grouping is response-based and deals with the internal state of the organism, the second school is stimulus-based and is rooted in analysing external events or situations. The third grouping – the transactional approach – deals with the process of an experience emerging out of the transaction between the person and the environment.

This study will make use of one of these paradigms – the transactional model – in order to identify and investigate stress within the medical call centre environment. However, as the aim of the current research is not to test the transactional model, it is used within this study merely as a theoretical paradigm that may help in the interpretation and understanding of results.

Within the framework of the transactional model of stress, both the characteristics of the individual and the nature of the environment are taken into account and 'stress' is therefore seen as the outcome of interactions – or transactions – between the person and his/her surrounding (Singer and Davidson, 1991). As stated by Lazarus (1966,p.5), "the important role of personality factors producing stress reactions require that we define stress in terms of transactions between individuals and situations, rather than either one in isolation".

This perspective has been advocated by many theorists who argue that any conceptualisation of stress needs to accommodate individual differences and that stress is neither a stimulus nor response, but rather a stimulus-response transaction (Ross, 1997; Cox, 1978, Folkman and Lazarus, 1985). A ‘stressor’ is viewed as any potential threat in the environment that may be perceived by a person as threatening and produce a stress response within that particular individual. Thus, a stressor can be defined as “a stimulus that produces stress responses in the majority of individuals” and, an occupational stressor can therefore be understood as a situational factor inherent in an organisational context that has the potential to create harm for many individuals within the same context (Thatcher and Miller, 2003, p. 54).

These stressors must be distinguished from a stress response – or strain – as, while a stressor in an input variable of a situation that could potentially be damaging to an individual, strain is a response to a stressful event in which the individual feels threatened or unable to cope (Thatcher and Miller, 2003). The unique interaction between stressors and the resultant consequences – strains – are intertwined with intervening psychological processes and stress can therefore be perceived as a lack of congruence between the individual and the environmental context.

The perception and interpretation of potentially stressful events – cognitive appraisal – is fundamental to this approach to stress. Folkman and Lazarus (1985) define stress as “a relationship between the person and the environment that is appraised by the person as relevant to his or her well-being and in which the person’s resources are taxed or

exceeded" (p.152). Therefore, it is possible to see that understanding or interpretation, which may occur frequently following the introduction of a stressor, are essential elements of the transactional approach.

There are two types of appraisal: primary appraisal and secondary appraisal and these may change over time. Primary appraisal concerns the appraisal of potential stressors in terms of how much appears to be at stake –with regards to motives, values and commitment – and the individual's perception of the stressors potential ability to do harm (Lazarus, 1994).

Folkman and Lazarus (1985) distinguish between three types of primary appraisal, namely: irrelevant, benign or stressful. Therefore, when faced with a stressor, individuals may make three distinctive types of appraisal or evaluation. A 'threat' evaluation means that harm is anticipated and a 'harm' evaluation means that some amount of damage has already occurred. However, the 'challenge' evaluation means that even though a condition of high demand may exist, the outcome is evaluated as potentially beneficial and, unlike the former evaluations, the challenge evaluation may have positive outcomes for the individual (Lazarus, 1994).

Rosendorff (1995) states that primary appraisals are highly influenced by personal factors, of which beliefs, attitudes and commitments are the most significant. The more meaningful a particular situation is for an individual, or the more committed he or she is,

the greater the risk for the individual, and the more important it may be for that individual to believe that he or she has control over the outcome of that particular situation.

Secondary appraisal is concerned with the individual's ability to manage stress – given the available resources – as well as those strategies most likely to be effective in reducing potential threats or harm (Lazarus and Folkman, 1984). The resources available to the individual include personal coping mechanisms as well as the psychological, social, physical and material possessions against which the 'demands' of the situation are measured.

Furthermore, Lazarus and Folkman (1984) refer to a third level of appraisal within this model. 'Reappraisal' is the process of change to past appraisals as a result of new inputs from the environment or cognitive coping processes. Coping is a process that is strongly connected to the appraisal concept as it is the person's perception – or appraisal – of managing those internal and external demands that tax or exceed the resources of the individual (Kelley, 1991). Stressful events are often viewed as less threatening when they are familiar, controllable and predictable and the core of this approach is that the cognitive mechanisms of appraisal and coping shape the amount of stress an individual will experience in a particular situation.

However, while the transactional model is very comprehensive in its recognition of the cognitive factors that pay a crucial role in explaining stress, there are still limitations that exist within this paradigm. While the model is able to account for individual differences

in stress appraisal, coping behaviours, amount of stress experienced and differences due to the influence of moderator variables, this attribute could possibly intensify the complexity inherent in considering all these factors when conducting research (Singer and Davidson, 1986).

Furthermore, it has been argued that the complete process of cognitive appraisal is highly subjective and very difficult to measure objectively. Self-report methods are often used and this frequently allows for inaccuracy and potentially biased information (Aldwin, 1994). Rice (1992) also criticises the transactional approach on the grounds that it pays little attention to the physical parameters of stress and health, it does not explicitly describe social constructs, and it does not explain how the mind influences the body processes.

Yet, despite these possible limitations, the transactional approach is able to account for both external and internal factors that could contribute to stress as well as individual perceptions and coping strategies with regards to stressful events. It steers away from a linear, cause-effect approach and is a deeper and more analytical approach to understanding the interrelationship between individuals and their environments.

The transactional approach has been widely used in stress research to conceptualise stress and occupational stressors within the work environment (Liebowitz, 1997). Occupational stressors have been cited as the unavoidable results of a rapidly advancing work environment with critical consequences for both employees and organisations (Cooper,

1998). Research has shown that negative responses to occupational stressors can affect both the psychological and physical health of employees and can also be highly detrimental to their families, social relationships within the organisation and the subsequent productivity of the enterprise as a whole (Endler and Corace, 2001).

The preceding section has described the approach to stress taken in this study as that of the transactional paradigm. The subsequent sections of this literature review will explore some of the occupational stressors related to both the emergency services and medical call centre environment and will investigate the extent to which the physical and psychological wellness of employees may be affected.

Stressors and strain in the emergency medical environment

Present-day South African is a context that is still fraught with a legacy of Apartheid and it is inevitable that this has taken a tremendous toll on the mental, physical and spiritual wellbeing of the majority of South Africans (Walaza, 1999). While political violence has reduced considerably, this has been replaced by criminal violence which has increased as a result of unemployment, underdevelopment, social and economic disparities and a culture of violence (Hamber, 1997).

Therefore, South African emergency workers face an environment of crime and violence – as well as accidents – that impact on the stressful nature of their jobs and this is often associated with health and psychological problems (Naude and Rothman, 2003).

The job characteristics of emergency personnel such as unpredictable environments, dealing with trauma, and the ambiguity of job definition by public and medical staff in hospitals make them particularly vulnerable to job-related stress (Anson and Bloom, 1988). The continual exposure to death, witnessing gruesome sights, high speed driving, critical decision making and the high levels of responsibility are some of the elements that contribute to the interpretation of this work as traumatic (Anson and Bloom, 1988).

Additionally, the unrealistically high expectations that the public may have of law enforcement officers and emergency medical workers can lead to personal crises and experiences of burnout (Fischer, 1990; Maslach, 1982).

According to Eldewich and Brodsky (1980, p.12), burnout is defined as the "progressive loss of idealism, energy and purpose experienced by people in the helping professions as a result of the conditions of their work". Within the emergency medical environment, difficulty in dealing with accidents and deaths, as well as lack of organisational coping strategies and support are also some of the issues that have been identified as contributing factors to stress and potential burnout (Fischer, 1990).

However, these stressors are primarily specific to on-scene emergency workers and are perhaps not entirely pertinent to medical call centre staff. Even though the medical call centre employee may be the first person to telephonically respond to a medical call, he/she will not be directly exposed to the physical nature of the emergency.

Therefore, studies that also include organisational factors as central to the experience of stress by emergency medical personnel may be more relevant to the current study. As the present research is focussed on call centre operators who monitor medical emergencies telephonically, it is necessary to look beyond those stressors that are only centred on emergency services workers who are 'on the road'. For instance, Kroes' studies (1976) that involve the stressors associated with the emergency personnel may be more applicable to the call centre environment as they are not solely concerned with the stress of on-scene exposure. Kroes identified various other elements that contribute to the stress of emergency service workers including excessive administration, poor supervision, shift work, bureaucracy, job conflict, job overload, inadequate resources and role responsibility.

Sparrius (1993), studied South African paramedics and identified many different sources of stress for those in the position of emergency medical work. These include individual stressors, interpersonal stressors, intergroup stressors, organisational-based stressors and extra- organisational stressors. Individual stressors highlighted were dealing with patients, slow or 'boring' shifts, lack of adequate equipment, shift work, meeting deadlines and administrative duties. Factors such as physical danger, abuse from bystanders and travelling long distances were also included, yet would not extend to the call centre environment.

Interpersonal stressors included pettiness among colleagues and personality clashes with senior management. Intergroup stressors were identified as those involving favouritism by senior management and a lack of respect from co-workers (Sparrius, 1993).

Sparrius (1993) identified the organisational-based stressors as those that reflect high levels of negativity towards the organisation. Among the most prominent of these stressors were the structure and functioning of the organisation, management styles, a lack of task control and a lack of organisational mobility. Extra-organisational stressors included the perceived low occupational status of emergency services personnel and a shortage of dedicated employees in the field. Moreover, paramedics identified organisational stressors to exceed the occupational stressors inherent in the job. This was further reinforced with later research on South African paramedics (Georgiou, 1997; Davies, 1995).

Therefore, it can be deduced that, in the case of medical call centre staff, levels of stress are not necessarily reduced by the experience of administering off-scene medical assistance but are perhaps even increased by the organisational factors mentioned previously. While medical call staff may not be directly exposed to the stressors associated with the nature of on-scene medical care, they remain at risk for interpersonal, intergroup, organisational and extra-organisational stressors. Additionally, stress in the medical call centre may be further exacerbated by the pressures and strains inherent to a call centre environment. The following sections will examine the call centre situation and the possible stressors that may be associated with this work context.

The call centre

The call centre industry has grown rapidly over the last twenty years and rapid advances in technology have enabled this sector to deliver fast and efficient services through information and communication systems (Bagnara, Gabrielli and Marti, 2000). Presently, call centres account for one of the most rapidly growing forms of employment in the USA and in Europe (Bagnara et al, 2000). A call centre is a central place where client and customer communication is conducted via telephone and through the use of computer automation in order to maximise productivity and efficiency (Rademeyer, 1995). Dawson (1997) states that "a call centre is a physical location where call are placed, or received, in high volume, for the purpose of sales, marketing, customer service, telemarketing, technical support or other specialised business activity" (p.1). With a strong technological foundation, call centres offer more flexibility and thus lower the costs of meeting the needs and expectations of customers. Although there is no face-to-face contact, emotional interaction is often still involved (Dawson, 1997).

There are two main types of call centres: inbound and outbound. Inbound call centres refer to centres where the customer phones the call centre whereas the outbound call centre requires that the call centre agent telephone the client (Rademeyer, 1995). Inbound call centres handle customer service in general by solving problems, handling questions or answering queries about products or services. This study will focus specifically on this type of call centre as medical call centre agents respond to telephone calls regarding general health queries and medical emergencies.

Over the past few years, the call centre operation has experienced rapid growth. Houlihan (1997), states that “the call centre processes are increasingly emerging in more specialised areas such as legal advice, psychological support, recruitment, market research and public sector communications” (p.1). Call centres are thus becoming increasingly important, both as an interaction channel as well as an important source of customer-related information. As call centres reach a new level of importance for customer-related management, the role of a call centre agent becomes increasingly central as the link between the client and the organisation (Houlihan, 2001).

In previous years, call centres functioned as ‘telephone operating’ stations with call centre agents required to answer calls of very repetitive, predictable content. However, employees within the present-day call centres need to engage in complex mental activities where unforeseen problem-solving and rapid decision-making is experienced (Bagnara et al, 2000). This has been extended to medical call centres, where injured victims or even unharmed bystanders are able to call in the medical emergency and receive telephonic assistance. If necessary, dispatchers will send an emergency vehicle to the scene of the trauma and the call centre agent will give medical advice to the person on the telephone until the ambulance arrives.

Thus, medical call centre operators are often required to make emergency medical decisions and engage in problem-solving for situations they may never have experienced or are unable to conceptualise. This is particularly difficult as they are not doctors and

their qualifications and training may be inadequate for the scenarios with which they are presented.

In addition, there are many other factors inherent in the call centre environment that may not be medical in nature but may be perceived as stressful by medical call centre staff. A number of these possible stressors are discussed in the next section of this literature review.

Research on stress in the call centre environment

The nature of the call centre environment is also one that may contribute to stress and physical, mental and psychological strain in employees (Workman and Bommer, 2004). Call centre employees are also often expected to deal with a high workload, a lack of skill variety in terms of technological tasks, poor supervision, conflicting demands and an unpleasant working environment (Adorno, 1999).

Call centres have been referred to as ‘electronic sweatshops’ and the term ‘battery hens’ has been used to illustrate the perceived stressful and intense nature of working in such an environment (Garson, 1988; Fernie and Metcalf, 1998; Taylor and Bain, 1991). Furthermore, call centre work is believed to be highly routine, monotonous and ‘low quality’ with the emphasis on low-involvement work practices.

Additionally, according to Harris, Daniels and Briner (2003), call centres are inherently stressful work environments as a result of the nature of the work involved. Call centre

agents are required to see to the demands of the client in ‘real-time’ and other factors such as job repetition, potential job dissatisfaction, poor ergonomics and low pay may lead to high levels of stress which, in turn, may lead to higher levels of absenteeism and ultimately in reduced customer satisfaction.

Additionally, research has shown that other common causes of stress in the call centre include understaffing, impossible service levels, inappropriate or oppressive management style (Adorno, 1999). A mismatch between the skills of the agent and the job requirements, as well as a mismatch between the stated aims of the job and the actual work being done are also aspects of the call centre that may contribute to high levels of stress and employee dissatisfaction (Adorno, 1999).

Another possible reason for stress within the call centre environment is that of ‘emotional labour’. Call centre agents – and especially those in the emergency medical services – are often confronted with difficult and emotionally challenging situations that require them to extend themselves both mentally and psychologically. Emotional labour is defined as the effort expended – and the subsequent physiological arousal- in order to manage or regulate ones emotional reactions at work (Adorno, 1999). This effort is necessary for exhibiting those performance behaviours that are valued by the organisation and suppressing the expression of less acceptable behaviours. Service employees – such as those in a call centre – are particularly vulnerable to a demand for emotional labour as their jobs generally require maintaining a friendly, positive and calm demeanor despite job characteristics that might engender negative emotional reactions. Therefore, while

call centre agents may be required to engage in complex problem solving, work at a frenetic pace or deal with individuals in dangerous or life-threatening situations, they are still required to suppress any negative emotional behaviour such as shouting, panicking or abruptly hanging up the phone.

The preceding section of this literature review has outlined some of the stressors found within the call centre environment. The following section will explore some of the factors that have been identified as common occupational stressors within the medical call centre environment.

Stress in the medical call centre

Cartwright and Cooper (1997), identify primary workplace stressors as being factors intrinsic to the job itself. These stressors have been described as task demands, workload and job security, roles in the organisation, relationships at work, career development issues, the home-work interface and organisational factors such as climate, structure and culture (Gignac and Applebaum, 1997). Additionally, a lack of participative decision-making, locus of control and utilisation of employee skills have also been identified as possible stressors within the occupational environment (Gignac and Applebaum, 1997). These occupational stressors have been found to be prevalent within the medical call centre context. Although there are many interlocking dimensions, for clarity of discussion each broad category will be placed under a specific dimension.

Social support

While not central to the actual task requirements of the job, social support has been identified as a critical factor in reducing occupational stress and improving health (Haines and Hurlbert, 1991). Larson (1993, p.22) states that “although social support has many facets, a core dimension of it involves participating in a network of caring and reciprocal relationships with others and creating a sense of belonging and a reason for living that transcends ones individual self”.

Strong relationships can promote successful coping in potential stressful job environments and family and friends are often the most critical source of emotional, informational and tangible support available to disaster victims and workers (Figley, 1986). In a study on police officers, Kroes (1976), found the highest factor influencing police performance to be the stability of an officer’s home life, and the family unit was emphasised as being largely significant in the process of helping individuals cope with stressful and traumatic events.

Conversely, studies have shown that the amount of social support received from family and friends depends on age, gender and social class and that those employees who rely solely on external sources of support tend to experience greater levels of stress and distress that those who chose to turn to colleagues who are more able to understand the stressors to which they are exposed and the appraisal of these factors (Alexander, 1990).

These relationships within the work environment can play a critical role in helping employees feel accepted and encouraged and aid in reducing feelings of loneliness,

isolation and depression. Support from colleagues could occur in formal or official mechanisms - such as professional support groups or staff meetings – or informal settings such as lunch or smoking breaks (Maslach, 1982). Regardless of the format, the social and emotional support provided by peers is often essential in assisting the employee to cope and survive in the job.

However, research has shown that colleagues have been found to be a major source of stress as well as a stress reducer. Studies within medical literature have implicated communication problems as an ongoing source of stress, with intergroup conflict, a lack of support from colleagues and a lack of involvement in decision-making being reported as major sources of conflict and tension (Barstow, 1980).

Organisational characteristics

As mentioned previously, organisational characteristics refer to those intra-organisational variables that may impact on job stress, life stress, emotional exhaustion, physical illness and organisational commitment (Hendrix, Summers, Leap and Steel, 1995). These include factors such as the structure and design of the organisation, guidance, leadership, feedback, communication and consultation within the organisation. Additionally, adequate training and perceptions regarding job control have also been identified as aspects of the work environment that may affect employees' levels of stress.

Furthermore, research has shown that persons who perceive leadership within an organisation to be lacking and experience role conflict, role ambiguity or role overload as a result, are more likely to report lower job satisfaction, greater job tensions and greater

experiences of workplace conflict (Kahn, Wolfe, Quinn and Snoek, 1981). Management has been identified as having the responsibility of providing staff support as well as recognising the organisational causes of stress and helping staff to cope with these.

Feelings of being undervalued

This category encompasses all issues that are concerned with employees perceptions regarding being unappreciated and working below their abilities. In addition, aspects of the work environment such as low morale, inadequate feedback and a negative organisational climate are included in this grouping.

Studies by Deery, Iverson and Walsh (2000), explore the outcome of such a working environment on the individual within call centre settings. Findings are consistent with this category as their research shows that a negative organisational climate and a culture of monitoring, eavesdropping, mistrust and suspicion leads to lower levels of wellbeing and job satisfaction. Moreover, Terry and Jimmieson (1999), discovered that employees who felt that their skills were well utilised within an organisation, had higher job control and the adequate experience and education required for the job, reported greater job satisfaction, better mental health and less work-related stress than employees who did not.

Furthermore, poorer mental health was also reported in employees who felt that there were poor role characteristics in their jobs, namely that they had low role clarity, high role conflict, and reported inadequate feedback and a sense of futility regarding their jobs (Terry and Jimmieson, 1999). This too is consistent with previous research that has found

that “persons subjected to high role conflict report greater job-related tensions, lower job satisfaction, less confidence in the organisation itself and more intense experiences of conflict" (Kahn et al., 1981, p.88).

The nature of the work itself

This category refers to the inherent characteristics of the job, which can be understood as the ‘work design’ of the particular occupation. Research has demonstrated clear associations between work design characteristics and employee effectiveness, namely mental health and performance (Peter and Wall, 1998). Additionally, Cox and Griffiths (1996), refer to the ‘nature of the work’ as those inherent aspects of work and jobs that are considered psychosocial risk factors or hazards.

Hackman and Oldham (1976) identify five core characteristics that define the job itself and relate to the motivation and satisfaction of the employees. These include skill variety – the degree to which the job requires different skills – and task identity which is the degree to which the job requires completing whole, identifiable pieces of work and not just parts of a task. Furthermore, this category also includes ‘task significance’, which is the extent to which employees perceive the job as having an impact on others – both inside and outside of the organisation. Lastly, ‘autonomy’ is the extent to which the job allows employees to exercise discretion and choice in their work and ‘job feedback’ is the amount of feedback regarding given to employees by both superiors and the task itself (Hackman and Oldham, 1980).Negative working conditions such as those mentioned have not only been attributed to increased stress and employee dissatisfaction, but have

also been reported to impact on the physical and psychological wellness of call centre staff (Harris et al., 2003).

These four categories will be tested within this study in order to determine whether they are adequate classifications of the organisational risk factors unique to the medical call centre environment. In the following section, the impact of these organisational risk factors on the psychological and physical wellbeing of employees will be assessed.

Psychological and Physical Wellbeing

Much research has been devoted to the study of wellbeing in the work environment and the way in which an individual's job can impact on mental and physical health (Ettner and Grzywacz, 2001). The link between high workload conditions, stress reactions and employee health has been explored and certain studies have identified occupational stressors to be an important factor in health problems among workers (Rydstedt and Johansson, 1998).

While 'wellbeing' is a general term that has been used to describe both the emotional, physical and social functioning of the individual, for the purpose of clarity in this research report a distinction will be made between psychological and physical wellbeing.

Studies on psychological wellbeing have focused on many aspects of this construct including perceptions of self-esteem, self-worth, happiness, job satisfaction, general satisfaction, optimism and personal adequacy (Baruch and Barnett, 1986).

Psychological wellbeing has been shown to include both mental health as well as individual perceptions regarding behavioural and social functioning (De Jonge, Dormann, Janssen, Doolard, Landeweerd and Nijhus, 2001). Within the work environment, higher ratings of psychological wellbeing have been related to greater job autonomy, higher motivation, a higher level of social support and a decrease in absenteeism (De Jonge et al., 2001).

Additionally, increased employee wellbeing has been reported to lead to a decrease in perceived job stressors and an increase in perceptions regarding the efficacy of personal and organisational coping strategies for stressful situations (Daniel and Guppy, 1997).

Physical wellbeing is an individual physiological response to a particular situation and can be explained as perceptions regarding to general health status and health behaviour (Verbrugge, 1983). Good health has been identified by a positive self-rated status, few symptoms and conditions of morbidity, low chronic limitations and minimal medical drug use (Verbrugge, 1983).

Furthermore, studies have shown that increased physical wellbeing is also positively correlated with self-reports of activity and exercise and a decrease in the use of private or

public health-services (Verbrugge, 1983). Research into physical wellbeing has shown that symptoms such as fatigue, headaches, muscle tension, gastrointestinal complaints and cardiovascular distress are often manifestations of negative physical wellbeing (Potter, Smith, Strobel and Zautra, 2002).

Many studies have focussed on wellbeing, yet these have tended to centre on concepts such as age and gender. For example, research conducted by Rydstedt and Johansson (1998), explored health reactions to occupational stress with regards to gender differences. Conversely, research conducted by Sparks, Faragher and Cooper (2001) identified greater instances of ill-health in employees who worked long hours in unsuitable conditions – regardless of gender or age.

Additionally, work-family conflict, role ambiguity and role overload have been identified as major sources of physical strain among employees – often resulting in physical illness, hospitalisation and even mortality (Potter et al., 2001).

Thus, it can be seen that while much of the research into occupational wellbeing has focussed on areas such as gender, aging and work-family conflict, less attention has been paid to wellbeing within the context of job-related variables. While gender, aging and conflicting work-family roles remain important and informative areas to the understanding of wellbeing, they are certainly not the only constructs that need to be explored. With regards to wellbeing, there is still much research to be done on the actual

job environment, task demands and personal and organisational coping strategies in dealing with stressful situations (Ettner and Grzywacz, 2001).

Recent studies have attempted to bridge this gap by looking at aspects of wellbeing and job satisfaction in relation to unique work environments such as that of the call centre (Holman, 2002, Deery et al., 2002).

Studies by Holman (2002), investigated wellbeing within call centres in the financial services industry. Using four measures of wellbeing, namely anxiety, depression, intrinsic and extrinsic job satisfaction, Holman compared wellbeing data for call centre employees with data from employees in other contexts. These studies concluded that, in terms of employee wellbeing, call centre work compares favourably with other forms of repetitive work such as shop floor manufacturing and clerical skills. However, little insight was provided into the factors that may cause an increase or decrease in wellbeing within a call centre.

Deery, Iverson and Walsh (2002), also explored wellbeing within the call centre environment. Using data from 480 telephone service operators, this study was concerned with identifying the factors related to emotional exhaustion and absenteeism in call centre employees. Contrary to those of Holman (2002), findings show that working as a call handler is associated with higher job-related depression and anxiety, lower levels of overall job satisfaction - particularly intrinsic job satisfaction – and higher levels of mental strain than other benchmark groups.

This is supported by other research which found the risk of mental health problems to be higher, and job-related wellbeing to be lower for call handlers compared to benchmark groups in other occupations (Saunders, 1998). This decrease in the wellbeing of call centre staff has been attributed to factors such as a high workload, call handlers not being able to make full use of their skills, unclear roles and conflicting role demands (Deery et al., 2002).

Additionally, previous studies have reported differences in the stress and wellbeing of call centre staff in relation to the different industries in which they were employed. With regards to entire industries and not just benchmark groups of employees, Holman (2002) identified industries such as those of IT and telecommunications to have the lowest levels of wellbeing compared to other call centre operations in the financial and banking sector. However, as no studies of this nature have been conducted in the unique context of the medical call centre, there remain opportunities to explore the impact of this potentially stressful environment on the physical and mental wellness of employees.

Thus, the aim of the current study is to examine the relationship between the organisational factors of the medical call centre and the perceived impact on employee wellbeing. Furthermore, it will attempt to situate this research within the unique context of the South African occupational environment and specifically that of the emergency medical call centre.

RATIONALE OF THE STUDY

While previous research on stress and wellbeing exists within both the emergency medical services and call centre contexts, the medical call centre environment is distinctive in nature as it combines the elements of a general call centre and an emergency medical services atmosphere. As there is little evidence of similar studies and a need for further research within the South African context, this study aims to provide insight into this unique environment.

Additionally, while many other studies view stress as an outcome or response to a potentially damaging situation, the current study sees stress as an inherent element of the medical call centre environment and is therefore concerned with the impact of this potentially harmful situation on the psychological and physical wellbeing of employees.

Therefore, the present study aims to bring together the findings of prior research into stress and wellbeing in the emergency medical services and call centres and to apply them to the unique context of the medical call centre. Having done this, it intends to identify the organisational risk factors implicated in call centre work. Additionally, the study aims to discover the relationship between these factors and the psychological and physical wellbeing of medical call centre employees.

RESEARCH QUESTIONS

From the literature reviewed, the following research questions were identified:

What are the organisational risk factors implicated in medical call centre work?

To what extent do these factors impact of the psychological and physical wellbeing of medical call centre staff?

CHAPTER 3

METHODOLOGY

Research Design

Denzin and Lincoln (1998), define a research design as a plan of procedures to be used for the collection and analysis of data in order to evaluate a particular theoretical perspective. The present research is largely exploratory in nature and employs a cross-sectional, quantitative method of research design.

The current study makes use of a cross-sectional design which measures human behaviour at one specific time and place and allows for comparisons between research subjects, which are useful in assessing major trends or differences in the responses of research subjects. Although this design may thwart the opportunity of comparing one measure to another in order to distinguish growth or development and precludes knowledge of the circumstances preceding this point in time, it remains the most practical method of analysis (Murphy and Davidshofer, 1998).

Quantitative research employs numerical representation and manipulation of observations for the purpose of describing and explaining phenomena (Babbie and Mouton, 1998). “Quantitative research reflects the traditional scientific approach to problem solving. It assumes that there is a single reality that can be broken down into variables. Identifying and isolating variables can establish cause and effect relationships. The purpose of this

type of research is to test hypotheses that have been developed before the research project started and to form conclusions that can be generated to other situations. The emphasis in this approach is on measurement, comparison and objectivity" (Creswell, 1994, p.27).

Bergh and Theron (2003), define the research strategy as the broad or general approach with regards to the context of the research. Moreover, factors such as type of research, level of control and the setting of the study are incorporated (Babbie and Mouton, 1998).

The nature of this study required that a survey be used as a means of data collection. In survey designs, subjects are questioned about their feelings, perceptions or attitudes through questionnaires or interviews (Bergh and Theron, 2003). In this study, questionnaires were used to investigate and evaluate the medical call centre environment and its impact on the psychological and physical wellbeing of employees.

Procedure

The researcher met with representatives from the three organisations in order to gain access to the organisations and to obtain formal, written permission to conduct the study. Additionally, the researcher used these visits to the organisations to glean in-depth information about the unique environment and working conditions. Following this, the questionnaire was adapted and a pilot study was conducted on 4 members of a private medical call centre that was not used in the final study. The pilot study was conducted in order to establish that the questions posed were easily understood and that the expected

types of responses were elicited. No potential practical problems in the proposed procedure or instruments were identified from this trial study.

The researcher gained permission from the organisations to circulate the subject information sheets and the questionnaires to the relevant sample by handing it out during office hours. Questionnaires were given to the shift supervisors at the three organisations to circulate to the employees on duty for that particular week. As all of these organisations work on shift cycles, this process was repeated four times at each organisation. The researcher was present at the handing out of the questionnaires in order to emphasis anonymity and confidentiality and as a preventative measure against coercion. Additionally, the researcher used these opportunities to address any questions that the participants may have had regarding the questionnaire or the research itself.

As previously mentioned, it was requested that all questionnaires be completed at the relevant organisations in order to ensure that all research conducted took place within a naturalistic setting. However, where this was not possible, participants were allowed to complete the questionnaires outside working hours and return the completed questionnaires in the envelopes provided to the sealed box that was made available by the researcher. The medical dispatch environment is frequently emotionally charged and no employee was required to complete a questionnaire immediately after a stressful event. Rather, participants were allowed to do so at any time that was convenient to them.

The researcher ensured that the sealed box placed within each organisation was placed in an area accessible to all staff members and that all participants were aware of the exact location of the box. The researcher emptied the box on regular occasions and only the researcher and the research supervisor had access to the completed questionnaires.

Sample and Setting

This study was conducted at three medical call centres in Johannesburg. This was done at the naturalistic setting of the organisations involved in order to make the subjects feel at ease in their surroundings and to obtain real-life perceptions and attitudes (Esterberg, 2002). This strategy was also used to increase the ecological validity of the study as the absence of a contrived research situation was aimed at significantly linking the study to real-world contexts and reflecting the realistic settings of other medical call centres that dispatch vehicles to emergency situations (Bergh and Theron, 2003).

The sample consisted of members of full-time employees of three medical dispatch centres within the Johannesburg area. These participants have a regular presence in the medical call centre environment and have appropriate skills and training in both call management and emergency medicine.

The sample was selected non-randomly from an accessible sample of convenience (Baker, 1994). Additionally, in this study, elements of both purposive and convenience sampling procedures were used. In order to select members of a specific or specialised population, purposive sampling is used. Purposive sampling has been described as “the

researcher using his/her own judgement about which respondents to choose and picks those who best meet the purpose of the study (Bailey, 1980, p.99).

In this study, the specialised population is people who work at medical call centres in the Johannesburg area and who are involved in the management of telephonic emergency medical services. The researcher aimed to obtain a sample of 60-75 people. Of the total 150 questionnaires circulated (30 questionnaires to organisation 1, and 60 questionnaires to both organisations 2 and 3 respectively), 78 were returned– representing a response rate of 52%.

Twelve respondents made up the first group and were from organisation 1. Twenty-three members of the sample came from the second organisation and the third group was made up of 43 respondents from the last organisation. The age of the respondents ranged from between 20 and 52 years with a mean age of 29.6 years. Fifty-five percent of the sample was male and 45% were female. The sample consisted of 14 Blacks, 59 Whites, 2 Coloureds and 3 Asians and, with regards to communication, English (46%) and Afrikaans (35%) were the most prevalent languages spoken. The mean tenure of the sample for working in the industry was 5.12 years and 2.12 years for working at the particular organisation. With regards to marital status, 42% of the sample was married, cohabiting or remarried, with the remainder being single, divorced, separated or widowed. In terms of educational level, two respondents had attained a standard 8 or 9, two respondents had stopped their education at a matric level and 56 respondents had completed a Basic Ambulance Course (B.A.C.). Additionally, eighteen respondents were

further qualified in the Ambulance and Emergency Assistant category (A.E.A). A summary of the demographic details of the sample is presented in the following table.

Table 3.1: Demographic details of respondents

	N	**%**	**M**	**Range**
Group				
Organisation1	12	15.38		
Organisation2	23	29.49		
Organisation3	43	55.13		
Total	**78**	**100**		
Age			29.61	20-52
Gender				
Male	43	55.13		
Female	35	44.87		
Total	**78**	**100**		
Race				
Black	14	17.95		
White	59	75.64		
Coloured	2	2.56		
Asian	3	3.85		
Total	**78**	**100**		
Language				
English	36	46.15		
Afrikaans	28	35.90		
African	13	16.67		
Other	1	1.28		
Total	**78**	**100**		

Marital Status				
Married	21	26.92		
Cohabiting	11	14.11		
Single	29	37.18		
Divorced	12	15.38		
Remarried	1	1.28		
Separated	3	3.85		
Widowed	1	1.28		
Total	**78**	**100**		
Education				
Std 8/9	2	2.56		
Matric	2	2.56		
B.A.C.	56	71.79		
A.E.A.	18	23.09		
Total	**78**	**100**		
Tenure				
Industry			5.12	0.5-20 years
Organisation			2.12	0.5-10 years

Personal Habits

The sample can also be described with regards to the personal habits of the participants – such as those of exercise, smoking, alcohol consumption, sick leave and the desire to quit ones job. Thirty-eight percent of the sample reported that they exercise occasionally, and six percent stated that they partake in regular exercise. Exactly half the sample are regular smokers and 60% of the respondents drink socially (more than 2 units of alcohol per week). Forty-one of the respondents have taken no sick leave at all in the past few months and of those people who had taken 2 or more days sick leave (42%); 43% took leave as a result of personal illness and not to take care of others at home. Furthermore,

fifty-two respondents reported having visited a doctor at least once in the last three months for personal health issues.

Lastly, while 18% of the sample reported that they have never seriously considered quitting their present job, 24% of respondents admitted to sometimes thinking about quitting their jobs and 19% of the sample stated that they engage in such thoughts extremely often. A summary of the personal habits of the sample is presented in the following table.

Table 3.2: Personal Habits of respondents

	N	%
Exercise		
Always	5	6.41
Usually	15	19.24
Occasionally	11	14.10
Sometimes	17	21.79
Never	30	38.46
Total	78	100
Smoking		
Yes	39	50
No	39	50
Total	78	100
Alcohol*		
Yes	47	60.26
No	31	39.74
Total	78	100

Sick leave taken		
0 days	41	52.56
1 day	4	5.13
2 days	6	7.69
3 days	8	10.26
4 days	6	7.69
> 4 days	13	16.65
Visits to doctor		
0	26	33.33
1	21	26.92
2	13	16.67
3	7	8.97
4	6	7.69
>4 times	5	6.41
Considered quitting		
Never	14	17.95
Rarely	14	17.95
Sometimes	19	24.36
Quite often	16	20.51
Extremely often	15	19.23

* Alcohol consumption of greater than 2 units per week

Measurement Instruments

The questionnaire comprised of an introductory letter (see Appendix 1) and biographical blank requiring information about the respondents' name, age, gender, race, language, educational qualifications and tenure in order to adequately describe the sample (see Appendix 2). Furthermore, participants were required to complete a section regarding personal habits such as smoking, exercise and general health. This was followed by two other scales designed to measure the variables under study. A discussion about each of these scales is presented below.

Occupational Stress

In order to measure occupational stress, a slight adaptation of the stress at work questionnaire was used (see Appendix 3). The questionnaire was slightly adapted as, being managerial in nature, it was necessary to modify the questionnaire for the medical call centre environment. For example, an item such as "keeping up with new techniques, ideas, technology or innovations or new challenges" was adapted to "keeping up with new dispatching computer programmes and technological skills". Furthermore, "having to adopt a negative role - such as sacking someone" was adapted to "having to adopt a negative role - such as giving a patient bad news".

Additionally, items specific to the medical call centre environment were added. These include "a lack of call feedback from paramedics or on scene staff" (item 18) and "the emergency nature of the calls I receive" (item 1).This scale has been used previously in South Africa in order to measure occupational stress and its reliability and validity have

been proven in previous studies (Miller, Greyling, Cooper, Lu, Sparks and Spector, 2000). Because the scale was adapted slightly, however, further evidence of the reliability and validity of the scale were assessed through factor and reliability statistics.

Psychological and Physical Wellbeing

The items used to measure well being were drawn from the OARS Multidimensional Functional Assessment Questionnaire (see Appendix 4). This scale has been used previously in the Older Americans Resources and Services Program of the Duke University Centre for the Study of Aging and Human Development (Pfeiffer, 1976 as cited in Davidson and Cotter, 1982). The items measure various aspects of psychological and physical wellbeing with a forced choice response format. Eleven items measured psychological wellbeing and eleven items measured physical wellbeing. Previous research has shown that these two "subscales" are highly correlated ($r=.65, df=63, p<.01$) and they were therefore combined to give a general measure of subjective wellbeing. Reliability values have also been proven in previous studies.

Statistical Analysis

Having collected and scored the questionnaires, an analysis of the scales used and the data obtained was undertaken. The following statistical techniques were used:

Factor Analysis

For the purpose of this research, a principle components factor analysis was conducted with a varimax rotation in order to find a more meaningful, interpretable factorial structure for the stress at work questionnaire. In other words, while the stress at work questionnaire is an adequate overall measure of stress, a factor analysis in needed in order to gain more detail about the organisational stressors implicated in medical call centre work.

Factor analysis is used to find clusters of related variables (Nunally, 1970). This multivariate statistical technique assumes that some underlying factors – which are smaller in number than the number of observed variables – are responsible for the covariation among observed variables. Factor analysis is therefore aimed at using a smaller set of hypothetical variables to represent a larger set of variables (Kim and Mueller, 1978).

A ‘factor’ can be defined as a group of variables that have certain characteristics in common. When doing a factor analysis it is necessary to consider the hierarchical order in which variables load significantly on factors – the ‘factor loadings’ – which are those loadings of 0.3 and greater (Child 1970). Additionally, within a factor analysis, eigenvalues are an important concept to consider. These determine the proportion of variance explained by each factor and, the larger the eigenvalue, the more variance that is explained by the factor (Kline, 1994).

The first step to a factor analysis is to examine the interrelationship between variables in order to reveal positive relationships between variables and to discover that the relationships among some variables are stronger than others (Kim and Mueller, 1978). It is necessary to explore what is common to such variables, the extent to which they relate and to identify the number of common factors that could have produced the observed correlation. Thus, the role of a factor analysis is to reduce the number of variables by finding clusters of related variables and to detect patterns in relationships between variables (Nunally, 1970).

For the purpose of this research, a principle components factor analysis was conduced. However, this approach has been criticised for the fact that the first factor tends to explain most of the variance compared to the other factors – making interpretation complicated and difficult (Kline, 1994). Therefore, in order to interpret principle components factor analysis, the factors must be rotated. This was done using Varimax rotation – an orthogonal procedure – as it seeks factors which are uncorrelated with each other and attempts to avoid solutions containing a general factor (Loehlin, 1987). Thus it is able to improve loadings on factors and to avoid overlapping of factors by rotating the axis to maximise high correlations and minimise low ones (Palumbo, 1969).

Reliability Analysis

Before any results could be established, an evaluation of the factors extracted from the stress at work questionnaire, and the wellbeing scales used in the current study were conducted. This was done by performing a reliability analysis on the scales used in order to determine the extent to which the items in the instruments are related to each other. The internal reliabilities of the scales were calculated using Cronbach's alpha coefficient. A Cronbach's alpha coefficient of 0.6 and above is generally regarded as acceptable for the Social Sciences (McKennell, 1970).

Descriptive Statistics

Descriptive statistics such as means and frequencies and standard deviations were determined for the biographical variables and personal habits of the respondents in order to allow the researcher to classify and describe the current sample. See tables 3.1, 3.2.

ANOVA

ANOVA's were used in order to assess differences between the different groups with regards to stress and psychological and physical wellbeing. The ANOVA procedure was conducted in order to see if individuals from different organisations, racial groups or of different genders and marital status differed significantly with regards to stress and wellbeing. Once the factor analysis was conducted, the process was repeated to assess whether the groups differed with regards to the established factors.

Post hoc analysis test

Even though an ANOVA can determine if there is a significant difference between groups, it is unable to say which group (s) are different when more than two groups exist. A post hoc test is used to determine these differences and a Fisher's Least Significant Difference (LSD) test is used to determine which group(s) is significantly different. For the Fisher's LSD to be used, the F statistic for the overall analysis of variance must be significant. If the F statistic is not significant, then it is possible to declare that no group differences exist (McCall, 1990).

Correlations

Within this study, correlations were conducted on the variables of age, tenure, psychological wellbeing, physical wellbeing, personal habits and the established factors in order to determine the existence of relationships between these constructs. Correlations indicate the degree to which two variables are related and a correlation analysis can be described as a technique which allows for both the direction and degree of the linear relationships between two variables to be established (McCall, 1990). A correlation coefficient reflects this nature of the linear relationship and ranges between -1.00 through 0.00 to +1.00 with -1.00 reflecting a perfect negative relationship and +1.00 representing a perfect positive relationship. A correlation of zero indicates a lack of any relationship between the variables (McCall, 1990).

Ethical considerations

According to Babbie (1992), the most important ethical considerations of the research process involve ensuring that all participation is voluntary and confidential and that no risk or harm will befall the subjects. Therefore, in accordance with the Code of Ethics Research on Human Subjects – formulated by the University of the Witwatersrand- professional relationships with participants were upheld at all times and each research respondent was informed that completing and returning a questionnaire was considered consent to participate in the study.

Permission from the Committee for Research on Human Subjects (Humanities) was granted and full ethics clearance was obtained prior to the commencement of the study. Additionally, the study was approved by the Graduate Studies Committee of the University of the Witwatersrand.

The researcher ensured that ethical standards were maintained by adhering to the moral and legal standards that compel psychologists to always act in the best interest of the client. Confidentiality was ensured by the researcher respecting the privacy of the subject and not divulging any personal information regarding the responses to the questionnaires as well as the organisations concerned. In addition, all data was analysed using group rather than individual responses.

Furthermore, the respondents or organisations were not mentioned by name or codename anywhere in and out of the study in order to maintain anonymity and ensure that people cannot be identified based on any information given.

All participants were provided with information sheets that explained the nature of the research and confirmed that the research was completely voluntary and that participants may have chosen to withdraw at any time. The researcher ensured that the questions were not threatening or obtrusive in any way. Additionally, before the questionnaires were administered, the researcher took care to allay any concerns and answer any questions that the participants may have had.

The welfare of individuals and groups was considered to be paramount and any harmful effects that may have arisen from the study – such as anger, anxiety, resentment or the recounting of previous disturbing or upsetting experiences – was dealt with through a referral to a counselling service for the necessary debriefing. The researcher provided the participants with her phone numbers should they have had any queries regarding the study or questionnaire itself. Additionally, the researcher also provided the shift supervisor with a card that stated the contact details of a free counselling service should the participants have felt the need to discuss certain issues further after the questionnaire was completed.

All questionnaires were destroyed once they had been entered into a data set. The data set is to be stored securely by the department of Psychology on completion of the research.

The researcher will also store copies of the data set and research results in order to compile a feedback report and contact those relevant parties.

The researcher believes that the benefits of the research outweigh the potential sources of harm – such as negative feelings that may have manifested as a result of the questionnaire- as, by identifying and analysing the risk factors of the medical call centre environment; it is be possible to distinguish the elements that impact of the psychological and physical wellbeing of employees. In so doing, organisational policies and procedures can be informed by these finding and the psychological and physical wellness of employees – as well as overall job performance – may be improved.

CHAPTER 4

RESULTS

The following chapter includes a report of the results obtained from the different statistical analyses that were conducted. Tables have been included in order to simplify interpretation of the data. A full discussion of the results and their implications can be found in chapter 5.

Factor Analysis

As a starting point to the research, a factor analysis was done to find clusters of related variables within the stress at work questionnaire. This was done in order to answer the first research question which was concerned with identifying the organisational risk factors implicated in medical call centre work. While the stress at work questionnaire was able to provide an overall measure of stress, a factor analysis was needed in order to provide greater detail into the specific nature of these stressors within the medical call centre environment. The results are presented in accordance with the points mentioned previously, namely eigenvalues, factors and factor loadings.

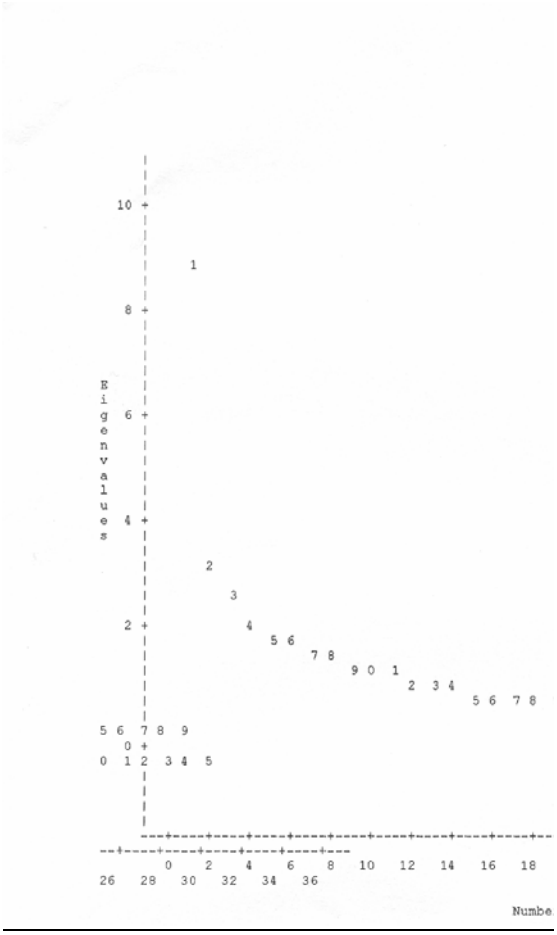
From the eigenvalues that were greater than 1, and the scree plot, it was established that a five factor solution explained covariation among observed variables. This five factor solution was also supported by the factor loadings. This can be seen below.

Table 4.1: Eigenvalues for a Five Factor Solution for the Stress at Work Questionnaire

Factor	Eigenvalue	Difference	Proportion	Cummulative
1	8.90398489	5.72564957	0.2544	0.2544
2	3.17833532	0.68487286	0.0908	0.3452
3	2.49346247	0.42479286	0.0712	0.4165
4	2.06866961	0.32518393	0.0591	0.4756
5	1.74348563	0.12445246	0.0498	0.5254

A five factor solution was also indicated by the scree plot depicted below.

Diagram 4.2: Scree Plot showing Eigenvalues as represented by Five Factors



By looking at those factor loadings with values greater that 0.3, it was possible to confirm this five factor solution for the stress at work questionnaire.

Table 4.3: Factor Loadings –Varimax Rotation to determine clusters

Variable	**Factor 1**	**Factor 2**	**Factor 3**	**Factor 4**	**Factor 5**
PRESS26	.83462*	-.06834	.08467	.11765	.10132
PRESS23	.78353*	-.15477	.15734	.09687	.08502
PRESS28	.6634*	.17635	.07109	-.08285	.06978
PRESS29	.66404*	.00370	.05689	.19024	.27766
PRESS30	.55509*	.16027	-.03476	.20093	.01452
PRESS17	.54728*	.50480	.27427	.13910	.13209
PRESS25	.48981*	.43864	.24051	-.02371	.39191
PRESS24	.48147*	.23034	.39424	.13091	-.26960
PRESS34	.40258*	.21408	-.29809	.09690	.23958
PRESS20	.23512*	-.05178	.15022	-.06251	.14282
PRESS4	-.15106	.76496*	.04672	.18974	.17533
PRESS35	.32724	.71538*	.26656	.07869	.05810
PRESS7	.15652	.64298*	-.08620	.43353	.04983
PRESS5	-.09456	.60415*	.30940	.38550	.09967
PRESS2	-.06332	.51619*	-.05215	.02384	.38153
PRESS13	.24575	.38838*	.37625	.05191	.09852
PRESS18	.30285	.37531*	.07413	-.20144	-.04047
PRESS31	.20369	.10645	.69635*	.02477	.20323
PRESS21	.12331	.15304	.65863*	.38822	.01894
PRESS12	.07763	.06201	.63287*	.13263	.38010
PRESS22	.22320	.22507	.57162*	.38914	-.06831
PRESS32	.39372	.35165	.51399*	.17682	-.02306
PRESS8	.20805	.18569	-.45727*	.12735	.22047

PRESS15	.05498	-.01457	.08625	.83627*	.06270
PRESS9	.11592	.02655	.05229	.78621*	.21223
PRESS14	-.06782	.39175	.31444	.66325*	-.09004
PRESS16	.21055	.36099	.43102	.56046*	-.02389
PRESS33	.36432	.26932	-.04043	.51590*	.02347
PRESS1	.02237	-.02723	.07889	.06010	.65290*
PRESS10	.11705	.05533	-.04205	.05554	.64829*
PRESS6	.05391	.27301	.15506	.15943	.63245*
PRESS19	.20287	.03035	-.14546	-.10166	.45665*
PRESS3	-.26758	.28939	.39417	.03657	.45219*
PRESS27	.31471	.10336	.18305	.14804	.44008*
PRESS11	.30435	.20130	.36480	-.06971	.41137*

Significant Loadings are underlined and appear with an asterix.

Five clear factors emerged and can be grouped under the general themes of Support Outside of Work (factor 1), Organisational Characteristics (factor 2), Feelings of Being Undervalued (factor 3), Support at Work (factor 4), and the Nature of the Work Itself (factor 5). These factors are explained in more detail below.

Factor 1: Support Outside of Work

This factor includes items that are concerned with relationships outside of the work context that may impact on performance and wellbeing. This factor encompasses personal relationships as seen by items such as “absence of emotional support from others outside work” and “lack of practical support from others outside work”. Additionally, this factor deals with stability of home life as seen by items like “home life with a partner who is also pursuing a career”, “absence of stability/dependability at

home" and "demands work makes on my private/social life". Thus, the category of support outside of work includes the demands of work on the relationship with ones partner or children and the practical, social and emotional support provided by family and friends.

Factor 2: Organisational Characteristics

This factor consists of items that are about the structure and design of the organisation. This includes items about leadership and training such as "inadequate or poor quality training" and, perceptions relating to feedback and guidance within the work context are explored through items such as "inadequate guidance and backup from superiors". Furthermore, items concerning communication, consultation and conflicting job tasks and demands are included in this factor.

Factor 3: Feelings of Being Undervalued

This factor takes into account items that are related to low morale, a negative organisational climate and a lack of career advancement. Included in this factor are items such as "being undervalued", "working at a level below my ability" and "inadequate feedback about my own performance". In addition, this factor incorporates items about organisational culture, for example "morale and organisational climate".

Factor 4: Support at Work

This factor is comprised of items that are related to support within the work context, such as practical and social support from colleagues and superiors and intergroup relationships and conflict. This factor includes items such as "relationships with the people I work

with", "lack of social support from people at work" and "a lack of encouragement from superiors". This factor further includes items that are concerned with discrimination and favouritism, communication with others and feelings of isolation with the work context.

Factor 5: Nature of the Work Itself

This factor consists of items that look at the work design of the job and the physical nature of the job itself. This includes items about skill variety, decision-making, autonomy and control over tasks and responsibilities. Items included in this factor are those such as "making important decisions" and "the emergency nature of the calls I receive". Also incorporated in this factor are items about long working hours and taking work home.

Reliabilities

Once the factors of the stress at work questionnaire were identified, the internal consistency of the factors, the subscales of the stress at work questionnaire and the variables used in the study were tested in order to determine whether the instruments used had adequate reliability. Items from the stress at work questionnaire that presented with low factor loadings for the five composite variables were identified as item20, item13, item18 and item8. Reliabilities were then conducted on the five factors and these items in order to assess the appropriateness of them being included in the factors.

As can be seen in the table below, both factor 4 and factor 5 had adequate reliability at 0.81 and 0.68 respectively. Factor 1 had a reliability of 0.82 including item20 – an item

that had a factor loading of 0.24 which was slightly less than the required cut off factor loading of 0.3. When this item was removed from factor 1, the reliability of the factor was 0.84. Based on this increase in reliability, item20 was then discarded from the factor. Additionally, as this item - “implications of the mistakes I may make” -was rather ambiguous in nature and did not necessarily fit into the category of factor 1 the decision to discard the item from the factor was confirmed.

Including item13 – which had an average factor loading of 0.39 - and item18 (with a factor loading of 0.38), the reliability of factor 2 was 0.62. Without item13, the reliability increased to 0.76 and without item18 to 0.76. Item13 was the item “conflicting job tasks and demands in the role that I play” and item18 was “a lack of call feedback from paramedics or on scene staff”. Excluding both these items, the reliability of the factor rose to 0.79. As these items reduced reliability and did not support the theme of the factor, they too were discarded.

Factor 3 had a reliability of 0.69 including item8 – “keeping up with new dispatching computer programmes and technological skills”. Given that this item did not fit in with the category of Being Undervalued and that reliability rose to 0.8 when it was omitted from the factor, it too was discarded. These results can be seen in the table below.

Table 4.4: Reliabilities of the Five Factors

Factor	**Item**	**Reliability including Item**	**Reliability without Item**	**Total Reliability**
1	PRESS20	0.82	0.84	0.84
2	PRESS13 PRESS18	0.62	0.79	0.79
3	PRESS8	0.69	0.80	0.80
4				0.81
5				0.68

Once the reliabilities of the five factors had been established, the internal consistency of the other variables used in the study - namely psychological wellbeing and physical wellbeing – was tested in order to determine whether the instruments used had adequate reliability. The following table thus provides the reliabilities of all the scales used in the study.

Table 4.5: Internal Consistency of the Measuring Instruments

Measuring Instruments	**Number of Items**	**Cronbach's Alpha**
Psychological Wellbeing	9	0.84
Physical Wellbeing	9	0.87
Support Outside of Work	10	0.84
Organisational Characteristics	7	0.79
Being Undervalued	6	0.80
Support at Work	5	0.81
Nature of Work Itself	7	0.68

From the above table, it can be seen that the internal consistency of the scales used were highly satisfactory. The reported alpha coefficients for the factors ranged from 0.68 to 0.84 and the reliabilities for the psychological and physical wellbeing scales were 0.84 and 0.87 respectively. Thus it is clear that each of the instruments used had sufficiently high levels of internal reliability for this study.

The means of the five factors were also established. The mean and standard deviation for Support Outside of Work were M=25, SD=8.2, implying that the majority of the sample scored between 16.8 and 33.2 on this factor. Organisational Characteristics showed M=17.7, SD=5.5, with 67% of the sample scoring between 12.2 and 23.2 on this factor. Being Undervalued displayed a mean of 20, with M=20, SD=5.6, showing that most of the sample scored between 14.4-25.6 on this factor. Support at work showed that

M=17.7, SD=6.2, meaning that 67% of the sample scored between 11.2 and 23.6 for this factor. The mean and standard deviation for the Nature of the Work Itself were M=24.8, SD=6, with the majority of the respondents scoring between 18.8 and 30.8 for this factor. These results can be seen in the table below:

Table 4.6: Means of the Five Factors

Factors	**Number of Items**	**M**	**SD**	**Range**
Support Outside of Work	10	24.92	8.19	36.00
Organisational Characteristics	7	17.71	5.49	24.00
Being Undervalued	6	20.10	5.59	24.00
Support at Work	5	17.37	6.19	25.00
Nature of Work Itself	7	24.82	6.05	27.00

Results of the ANOVAs

Having identified the factors of the stress scale, it was then possible to address the second research question, which was concerned with the impact of these organisational factors on the psychological and physical wellbeing of medical call centre staff. This was done by assessing the relationship between each factor and psychological wellbeing, physical wellbeing and other indicators of general wellbeing, namely those of exercise, sick leave and the desire to leave the organisation.

Before conducting the analyses for the main research questions of the study, ANOVA's were conducted to avoid spurious interpretation of results and to ascertain whether there were significant differences between individuals from different organisations, of different genders, races or marital status groups on the measures of the five stress factors and psychological and physical wellbeing.

The first set of ANOVAs assessed whether there was a difference in the response to the five factors (Support Outside of Work, Organisational Characteristics, Being Undervalued, Support at Work and the Nature of the Work Itself) and Psychological and Physical wellbeing, as experienced by individuals from the different organisations.

The results for these ANOVAs indicate that there is no significant difference among individuals from different organisations on the measures of Support Outside of Work, with $F=0.2$, $p=0.8152$, Organisational Characteristics with $F=0.28$, $p=0.7575$, and Being Undervalued with $F=0.61$, $p=0.5438$. Non significant results were also found on the dimensions of Support at Work with $F=0.32$, $p=0.7299$, and the Nature of the Work Itself with $F=0.81$, $p=0.4506$. Additionally, non significant results were also found on the measures of Psychological Wellbeing, with $F=0.79$, $p=0.4564$ and Physical Wellbeing with $F=1.74$, $p=0.1833$. It may therefore be concluded that there is insufficient evidence to prove that individuals from the different organisations respond differently to the five factors or experience different levels of psychological and physical wellbeing.
This can be seen in the table below.

Table 4.7: A comparison between individuals from different organisations on the measures of Support Outside of Work, Organisational Characteristics, Being Undervalued, Support at Work, the Nature of the Work Itself, Psychological Wellbeing and Physical Wellbeing.

Measuring Instrument	**df**	**F**	**P-level**
Support Outside Work	2	0.2	0.8152
Organisational Characteristics	2	0.28	0.7575
Being Undervalued	2	0.61	0.5438
Support at Work	2	0.32	0.5438
Nature of Work Itself	2	0.81	0.4506
Psychological Wellbeing	2	0.79	0.4564
Physical Wellbeing	2	1.74	0.1833

The second set of ANOVAs assessed whether there was a difference in the response to the five factors (Support Outside of Work, Organisational Characteristics, Being Undervalued, Support at Work and the Nature of the Work Itself) and Psychological and Physical Wellbeing, as experienced by individuals of different racial groups.

The results for these ANOVAs indicate that there is no significant difference among individuals from different racial groups on the measures of Support Outside of Work, with F=0.66, p=0.5777, Organisational Characteristics with F=0.37, p=0.7747, and Being Undervalued with F=2.20, p=0.949. Non significant results were also found on the dimensions of Support at Work with F=2.50, p=0.661, and the Nature of the Work Itself with F=1.10, p=0.3549. In addition, non significant results were also found on the measures of Psychological Wellbeing, with F=1.14, p=0.3374, and Physical Wellbeing, with F=0.91, p=0.4933. It may therefore be concluded that there is insufficient evidence to prove that individuals from different racial groups respond differently to the five factors or experience different levels of psychological and physical wellbeing.

This can be seen in the following table.

Table 4.8: A comparison between individuals from different racial groups on the measures of Support Outside of Work, Organisational Characteristics, Being Undervalued, Support at Work, the Nature of the Work Itself, Psychological Wellbeing and Physical Wellbeing.

Measuring Instrument	**df**	**F**	**P-level**
Support Outside Work	3	0.66	0.5777
Organisational Characteristics	3	0.37	0.7747
Being Undervalued	3	2.20	0.949
Support at Work	3	2.50	0.0661
Nature of Work Itself	3	1.10	0.3549
Psychological Wellbeing	3	1.14	0.3374
Physical Wellbeing	3	0.91	0.4933

The third set of ANOVAs assessed whether there was a difference in the response to the five factors (Support Outside of Work, Organisational Characteristics, Being Undervalued, Support at Work and the Nature of the Work Itself) and Psychological and Physical Wellbeing, as experienced by individuals of different genders.

The results for these ANOVAs indicate that there is no significant difference among individuals of different genders on the measures of Support Outside of Work, with

F=0.32, p=0.5761, Organisational Characteristics with F=0.04, p=0.8333, and Being Undervalued with F=0.56, p=0.4571. Non significant results were also found on the dimensions of Support at Work with F=0.13, p=0.7156, and the Nature of the Work Itself with F=0.23, p=0.6359. Additionally, no significant results were found on the measures of Psychological Wellbeing, with *F*=0.17, p=0.6786, and Physical Wellbeing, with F=0.02, p=0.8803.It may therefore be concluded that there is insufficient evidence to prove that individuals of different genders respond differently to the five factors or experience any differences in levels of psychological and physical wellbeing. This can be seen in the following table.

Table 4.9: A comparison between individuals of different genders on the measures of Support Outside of Work, Organisational Characteristics, Being Undervalued, Support at Work, the Nature of the Work Itself, Psychological Wellbeing and Physical Wellbeing.

Measuring Instrument	**df**	**F**	**P-level**
Support Outside Work	1	0.32	0.5761
Organisational Characteristics	1	0.04	0.8333
Being Undervalued	1	0.56	0.4571
Support at Work	1	0.13	0.7156
Nature of Work Itself	1	0.23	0.6359

Psychological Wellbeing	1	0.17	0.6786
Physical Wellbeing	1	0.02	0.8803

The fourth set of ANOVAs assessed whether there was a difference in the response to the five factors (Support Outside of Work, Organisational Characteristics, Being Undervalued, Support at Work and the Nature of the Work Itself) and Psychological and Physical Wellbeing, as experienced by individuals of different marital status groups.

The results for these ANOVAs indicate that there is no significant difference among individuals from different marital status groups on the measures of Support Outside of Work, with $F=1.67$, $p=0.1409$, Organisational Characteristics with $F=1.37$, $p=0.2378$, and Being Undervalued with $F=0.89$, $p=0.5079$. Non significant results were also found on the dimensions of Support at Work with $F=0.43$, $p=0.8557$, and the Nature of the Work Itself with $F=1.40$, $p=0.2252$. In addition, no significant results were found on the measures of Psychological Wellbeing, with $F=0.74$, $p=0.6178$, and Physical Wellbeing, with $F=1.02$, $p=0.4202$. It may therefore be concluded that there is insufficient evidence to prove that individuals from different marital status groups respond differently to the five factors or experience any differences with regards to levels of psychological and physical wellbeing. This can be seen in the following table.

Table 4.10 A comparison between individuals from different marital status groups on the measures of Support Outside of Work, Organisational Characteristics, Being Undervalued, Support at Work, the Nature of the Work Itself, Psychological Wellbeing and Physical Wellbeing.

Measuring Instrument	**df**	**F**	**P-level**
Support Outside Work	6	1.67	0.1409
Organisational Characteristics	6	1.37	0.2378
Being Undervalued	6	0.89	0.5079
Support at Work	6	0.43	0.8557
Nature of Work Itself	6	1.40	0.2252
Psychological Wellbeing	6	0.74	0.6178
Physical Wellbeing	6	1.02	0.4202

Correlations

The correlation analysis assessed the existence of significant relationships between the five factors – support outside of work, organisational characteristics, being undervalued, support at work and the nature of the work itself - and psychological wellbeing, physical wellbeing, age, tenure, desire to leave, exercise and sick leave taken.

A strong positive correlation was found between the subscale Psychological Wellbeing and Physical Wellbeing with r=0.66, p=<.0001.A moderate, negative relationship was found between Psychological Wellbeing and Support Outside of Work with r= -0.3, p=0.0082 and between Psychological Wellbeing and Organisational characteristics with r= -0.31, p=0.0058. Moderate, negative correlations were also found between Psychological Wellbeing and Being Undervalued with r= -0.45, p=<.0001 and between Psychological Wellbeing and Support at Work with r= -0.55, p=<.0001. In addition, a moderate, negative correlation was found between Psychological Wellbeing and the Desire to Leave, with r= -0.56, p=<.0001.These findings indicate that as a response to the stress factors of support outside of work, organisational characteristics, being undervalued and support at work increases, there is a decline in psychological wellbeing. Furthermore, as psychological wellbeing decreases, the desire to leave the organisation increases.

A weak, negative correlation was found between Physical Wellbeing and Sick Leave taken with r=-0.31, p=0.0062, meaning that – as expected - as ones physical wellbeing decreases, the amount of sick leave taken increases. A weak, negative correlation was

also found between Physical Wellbeing and Support Outside of Work with r= -0.29, p=0.0097, and between Physical Wellbeing and Organisational Characteristics with r=-0.25, p=0.0265. This indicates that as ones reaction to the stress factors of support outside of work and the characteristics of the organisation increases, there is a decline in the physical wellbeing of the individual. Moderate negative correlations were found between Physical Wellbeing and Being Undervalued with r= -0.42, p=<.0001 and between Physical Wellbeing and Support at Work with r= -0.39, p=0.004. Additionally, a moderate, negative relationship was found between Physical Wellbeing and the Desire to Leave with r= -0.59, p=<.0001.This suggests that as feelings of stress with regards to being undervalued and support at work increase, there is a noted decline in physical wellbeing. Additionally, as physical health and wellbeing deteriorates the desire to leave the organisation increases.

There exists a moderate, negative correlation between Tenure and the response to the Nature of the Work Itself, with r= - 0.30, p=0.0077, meaning that, as ones tenure in the industry increases, there is a decrease in the stress related to the nature of the work itself.

A weak, positive correlation was found between the Desire to Leave and Sick Leave taken with r=-0.34, p=0.023, meaning that there is a relationship between the amount of sick leave taken and ones desire to leave the organisation. A weak, positive correlation was also found between the Desire to Leave and Support Outside of Work with r= 0.25, p=0.0286, and between the Desire to Leave and the Nature of the Work Itself with r=0.24, p=0.0302.

This indicates that as ones reaction to the stress factors of support outside of work and the nature of the work itself increases, so too does ones desire to leave the organisation increase. In addition, weak positive relationships were also found between the Desire to Leave and Organisational Characteristics with r=0.36, p=0.0010, between the Desire to Leave and Being Undervalued, with r=0.39, p=0.0004 and between the Desire to Leave and Support at Work with r= 0.45, p=<.0001. This too implies that as ones response to the stress factors of being undervalued, support at work and the organisational characteristics increases, ones desire to leave the organisational also increases. These results can be seen in the following table.

Table 4.11 Pearson's Correlation Coefficients for the Research Variables

	Age	**Wh1**	**Wh2**	**Outside Support**	**Org Factors**	**Undervalued**	**Internal Support**	**Job Design**	**Psych**	**Phys**	**Sick**	**Exercise**	**Turnover**
Age	1.00												
Wh1	0.39*	1.00											
Wh2	0.11	0.3*	1.00										
Outside support	-0.12	-0.07	-0.05	1.00									
Org factors	-0.09	-0.09	-0.05	0.35*	1.00								
Undervalued	-0.09	-0.14	-0.02	0.48**	0.45**	1.00							
Internal support	-0.06	-0.11	-0.03	0.37*	0.53**	0.53**	1.00						
Job design	-0.11	-0.30*	-0.23	0.35*	0.44**	0.43**	0.26*	1.00					
Psych	-0.03	0.05	0.08	-0.30**	-0.31*	-0.45**	-0.55**	-0.16	1.00				
Phys	0.06	-0.08	0.01	-0.29*	-0.25*	-0.42**	-0.39*	-0.20	0.66**	1.00			
Sick	-0.05	-0.09	-0.17	-0.02	-0.11	-0.03	0.06	-0.10	-0.20	-0.31*	1.00		
Exercise	-0.01	0.27*	0.16	0.03	0.09	0.02	0.20	-0.02	-0.13	-0.19	0.14	1.00	
Turnover	-0.19	-0.03	0.30	0.24*	0.36*	0.39*	0.45**	0.25*	-0.56**	-0.59**	0.34*	0.18	1.00

* Correlation significant at 0.05 level **Correlation significant at 0.0001 level

Age = Age, **Wh1**= Tenure in Industry, **Wh2**= Tenure in Organisation, **Outside Support** = Support Outside of Work (factor 1), **Org Factors** = Organisational Characteristics (factor 2), **Undervalued** =Being Undervalued (factor 3), **Internal support** =Support at Work (factor 4), **Job design**=Nature of Work Itself (factor 5), **Psych** =Psychological Wellbeing, **Phys**=Physical Wellbeing, **Sick**= Sick Leave Taken, **Exercise** =exercise, **Turnover** = desire to leave/quit

Summary of Results

A factor analysis was conducted on the stress at work scale in order to identify the organisational risk factors implicated in call centre work. The factor analysis yielded five factors, namely Support Outside of Work, Organisational Characteristics, Being Undervalued, Support at Work and the Nature of the Work Itself.

Having identified the factors of the stress scale, ANOVAs were conducted to avoid spurious interpretation of results and to ascertain whether there were significant differences between individuals from different organisations, of different genders, races or marital status groups on the measures of the five stress factors and psychological and physical wellbeing. No significant differences were found.

Following this, correlations were carried out in order to determine the impact of the five organisational factors on the psychological and physical wellbeing of medical call centre staff. The relationship between each factor and psychological and physical wellbeing as well as other indicators of general wellbeing, namely those of exercise, sick leave and the desire to leave the organisation were assessed.

Significant relationships were found between psychological wellbeing, physical wellbeing, the desire to leave and the factors of support outside of work, organisational characteristics, being undervalued and support at work. Additionally, significant relationships were also established between physical wellbeing and sick leave taken, the desire to leave, support outside of work. Furthermore, a significant, negative relationship

was also found between tenure and the nature of the work itself. Lastly, significant relationships were also found between the desire to leave, sick leave taken, support outside of work, organisational characteristics, being undervalued, support at work and the nature of the work itself.

This chapter of the research report has dealt with the results obtained from the various statistical techniques conducted in the study. The following chapter includes a full discussion of these results and the implications that they may have, as well as limitations of the current study and suggestions for further research.

CHAPTER 5

DISCUSSION

The purpose of this study was to explore and identify stress within medical call centres in South Africa. In particular, it endeavored to investigate this unique environment and identify the organisational risk factors that may impact on the physical and psychological wellbeing of employees in this context. This was achieved by assessing employees of medical call centres on the measures of stress and wellbeing. Extraneous variables such as race, gender, marital status, educational level and personal habits were also tested in these analyses.

The discussion of the results will follow the main themes outlined in the results chapter. Where relevant, findings will be linked to, and validated by, literature and research on stress and wellbeing within the emergency medical and call centre environments. Limitations of the study, implications on the current research and recommendations for future research will follow the discussion of the findings.

Research Findings

Before moving on to a discussion of the actual results generated in the study, this section will focus on the sample that was obtained by the researcher. As mentioned previously, twelve respondents made up the first group and were from organisation 1. Twenty-three

members of the sample came from the second organisation and the third group was made up of 43 respondents from the last organisation.

The sample was evenly split with regards to gender, with there being only slightly more males than females. Additionally, most of the respondents were aged between 25 and 30 – a finding consistent with the initial interviews conducted at the organisations. The sample was not equally distributed in terms of racial representation with the majority of the sample being White and English- speaking. As the language of business in all three organisations was reported as English, it is possible to assume this to be the reason for this discrepancy. As medical call centre operators are required to speak flawless English without any accent or inflection, it is understandable that the prevalent home language for the sample would be English.

Just less than half of the sample reported having a steady partner with whom they were living (either married, cohabiting or remarried), with the remainder being single, separated or widowed. Most people in the sample had been in the medical (or call centre) industry for about five years and tenure in the current organisations was reported at an average of two years. These findings were consistent with information obtained from the original interviews and much of the literature on call centres, which highlights the high attrition rates within these environments.

Within this study no significant differences were found between individuals of different organisations, of different genders, races or marital status groups on the measures of

stress and wellbeing. As these constructs were not central to the current research and were only assessed to avoid spurious interpretation of results, it is unsurprising that they do not impact significantly on this study.

However, these findings were inconsistent with previous research which found that age is an important factor of employee wellbeing in call centres with older workers tending to display higher levels of depression and lower levels of wellbeing that their younger counterparts (Holman, 2002). Additionally, studies by Hochschild (1983) and Macdonald and Sirianni (1996) argue that women are more likely than men to feel stressed by the call centre environment and to suffer negative effects of emotional labour. These studies maintain that women are more likely than men to experience stress and burnout as they are often required to perform emotional work both within the workplace and at home and this may be taxing on both their emotional and mental wellbeing.

One possible explanation for the discrepancy in these findings is that most of the older medical call centre respondents have worked previously as paramedics and as part of other auxiliary on-scene medical support teams. The majority of these people have chosen to work in the call centre rather than ‘on the road’ and would therefore probably report be less depressed than older employees in the other call centre studies as they have chosen this career path over other alternatives.

As mentioned previously, the medical call centres studied appeared to have an almost even distribution of male and female employees. The present South African context is

one focussed on employment equity and gender equality and these might be reasons why there were no significant gender differences reported in this study on the measures of stress and wellbeing. Furthermore, as a result of violence and crime in South Africa and the prevalence of abuse against women, there is a greater occurrence of males in the paramedical and on-scene emergency medical services. Thus the medical call centre could provide women with the opportunity to become involved in emergency medicine within a safe and secure environment. However, these ideas are merely suggestions and would need to be supported in further research.

The sample was also described with regards to the personal habits of the participants – such as those of exercise, smoking and alcohol consumption. Thirty-eight percent of the sample reported that they exercise occasionally, and only six percent stated that they partake in regular exercise. Exactly half the sample are regular smokers and more than half of the respondents drink socially (more than 2 units of alcohol per week).

A possible reason for the low rates of regular exercise and high rates of smoking and alcohol consumption within this sample may be the nature of the working environment itself. Medical call centre respondents work long shifts and often unable to engage in regular exercise regimes. Furthermore, as breaks within the shifts are structured around fifteen minute ‘smoke breaks’ it is understandable that a great proportion of the sample would smoke as a result of this. Furthermore, due to the stressful nature of the calls received, it is possible that smoking and regular alcohol consumption may serve as a release for many of the call centre respondents.

As discussed above, there are a number of possible reasons for the demographic and personal profiles of medical call centre staff, yet these are not aspects that are central to this study. Rather, the current research was concerned with identifying the organisational risk factors implicated in medical call centre work that impact on employees regardless of age, gender, race or the organisation to which they belong. The results of this study will now be discussed in light of the literature presented in the literature review.

An identification of the organisational risk factors implicated in medical call centre work

In the literature review, a number of organisational stressors were identified and these occupational factors were confirmed by the factor analysis within the current study. The five factors that were identified from the stress at work questionnaire can collectively be termed occupational stressors and were grouped under the general themes of Support Outside of Work, Organisational Characteristics, Feelings of Being Undervalued, Support at Work and the Nature of the Work Itself.

The following section will review these stress factors in light of previous studies and the factor analysis conducted.

Support Outside of Work

Results for the factor analysis indicated that this category encompassed all aspects of relationships outside of work that may have an impact on employee stress and wellbeing.

Included in this factor were items concerned with personal relationships, stability of home life, and the demands of work on the relationship with ones partner or children and emotional and practical support from family and friends.

The results for this stress factor seem to be relatively consistent with research in this area which states that external support –or the lack thereof - to be a source of stress and anxiety for many employees (Karasech and Theorell, 1990). Additionally, Alexander (1990) identified the levels of stress and distress associated with employees who rely solely on external sources of support and morale to be greater than those who choose to turn to colleagues or superiors for emotional and practical assistance. Studies have also shown that performance and the successful coping strategies of employees are highly influenced by a stable home life, the family unit and relationships with family and friends (Kroes, 1976; Figley, 1986; Haines and Hulbert, 1991).

Within the current study, external support – or the lack thereof – was reported to have the highest mean and largest range of all the factors. This implies that medical call centre employees are most stressed about issues regarding support outside of work and relationships with family and friends. Furthermore, these findings are compatible with information gained in the original interviews. All three organisations reported that any psychological debriefing or employee wellness programmes conducted within the organisation were not really used by employees as a forum for discussing work-related problems, but were rather predominantly utilised as an opportunity for discussing personal issues such as problems with family or friends, depression and social troubles.

Organisational Characteristics

This factor was found to consist of items that are about the structure and design of the organisation. This includes items about leadership, training, feedback and guidance within the work context. Furthermore, items concerning communication, consultation and conflicting job tasks and demands are included in this factor.

Findings by Sparruis (1993) show that, within the emergency medical services, organisational stressors such as the structure and functioning of the organisation, management styles and a lack of adequate training and development can lead to high levels of negativity towards the organisation. These findings were similarly prominent within the current study as items concerned with issues such as leadership and guidance; feedback, training and communication were included in this factor.

Additionally, previous research within call centres has identified poor management styles, inadequate communication and understaffing to be other common causes of stress (Adorno, 1999). This corresponds with the current research as results for this factor also included the potential stressors of communication, consultation, role overload and feedback within the organisation.

Within the current study, this factor had a mean of 17.7 and a standard deviation of 5.5, indicating that the majority of the sample scored between 12.2 and 23.2 on this factor. These findings show that while this is a stress factor for some employees, the majority of the sample was not as stressed by this factor as was expected. However, for those

employees who are experiencing stress as a result of the organisational characteristics of the call centre, there are implications with regards to psychological and physical health.

A possible reason for this discrepancy is that the medical call centre environment is one that is highly structured in nature. Each group of employees reports to a team leader who, in turn, reports to the shift supervisor. The shift supervisor reports to the operations manager and the call centre manager deals with all problems brought to light by the operations manager. Thus, the environment is one that is hierarchical in nature, highly controlled and coordinated and this may be perceived by some employees as a potential barrier to communication and consultation within the organisation.

Being Undervalued

Results for this factor were found to take into account items that are related to low morale, a negative organisational climate and a lack of career advancement. In addition, items about organisational culture, inadequate feedback about performance and working at a level below ones ability were also found to be incorporated into this factor.

This corresponds with previous research in call centres as studies have shown that a negative organisational climate and a culture of mistrust and monitoring can create stress and tension within the occupational environment (Deery et al, 2000). Moreover, low role clarity, high role conflict, inadequate feedback and a sense of futility regarding ones job have also been identified as stress factors within the call centre setting (Terry and Jimmieson, 1999).

Within this study, employees did not seem to be too stressed on the factor of being undervalued. This factor had a mean of 20, a standard deviation of 5.6, and a range of 24, with 67% of the sample scoring between 14.4 and 25.6 on this factor. A possible reason for this is that all three organisations reported that feedback and performance appraisals were only given if an error had occurred or a complaint had been lodged by a member of the public. Thus, it is possible to assume that some of the employees found this amount of feedback to be adequate and did not desire further performance monitoring. However, for those employees who did perceive this as a factor that contributes to stress in the call centre, an impact on psychological and physical wellbeing was reported.

Support at Work

Previous research within the emergency medical environment has identified potential stressors to be those associated with interpersonal problems, including pettiness among colleagues and personality clashes with senior management. Furthermore, stressors have also been acknowledged as those issues involving favouritism by senior staff and a lack of respect and approval from co-workers (Sparrius, 1993). Additionally, research has shown that colleagues can contribute greatly to individual experiences of stress and that communication problems, intergroup conflict and a lack participative decision-making have been reported as major sources of conflict and tension within the work environment (Barstow, 1980).

These findings were similarly prominent within the current study as this factor was found to comprise of items that are related to support within the work context, such as practical and social support from colleagues and superiors and intergroup relationships and

conflict. It further includes items that are concerned with discrimination and favouritism, communication with others and feelings of isolation with the work context.

This factor had a mean of 17.4, a standard deviation of 6.2 and a range of 25, implying that medical call centre staff do not appear to be experiencing too much stress with regards to the support that they are receiving within the call centre environment. This is perhaps as a result of the highly structured and hierarchical environment that exists within these organisations: support from management is an integral part of the structure of the organisation and this might reduce stress in some employees.

Furthermore, as there is little participative decision-making within the medical call centre and most calls are often handled without intervention or advice from others, it is understandable that this factor may not be considered as very stressful for many employees. However, for those call centre employees who do find support at work – or a lack thereof – to be a stressful aspect of the work environment, an impact on psychological and physical wellbeing was found.

Nature of the Work Itself

This factor was found to consist of items that look at the work design of the job and the physical nature of the job itself. This includes items about skill variety, decision-making, autonomy and control over tasks and responsibilities. Also included in this factor are items about long working hours and taking work home.

Studies by Harris et al (2003) found call centres to be inherently stressful work environments as a result of the nature of the work itself. Additionally, research has shown that autonomy, task feedback, job design and the utilisation of various skills are inherent aspects of work and jobs that may pose health and stress risks for employees (Hackman and Oldham, 1976).

These finding were verified within the current study as this stress factor included all work design characteristics of the job such as those relating to task identity, skill differentiation, task significance and autonomy with regards to decision-making, tasks and assignments. Furthermore, the mean for this factor was 25, the standard deviation was 6 and the range was 27, indicating that most of the sample experienced high levels of stress with regards to the nature of the work itself.

However, contrary to the studies mentioned previously, the nature of the work itself appeared to have little impact on the psychological and physical wellbeing of employees. Thus, while the findings indicated that this factor is perceived as highly stressful by most of the sample, the nature of the work itself does not appear to pose any significant threat to the psychological or physical health of employees.

A possible reason for this inconsistency is that, the very aspects of this factor that may increase stress, may also lead to a decreased impact on psychological and physical wellbeing. This is explained as follows: with regards to routine decision-making, low skill variety and low task control, employees identified the nature of the work itself to

create much stress, frustration and dissatisfaction. However, by virtue of the fact that these hindrances are routine and repetitive, employees are obviously accustomed to them and this factor therefore does not impact significantly on either their mental, emotional or physical wellbeing.

The impact of organisational risk factors on the psychological and physical wellbeing of employees

According to the transactional model of stress, a potential stressor may be perceived as something challenging, positive or desirable (Lazarus, 1994). The findings of this research tend to confirm the above proposal: within the medical call centre, potentially stressful organisational factors were seen to have varying degrees of influence on the psychological and physical wellbeing of employees.

Within this study, findings indicated that increased stress responses to the organisational risk factors of support outside of work, organisational characteristics, being undervalued and support outside of work were all associated with a decrease in psychological and physical wellbeing and an increase in sick leave taken and the desire to leave the organisation. Additionally, the stress related to the nature of the work itself was found to decrease as tenure within the medical call centre increased but was still a factor that impacted on ones desire to leave the organisation.

These findings were relatively consistent with other research conducted on stress and wellbeing within the call centre environment. Previous studies have shown that Human

Resources practices and team leader support are the factors most highly associated with wellbeing in call centres and that research into these areas have shown that adequate leadership, training, feedback and guidance can have a positive effect on employee wellbeing (Taylor and Bain, 1998; Holman, 2002). Additionally, as confirmed within this study, research has proven that perceptions of fairness and usefulness of performance appraisals, as well as perceptions regarding the adequacy of training and guidance, can all lead to greater job satisfaction and wellbeing within the call centre setting (Spector, 1987; Blau, 1999).

This further corresponds with research done by Warr (1990) in which social support from colleagues and team leaders was identified as a leading factor in increasing both job satisfaction and general wellbeing. Moreover, previous research has shown that social support at work can be a significant predictor of employee stress and reduced wellbeing and that leadership can have a strong effect on the wellbeing of employees (Karasech and Theorell, 1990).

Furthermore, studies by Thompson (2001) and Frankel (1998), have found that the most critical skills within the call centre are those that are not technical in nature but are rather focused on social skills, personality and the ability to form interpersonal relationships. Moreover, mutual support within the work context has been found to play an important role in the reduction of stress and pressure in the call centre environment (Callaghan and Thompson, 2001).

Also confirmed within this study was research done by Holman (2002) in which performance appraisals, adequate feedback, training and the opportunity to develop ones skills and abilities were proven to have a positive effect on wellbeing. Additionally, findings of the current study also correspond with research done on absenteeism and turnover within the call centre environment. Consistent with this study, previous research has shown higher levels of emotional and physical exhaustion to be associated with higher rates of absenteeism and both turnover and absenteeism within call centres are associated with a decrease in wellness and a desire to escape unpleasant working conditions. (Deery, 2002).

Within this study, the stress related to the nature of the work itself was not found to be a leading factor impacting on the psychological and physical wellbeing of employees. These findings were inconsistent with research done by Holman (2002), Totterdell (2001) and Holman, and Harris et al. (2003) in which call centres were identified as inherently stressful work environments as a result of the nature of the work involved. Customer-employee interaction, job design and performance monitoring were identified as key aspects of the call centre that may have a negative impact on employee wellbeing as were factors such as job repetition, poor ergonomics and low pay.

In these studies, job control, variety and the demands placed on the employee were identified as important predictors of physical and psychological wellbeing with job control and autonomy reporting a positive association with general wellbeing. In addition, although not confirmed in this study, low job control, low task variety and high

levels of role overload have also been found as likely causes of stress within call centres (Stanton, 2000; Holman 2002).

These discrepancies are perhaps the result of the scale used. Originally managerial in nature, the scale did not take into account the unique factors of the medical call centre and this could be why no significant impact could be found for this factor on the measures of psychological and physical wellbeing. Another possible reason for these inconsistencies within the current research is perhaps the finding that the stress relating to the nature of the work itself was seen to decrease as tenure within the medical call centre industry increased. Therefore, while most of the sample has been employed in this industry for an average of five years with a mean tenure of 5.12 years, and the type of work performed is mostly repetitive and routine in nature, it is possible to assume that the stress related to the nature of the work itself has decreased sufficiently for these employees over the period of their employment within this industry. Thus it is understandable that, within this study, aspects of the call centre environment such as work design, skill variety and task autonomy would have little to no effect of the psychological and physical wellbeing of the sample studied.

The above section has focused on a discussion of the results found from the statistical analyses conducted in this study. The following sections of this research report will concentrate on the theoretical and practical implications of these findings and will suggest directions for further research into the area of stress and wellbeing in emergency medical call centres.

Implications of the Study

This study aimed to identify the organisational stress factors implicit in medical call centre work and the way in which these factors impact on the physical and psychological wellbeing of employees. The findings of this study have both theoretical and practical implications which will be discussed in more detail below.

Theoretical Implications

Many studies have been conducted on stress and wellbeing in both the emergency medical services and call centre contexts. A significant amount of research has been conducted on paramedics, trauma doctors and nurses with much of the focus being on the stress of providing on-scene emergency medical assistance. There have also been many studies that have looked at stress and wellbeing in call centres, yet these studies have mainly focused on call centres within the banking, communications or financial service industries. This research study has aimed to expand upon previous research in these areas by looking at the emergency medical centre – a unique combination of both the emergency medical and call centre environments.

Additionally, a great amount of the research conducted on stress and wellbeing has focused on stress as a negative aspect of wellbeing – an outcome or response to a potentially damaging situation. However, this research study made use of a paradigm of looking at stress as an inherent aspect of the medical call centre environment rather than as a result of it. The study was therefore concerned with identifying the existing stressful elements of the medical call centre environment in order to assess its impact on the

psychological and physical wellbeing of employees. Furthermore, this study identified subscales for the stress at work questionnaire which can be applied to further research studies.

Lastly, as much of the research conducted in the areas of stress and wellbeing within both the emergency medical and call centre contexts has been conducted in countries such as America, India and England, the current study was able to elaborate on previous research and apply findings to the unique South African environment.

Practical Implications

The current study explored the complexity of the medical call centre and the organisational factors that implicated in the stressful nature of this work. Furthermore, it dealt with the way in which these risk factors impact on the psychological and physical wellbeing of employees within this highly emotive environment.

According to Seyle (1980), the more that is known about the causes and effects of stress, the better they are able to be controlled. Therefore, the findings of this study can inform the policies and procedures of medical call centres and help ensure that the stressors of the work environment are identified and dealt with promptly. Furthermore, this research can aid in the informing of techniques and programmes to increase both the psychological and physical wellbeing of employees. For example, medical call centres can use these findings in order to conduct psychological assessments on new recruits as part of a screening programme. Additionally, these findings can be used to help create

regular employee wellness courses to ensure that the psychological and physical health of employees is monitored frequently.

As a result of the high rates of violence and crime, the emergency medical call centre is becoming an increasingly important aspect of the South African context. Escalating rates of domestic and social abuse as well as violent crime have serious implications for medical call centres as it is possible to assume that this brings with it an influx of emergency medical calls. With the current number of call takers at the three centres studied, this has dire consequences in terms of financial constraints as well as the possible experience of overwork and role overload by staff members.

The findings of the current research could be useful in informing stress management and employee assistance programmes at medical call centres, as well as helping employees to engage in effective coping strategies and stress reduction techniques that can help to increase both psychological and physical wellbeing. Furthermore, in light of the predictions concerning an increased workload as a result of the crime and violence in South Africa, medical call centres can make provisions with regards to financial assistance, additional resources and staff support.

However, it is important to note that these recommendations need to be implemented with caution as the current study remains limited in terms of generalisability and population validity. While this study may be of use in informing the policies and procedures of an emergency medical call centre in South Africa, the findings of this

research may not be applicable to other call centres or emergency services environments. Therefore, the next section of this report will deal with some of the limitations inherent in the current research study.

Limitations of the Study

Various limitations may be identified with regards to the present study.

The general limitations of quantitative research were applicable to the current study: although quantitative research is able to record reliable information that can be replicated and generalized, it does not allow for the exploration of unique and in-depth individual responses (Neuman, 2000). Moreover, it does not take into account the personalities, cultures and behaviours of individual employees that may impact on perceptions of stress and wellbeing.

With regards to the sample, there are a few limitations that exist. The sample was based on a very narrow and specialised sector of the call centre industry and caution should be taken when generalising the findings of the study to other call centre populations - be it in or out of the South African context. Furthermore, within the medical call centre environment, South Africa – and Johannesburg in particular - is unique in terms of the amount of criminal and violent incidents that present as medical emergencies. Therefore, care must even be taken when applying these findings to other medical call centres around the country - and the world – that may be dealing with medical emergencies that are less violent and abusive in nature.

Additionally, another limitation in the sample was the fact that those who participated in the study did so on a voluntary basis. The implication is that those individuals who are not satisfied in their current positions may not have even been interested in participating

in the study. Moreover, as the response rate of the study was only 52%, it is possible that those employees who chose not to participate in the study are overworked and experiencing role overload and were unable to take the time to participate in the research study. This could possibly lead to high negative appraisals and potential biases in the information obtained.

Within the use of the questionnaire as a tool for gathering data, further limitations exist. Firstly, to facilitate data entry and analysis, questions were structured in a 'close-ended' format, which limits the respondents to making a choice between predetermined alternative responses and does not allow for insight into personal thoughts and subjective encounters.

Secondly, as the original scale in this study was managerial in nature, some items were adapted in order to make it more applicable to the medical call centre context. However, some of the items that were adapted were eventually excluded from the final factor solution as a result of low reliability. An item such as "a lack of call feedback from paramedics or on scene staff" was added to the scale but was later removed from factor 2 in order to increase the reliability of the factor from 0.62 to 0.76. Additionally, an item of the original scale was modified from "keeping up with new computer programmes and technological skills" to "keeping up with new dispatching computer programmes and technological skills" in order to make it more applicable to the call centre context. Yet this also reduced the reliability of factor 3 by 0.11 and was therefore discarded from the final factor. The most probable reason for these limitations was the scale itself: as

mentioned previously, it was managerial in nature and therefore did not take into account the unique aspects of emergency call centre work.

Another limitation with regards to the questionnaire was one of time. As the industry is one in which free time is limited, the questionnaires were structured to take no longer than twenty minutes. Thus, there is a possibility that information obtained was not as probing or in-depth as it could have been if there were no time constraints. While the questionnaires were structured this way in order to maintain validity and standardisation, there remains the possibility that important data may have been overlooked.

Suggestions for Future Research

From the current study it was realised that there are other issues which need to be investigated further in order to determine the true effects of stress on the wellbeing of medical call centre employees.

The current study was quantitative in nature and endeavoured to identify the potential stressors of the medical call centre environment and the impact of these organisational stressors of the psychological and physical wellbeing of employees within this context.

However, as with all quantitative research, there remained an element of superficiality within this study and it is suggested that further research increase the intensity and profundity of the research by using more in-depth and insightful qualitative methods of assessment and data collection. In addition, as there was a time limitation on the study, only three organisations were considered in the study. Further research could use a larger sample that might allow for greater comparisons between subjects or groups to be made.

The current research was not focused on demographic variables such as age, gender, race, marital status and socio-economic class and these constructs were merely considered in the study in order to describe the sample. Future research could focus on these aspects and the possible effects that they may have on individual perceptions and coping strategies within the medical call centre context.

Furthermore, this study concentrated on three independently funded institutions within the private sector. However, there remains much scope for comparative research within equivalent state-owned medical call centres.

CHAPTER 6

CONCLUSION

The current study was based on the transactional approach to stress and aimed to explore the way in which stress impacts on physical and psychological wellbeing within the medical call centre context.

Firstly, the study aimed to identify the environmental aspects of the organisation that may be perceived as stressful by medical call centre employees. Additionally, the extent to which these factors are perceived to impact on both the psychological and physical wellbeing of employees was explored.

The findings of the study show that medical call centre employees experience stress from environmental aspects such as organisational factors, the nature of the work itself and support at work. Additionally, factors such as support outside of work and feelings of being undervalued were identified as elements within the medical call centre situation that may provoke stress, frustration or anxiety.

Findings indicated that the stress factors of support outside of work, organisational characteristics, being undervalued and support at work had an impact on the psychological and physical wellbeing of employees and increased absenteeism and their desire leave the organisation. Results also indicated that stress related to the nature of the

work itself was not significant for most employees of the medical call centres and decreased as ones tenure in the industry increased. However, no significant differences regarding the impact of these factors on psychological and physical wellbeing were discovered between individuals from different organisations or of different genders, races or marital status groups.

It was suggested that the findings of the research be used in informing employee assistance programmes at medical call centres as well as be considered in the formulation of organisational coping strategies and stress management techniques. Furthermore, with regards to the high instances of crime and violence with South Africa, these findings can aid emergency medical call centres in making the necessary provisions for this situation without increasing role overload and experiences of stress in staff members.

Yet, it is important to remember that the current research is quantitative in nature and does not contain any subjective classifications or richness of experience. Care must be taken when generalising the results of this study and applying them to other contexts as these findings do not account for individual factors such as culture, background and beliefs that may impact on the attitudes, motivations and experiences of employees.

Further research is encouraged to explore this topic from a qualitative perspective in order to provide a descriptive and more in-depth understanding of the subjective experiences of medical call centre employees.

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APPENDIX 1: COVERING LETTER

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

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My Name is Josie Lutrin and I am conducting research for the purpose of obtaining a Masters degree at the University of the Witwatersrand in the field of Industrial Psychology. My area of focus is that of medical call centre work and the way in which this environment impacts on the physical and psychological wellbeing of the individuals working in this field. In addition, part of this research aims to explore how perceptions of call feedback and personal coping mechanisms affect the way in which you feel about your job. I would like to invite you to participate in this study.

Participation in this research will entail completing the attached questionnaire. The questionnaire will take approximately 20 minutes to complete. The questionnaire consists of a series of questions where you are asked to mark a response that comes closest to how you feel about it. Participation is voluntary and no employee will be advantaged or disadvantaged in any way for choosing to complete or not complete the questionnaire. While questions are asked about your personal circumstances, no identifying information, such as your name or I.D. number is asked for, and you will be identified only by a number in order to retain confidentiality. Your completed questionnaire will not be seen by any person in the organisation at any time, and will only be processed by myself and my research supervisor. Your responses will only be looked at in relation to all other responses. This means that feedback given to the organisation will not be able to identify you in any way in order to maintain confidentiality.

If you choose to participate in this study please complete the attached as carefully and as honestly as possible. Once you have answered the questions, place the questionnaire in the envelope provided and deposit it in the sealed box provided. The questionnaires will be collected from the box at regular intervals. This will ensure that no one other than myself and my research supervisor will have access to the completed questionnaires, and will ensure your confidentiality. If you do return your questionnaire, this will be considered consent to participate in the study.

Your participation in this study would be greatly appreciated. This research will contribute to both a larger body of knowledge on medical call centres, as well as to a greater understanding of workplace dynamics. This can help to inform the development of organisational policies and procedures.

If you have any queries, please do not hesitate to call me on (011) 8851562 or 0834602487.

Yours Sincerely

Josie Lutrin

APPENDIX 2: BIOGRAPHICAL BLANK

Biographical Information

Your answers to these questions will provide useful information – facts about yourself rather than your opinions.

Please answer by circling the appropriate items, or by ticking the boxes, or write in the lines provided.

You and Your Family

1. Gender ☐ male ☐ female
2. Age _____ years
3. Race: _____
4. Home Language: _____
5. Marital Status: ☐ Married
   ☐ Cohabiting
   ☐ Single
   ☐ Divorced
   ☐ Remarried
   ☐ Separated
   ☐ Widowed

Your Education:

6. Highest academic level reached: ☐ std 8 / std 9
   ☐ matric
   ☐ Basic Ambulance Course
   ☐ Ambulance & Emergency Assistant
   ☐ Critical Care Assistant/ N.Dip
   ☐ Other, please specify _____

Work History:

7. How many years have you been in the medical call centre industry? _____
8. How many years have you been with the present company? _____

Your Habits

1. Do you manage an 'ideal' exercise programme (for example 15-30 minutes vigorous exercise 3 times a week)?

☐ Always
☐ Usually
☐ Sometimes
☐ Occasionally
☐ Never

2. Do you smoke? ☐ yes ☐ no
If yes, how much per day? _____ Cigarettes
_____ Cigars
_____ Pipe

3. Do you drink alcohol? ☐ yes ☐ no
If yes, how many units on average - where 1 unit = a glass of beer (284ml), a glass of wine (125ml), or one measure or a shot of spirits (50ml)?
_____ Units per week

4. How many days sick leave have you taken in the past three months (12 weeks)? _____ Days

5. How many of these sick leave days did you take because you yourself were sick, as opposed to other reasons such as a family member being sick? _____ Days

6. If the past three months, how many times have you been to see a doctor because you were sick?
_____times

7. How often have you seriously considered quitting your present job?

☐ Never
☐ Rarely
☐ Sometimes
☐ Quite often
☐ Extremely often

APPENDIX 3: STRESS AT WORK QUESTIONNAIRE

Sources of pressure in your job

Almost everything can be a source of pressure (to someone) at a given time, and individuals perceive potential sources of pressure differently. The person who says they are 'under a tremendous amount of pressure at work at the moment' usually means that they have too much work to do. But that is only half the picture. The items below are all potential sources of pressure. You are required to rate them in terms of the degree of pressure you perceive each may place on you. Please use the scale below to answer each question by circling the relevant number.

1= Very definitely is not a source
2= definitely is not a source
3= generally is not a source
4= generally is a source
5= definitely is a source
6= Very definitely is a source

1. The emergency nature of the calls I receive
   1 2 3 4 5 6
2. Taking my work home
   1 2 3 4 5 6
3. Underpromotion – working at a level below my level of ability
   1 2 3 4 5 6
4. Inadequate guidance and backup from superiors
   1 2 3 4 5 6
5. Lack of consultation and communication
   1 2 3 4 5 6
6. Not being able to 'switch off' at home
   1 2 3 4 5 6
7. Inadequate or poor quality of training
   1 2 3 4 5 6
8. Keeping up with new dispatching computer programmes and technological skills
   1 2 3 4 5 6
9. Lack of social support from people at work
   1 2 3 4 5 6

10. My family's attitude towards my job and career

1 2 3 4 5 6

11. Having to work very long shifts

1 2 3 4 5 6

12. Working at a level below my ability

1 2 3 4 5 6

13. Conflicting job tasks and demands in the role that I play

1 2 3 4 5 6

14. Covert discrimination and favouritism

1 2 3 4 5 6

15. Feeling isolated

1 2 3 4 5 6

16. A lack of encouragement from superiors

1 2 3 4 5 6

17. Demands my work makes on my relationship with my partner/ spouse/ children

1 2 3 4 5 6

18. A lack of call feedback from paramedics or on scene staff

1 2 3 4 5 6

19. Making important decisions

1 2 3 4 5 6

20. Implications of the mistakes I may make

1 2 3 4 5 6

21. Being undervalued

1 2 3 4 5 6

22. Inadequate feedback about my own performance

1 2 3 4 5 6

23. Absence of emotional support from others outside work

1 2 3 4 5 6

24. Changes in the way I am asked to do my job

1 2 3 4 5 6

25. Demands work makes on my private/social life

1 2 3 4 5 6

26. Lack of practical support from others outside work

1 2 3 4 5 6

27. Factors not under my direct control

1 2 3 4 5 6

28. Home life with a partner who is also pursuing a career

1 2 3 4 5 6

29. Dealing with ambiguous or ‘delicate’ situations

1 2 3 4 5 6

30. Having to adopt a negative role (such as giving a patient bad news)

1 2 3 4 5 6

31. An absence of any potential career advancement

1 2 3 4 5 6

32. Morale and organisational climate

1 2 3 4 5 6

33. Relationships with the people I work with

1 2 3 4 5 6

34. Absence of stability/dependability at home

1 2 3 4 5 6

35. Characteristics of the organisation’s structure and design

1 2 3 4 5 6

APPENDIX 4: WELLBEING SCALE

Measure of psychological and physical wellbeing

1. How often would you say your worry about things?

Very Often Never

1 2 3 4 5 6

2. In general, do you find life exciting, pretty routine or dull?

Very exciting Very dull

1 2 3 4 5 6

3. Taking everything into consideration, how would you describe your satisfaction with life in general at the present time?

Very Satisfied Very dissatisfied

1 2 3 4 5 6

4. How would you rate your mental or emotional health at the present time?

Excellent Unwell

1 2 3 4 5 6

5. Is your current mental or emotional health better/ about the same/ worse than it was five years ago?

Much better Much worse

1 2 3 4 5 6

6. Is your daily life full of things that keep you interested?

Definitely Yes Definitely No

1 2 3 4 5 6

7. Does it seem that no one understands you?

Definitely Yes Definitely No

1 2 3 4 5 6

8. Are you happy most of the time?

Definitely Yes Definitely No

1 2 3 4 5 6

9. Do you feel useless at times?

Definitely Yes Definitely No

1 2 3 4 5 6

10. Do you feel that you need medical treatment beyond what you are receiving at this time?

Definitely Yes Definitely No

1 2 3 4 5 6

11. How would you rate your overall health at the present time?

Excellent Unwell

1 2 3 4 5 6

12. Is your current health better/ about the same/worse than it was five years ago?

Much better Much worse

1 2 3 4 5 6

13. How much do your health troubles stand in the way of your doing things you want to do?

Very Often Never

1 2 3 4 5 6

14. Do you wake up fresh and rested most mornings?

Very Often Never

1 2 3 4 5 6

15. Have you had periods of days/ weeks/ months when you couldn't take care of things because you couldn't get along?

Very Often Never

1 2 3 4 5 6

16. Do you feel weak all over much of the time?

Very Often Never

1 2 3 4 5 6

17. Are you troubled by headaches?

Very Often Never

1 2 3 4 5 6

18. Are you troubled by your heart pounding and shortness of breath?

Very Often					Never
1	2	3	4	5	6