WORK WELLNESS, ABSENTEEISM AND PRODUCTIVITY IN A CALL CENTRE IN THE INSURANCE INDUSTRY

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REMARKS

The reader is reminded of the following:

- The references as well as the style as prescribed by the Publication Manual (5th edition) of the American Psychological Association (APA) were followed in this mini-dissertation. This practice is in line with the policy of the Programme in Industrial Psychology and WorkWell: The Research Unit for People, Policy and Performance, North-West University, Potchefstroom, South-Africa.

- The mini-dissertation is submitted in the form of a research article. The editorial style specified by the *South African Journal of Industrial Psychology* (which agrees largely with the APA style) is used, but the APA guidelines were followed in constructing tables.

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SUMMARY

Subject: Work wellness, absenteeism and productivity in a call centre in the insurance industry.

Key terms: Work wellness, dual-process model, absenteeism, productivity, call centre

Companies in the insurance industry differentiate themselves in the market from their competitors not only by the products they develop and sell but also by the service they deliver. Many organisations utilise call centres as a means to reduce costs and to improve customer service. It has been proven that working in a call centre is a stressful, unsatisfying and a physical and psychological unhealthy occupation for an employee. To ensure high-performance in a call centre, managers have realised that to enable employees to interact with customers in a productive and positive way, and to keep customers returning, employees need to feel good about what they do and where they work. The negative effects of the work might result in high turnover, absenteeism and lowered performance. With the realisation of the importance of the well-being of employees in the call centre, we set out to examine the work wellness of the call centre employees and the effect it had on absenteeism and productivity.

A cross-sectional survey design was used. The study population (N=206) included employees in the call centre of a company in the insurance industry. The South-African Employee Health and Wellness survey was used to gather data on the work wellness of employees. Objective data from the leave system was used to determine their absenteeism. To analyse the productivity of employees, the number of transactions completed and errors made was gathered from the workflow system. Descriptive statistics, product-moment correlation coefficients, stepwise multiple regression analysis and discriminant analysis were used to analyse the data.

The results indicated that burnout was related to sense of coherence, job demands, job resources and ill-health. Work engagement was related to sense of coherence, job resources and commitment. Growth opportunities seemed to play an important role in the work wellness of employees in the call centre. Job variety, the ability to learn new skills and autonomy are important factors in a call centre. Weak relationships were found between work wellness, absenteeism and productivity in the call centre.

Recommendations for future research were made.

OPSOMMING

ONDERWERP: Werkwelstand, afwesigheid en produktiwiteit in 'n kliëntedienssentrum in die versekeringsbedryf.

SLEUTELWOORDE: Werkswelstand, dubbele-proses model, afwesigheid, produktiwiteit, kliëntedienssentrum.

Versekeringsmaatskappye differensieer hulself in die mark nie alleen op die produkte wat hul ontwikkel nie, maar ook op hul dienslewering aan kliënte. Verskeie maatskappye gebruik kliëntedienssentrums om koste te bespaar en hul diensvlakke te verbeter. Navorsing het aangetoon dat dit stresvol is om in 'n kliëntedienssentrum te werk en dat dit 'n negatiewe uitwerking op die fisiese en psigiese gesondheid van 'n kliëntedienskonsultant kan hê. Bestuurders besef dat 'n uitstekende vlak van kliëntedienslewering gekoppel is aan die mate waarin kliëntedienskonsultante hul werk en werksomgewing geniet. Die negatiewe uitwerking van werk mag resulteer in hoë arbeidsomset, afwesigheid en verlaagde prestasievlakke van werknemers. Met die bewuswording van die belangrikheid en uitwerking van die welstand van 'n kliëntedienskonsultant op produktiwiteit en afwesigheidsvlakke, is besluit om navorsing te doen oor die onderwerp. Die doelstelling van hierdie studie was dus om die welstand van kliëntedienskonsultante en die uitwerking daarvan op afwesigheid en produktiwiteit na te vors.

'n Dwassnit opname ontwerp is gebruik. Die studiepopulasie (N=206) het bestaan uit kliëntedienskonsultante van 'n maatskappy in die versekeringsbedryf. Die Suid-Afrikaanse Werknemer Gesondheid en Welstand Vraelys is gebruik om data rondom die welstand van die werknemers in te samel. Objektiewe data is van die verlofstelsel getrek om hul afwesigheidsvlakke te bepaal. Aantal transaksies voltooi en aantal foute gemaak is benut om na die werknemers se produktiwiteit te kyk. Beskrywende statistiek, produk-moment korrelasies, stapsgewyse meervoudige regressie-analise en diskriminantanalise is gebruik om die data te analiseer.

Die resultate toon aan dat uitbranding verwant is aan koherensievlakke, werkseise, werkshulpbronne en swak gesondheid en dat werksbegeestering verwant is aan koherensie, werkshulpbronne en organisasieverbondenheid. Groeigeleenthede het 'n belangrike rol

gespeel in die welstand van kliëntedienskonsultante. Verskeidenheid van werk, geleenthede om nuwe take aan te leer en outonomie is belangrik vir die kliëntedienskonsultante. Swak verwantskappe is gevind tussen werkwelstand, afwesigheid en produktiwiteit.

Aanbevelings vir toekomstige navorsing is aan die hand gedoen.

CHAPTER 1

INTRODUCTION

This dissertation deals with the relationship between work wellness, absenteeism and productivity in a call centre in the insurance industry.

In this chapter the problem statement is discussed. Research objectives are set out and the research method is explained and finally the division of chapters is given.

1.1 PROBLEM STATEMENT

The concept of positive psychology is rapidly gaining momentum in both psychology and organisational behaviour. Traditionally the field of psychology focussed almost exclusively on how to cure and treat psychological problems. Recently, the focus of psychology moved to understanding and promoting the factors that allow individuals, groups, organisations and communities to thrive and prosper (Luthans, 2002). The need for a proactive approach in organisational research was also noted, and the field of positive organisational behaviour emerged. Positive organisational behaviour can be defined as the study and application of positively oriented human resource strengths and psychological competence that can be measured, developed, and effectively managed for performance improvement in today's workplace (Wright, 2003). Therefore studies on wellness of employees' on the one hand, and organisational effectiveness on the other hand are of great importance (Rothmann & Cilliers, 2007). This study focuses on the integration of organisational outcomes (absence and productivity) with the Dual-process model as an extension of the Job Demands-Resources (JD-R) model (Bakker, Demerouti, & Schaufeli, 2003).

Over the past 40 years, major changes have taken place in the workplace. The increased use of information technology at work, the globalisation of many industries, organisational restructuring, changes in work conditions and work time scheduling have radically transformed the nature of work. The work-force itself is also diversifying, with an increase in female participation, dual-earner couples and aging workers (Sparks, 2001). Other changes include new patterns of working, such as tele-working, self-regulated work and teamwork, an increased reliance on computerised technology and a move towards a more flexible

workforce, both in terms of the number of employees and in their skills and functions (Sparks, 2001). In the new economy knowledge work as an intangible capital is supplanting physical capital as the critical asset. Knowledge workers in this paradigm, then, are increasingly viewed as "human capital". The key challenge in human capital management is to convert knowledge into worker performance. This depends largely on people's capacity and functionality, which forms part of their health and wellness (Mulvihill, 2005).

Organisations, management and employees are under constant pressure to achieve higher targets and increased profitability (Rothmann, Steyn, & Mostert, 2005). With fewer staff doing more work in nearly every industry, employees experience both mental and physical exhaustion. Moreover, it is difficult to find skilled workers for newly developed positions, causing added overload for employees (Rothmann et al., 2005). In some organisations employees are faced not only with increased workloads and pressure but also with decreased job control. The continual changes in organisations, along with the increased pressure to perform, cause further feelings of distrust, tension, strain and fatigue (Coetzer, 2004).

In the insurance industry the keen competitiveness and rivalry between companies leads to increased demands on the workforce. A study by Lindstrom, Leino, Seitsamo, and Tordtila (1997) that was conducted in the insurance industry showed that a great deal of job insecurity is experienced. In this study the lack of content variety and control was related to high mental demands, high physical workload, poor interpersonal relationships and job insecurity. Continual organisational restructuring significantly affects the perceived job characteristics and the health and wellness of employees. These changes negatively affect the health and wellness of employees by increasing the likelihood of overwork, job dissatisfaction and accidents at work (Ho, 1997).

Research indicates that work can impact negatively (leading to ill-health) and positively (causing wellness) on the health status of employees. One perspective of work therefore is that it can cause ill-health. Rothmann (2003) confirmed the negative effect of work on employee health. Unsuccessful attempts to cope with a variety of negative stress conditions can result in burnout, a multidimensional chronic stress reaction.

According to The Health and Safety Executive (2001), ill-health can result if stress is prolonged and intense, with the negative effects including heart disease, back pain,

gastrointestinal disturbances, anxiety and depression (Johnson, Cooper, Cartwright, Taylor, Donald & Millet, 2005). Job stress also impacts significantly on mental health, with the job stress parameters accounting for 41% of the variance in general health (Iacovides, Fountoulakis, Kaprinis, & Kaprinis, 2003). Burnout has been related to negative experiences in organisations with regard to job satisfaction, job performance, turnover and absenteeism (Halbesleben & Buckley, 2004).

The positive perspective is that work, more specifically, goals and structured activity, translate directly into mental health outcomes and indirectly affect employees' life satisfaction (Rothmann, 2003). In a study by Bakker, Demerouti, de Boer, and Schaufeli (2001) it was found that employees that can draw upon job resources such as job control and participation in decision-making are more motivated to do their job, experience stronger commitment to their organisation and report themselves less often sick than their counterparts.

The dual-process model of Bakker et al. (2003) form the basis of the current study as it integrates positive and negative aspects of work-related wellness. The central proposition of the Job Demands-Resources model is that job characteristics can be organised in two broad categories, namely, job demands and job resources. Job demands refer to those physical, psychological or organisational aspects of the job that require sustained physical and/or mental effort and are, therefore associated with certain physiological and/or psychological costs. Examples include intense work pressure and physical and emotional demands (Bakker, Demerouti, & Schaufeli, 2003; Bakker, De Boer, Demerout &, Schaufeli, 2001; Bakker & Geurts, 2004).

Job resources on the other hand refer to those physical, psychological or organisational aspects of the job that may be functional in meeting task requirements and may in effect reduce the associated physiological and/or psychological costs (Bakker et al., 2003). Job resources at the same time also stimulate personal growth and development. Hackman and Oldham (1976) refer to performance feedback, skill variety and autonomy as job resources located in the task itself. Job resources also include organisational resources (e.g. career opportunities, job security) as well as social resources (e.g. supervisor and co-worker support) (Bakker & Geurts, 2004).

A second proposition in the Job Demand-Resources (JD-R) model is that work characteristics may lead to two different processes. First, the energetic process links job demands with health problems via burnout. High job demands exhaust employees' mental and physical resources and consequently lead to health problems or burnout. Second, the motivational process (also referred to as work wellness) links job resources via engagement with organisational outcomes. Job resources may either play an intrinsic motivational role because they foster employees' growth, learning and development, or they may play an extrinsic motivational role because they are instrumental in achieving work goals (Bakker et al., 2003). Poor or lacking job resources preclude actual goal accomplishment, which is likely to cause failure or frustration. In its turn this may lead to withdrawal from work, and reduced motivation or worker commitment (Bakker & Geurts, 2004).

The validity of the JD-R model was proved in a study of 3092 employees in four different home-care organisations. The same study also found that although every occupation has it's own causes of burnout, the causes fit into a general model that applies to many different settings (Bakker, Demerouti, Taris, Schaufeli, & Schreurs, 2002). The assumption in the JD-R model that there is two underlying processes were supported in a multi-sample study by Schaufeli and Bakker (2004) on job demands, job resources and their relationship with burnout and engagement. It was also found that job demands and job resources were negatively related. On a more general level the study found that burnout plays a mediating role in an effort-based energetic process that is driven by high job demands. This may eventually lead to ill-health. Engagement, however, plays a mediating role in a motivational process that is driven by available resources and it may lead to organisational attachment that results in low turnover intention.

Bakker, Demerouti, de Boer, and Schaufeli (2001) showed that burnout and commitment mediate the relationship between job demands and job resources on the one hand, and absence duration and frequency on the other hand. The theoretical framework of Bakker, Demerouti, de Boer and Schaufeli (2001) was successful in integrating two different processes responsible for the different characteristics of absenteeism. The first process can best be described as a health impairment process starting with high job demands, which lead to burnout and longer periods of absence. The second process is motivational in nature, and starts with job resources. Employees that were less often sick, motivated to do their job and strongly committed to their organisation were found to have control over their jobs and were

able to participate in decision-making (Bakker et al., 2001). Bakker et al. (2001) proposed that studies on the JD-R model should examine a broader range of job demands and job resources, potentially related to absenteeism and withdrawal from work.

Bakker, Demerouti, and Schaufeli (2003) conducted research in a Dutch call-centre among 477 employees on the validity of the JD-R model for self-reported absenteeism and turnover intentions. Bakker et al. (2001) hypothesised that job demands would be the most important predictors of absenteeism, through their relationship with health problems, and job resources the most important predictors of turnover intentions through their relationship with involvement. This study was successful in supporting the theoretical framework that high job demands led to exhaustion and repetitive strain injuries that predicted absenteeism. Job resources on the other hand were unique predictors of dedication and commitment and indirectly staff turnover intentions.

The outcomes of a number of studies link job stress and burnout to important organisational outcomes such as job satisfaction and organisational commitment (Iacovides et al., 2003; Espnes, Innstrand, & Mykleton, 2004; Buckley & Halbesleben, 2004; Johnson et al., 2005). Although several studies can be found that link the dual-process model of burnout and engagement with organisational outcomes such as organisational commitment, turnover intention and job satisfaction (Bakker et al., 2001; Bakker et al., 2001; Barkhuizen, Van der Vijver, in press; Schaufeli & Bakker, 2004), only two studies could be found that looked at absence. Only one study could be found (Bakker, Demerouti, de Boer & Schaufeli, 2001) that examined the JD-R model and its relationship to absenteeism in a call-centre environment. The researcher could find no study in the literature that integrated productivity into the dual-process model. The extension of the dual-process model is one of the objectives of this study. The energy and motivational process will be correlated with productivity and absence respectively to expand the model. Similar research applications could not be found for the South African context, nor for the insurance industry.

Obtaining agreement on what exactly is meant and measured by absence is somewhat difficult. Most organisations distinguish between different types of absence. There are no less than six different categories, namely sickness absence, statutory time off, strikes or industrial action, holidays, special leave and personal/domestic leave (Huczynski & Fitzpatrick, 1989). Most empirical studies that focus on individual experiences at work as precursors of

absenteeism can be classified along two main explanations for employees' decision to report themselves sick (Johns, 1997). First, employees may be absent because they want to withdraw from adverse work circumstances. Sagie (1998) found that employees who experience low job satisfaction and organisational commitment are more frequently absent than those with high job satisfaction and commitment. A second explanation for absenteeism is that absence behaviour is a reaction to job stress, where stress is conceived as a failure to cope with job demands. This explanation stipulates that absenteeism may be used as a coping mechanism to deal with job strain and that it is not simply a behavioural reaction to dissatisfaction (Bakker, Demerouti, de Boer & Schaufeli, 2001). The JD-R model explains this view by proposing that several demanding characteristics of the working environment, including emotional demands, and problems with work equipment or changes in the task, may lead to impairment of health and consequently to absenteeism (Bakker et al., 2001).

When looking at absenteeism, generally two different measures are distinguished, namely absence frequency and absence duration (Bakker et al., 2001). Absence frequency is the number of spells or times an individual has been absent during a particular period, regardless of the length of those spells. Usually, absence frequency is considered to be an indicator of "voluntary absenteeism" and a function of the employee's motivation as reflected in the employee's level of organisational commitment. In contrast, absence duration is the total length of time an individual has been absent over a specified period regardless of the number of absence spells. Absence duration is generally considered to be an indicator of "involuntary absence" that results from the inability rather than the unwillingness to come to work, for example as a result of ill-health (Bakker et al., 2001). Two different processes seem to be responsible for absence frequency and absence duration from work. The health impairment process start with high job demands, which lead to burnout and longer periods of absence from work. The health promotion process is motivational in nature. Employees who can draw on job resources such as job control and participation in decision-making might be more motivated to do their job, feel committed to the organisation and report themselves less often sick (Bakker et al., 2001). This study by Bakker et al. (2001) confirmed previous studies (e.g., Firth & Britton, 1989; Saxton, Phillips & Blakeney, 1991) in which moderate support was found for the idea that employees who experience job stress are absent for longer and employees low in job satisfaction and organisational commitment are absent more frequently (e.g., Cohen, 1991; Farrel & Stamm, 1988). In a study of the JD-R model at work in a Dutch call-centre, Bakker et al. (2003), found that high job demands led to health problems, which

led to longer periods of absence. It was clear that job demands such as work pressure, computer problems, emotional demands and changes in tasks, were related to sickness absence.

Reese (2001a) reported in a study by the University of Texas that work issues accounted for 35% of unscheduled absences, more than personal responsibilities (34%), family issues (20%) and personal health problems (11%). Work-related causes of absence most frequently stemmed from job dissatisfaction, such as lack of control or poor relationship with managers and co-workers, and job demands relating to overload and the corporate culture (Reese, 2001b). Huczynski and Fitzpatrick (1989) identified the job situation, such as job scope, stress, frequency of job moves, hours of work, leadership style/quality, work environment and work-group size as the number one influence on absence from work. They found that the job situation had a major influence on job satisfaction that, in turn, influenced attendance at work.

According to Van der Merwe (2005), aches and pains are responsible for a significant percentage of employee absence and lost productivity. In a recent survey by the Institute for Health and Productivity Management (IHPM) (Van der Merwe, 2005), of 34 employers with a combined total of 1,2 million employees, arthritis, lower back pain and repetitive strain injury, all examples of musculoskeletal conditions, are the second most common reason for employee absenteeism and presenteeism. Presenteeism is defined as employees being at work, but with diminished productivity. The most common reasons for absenteeism and presenteeism were mental health conditions such as depression. Respiratory, gastrointestinal illness and pregnancy followed in the third place (Van der Merwe, 2005). Recent studies in presenteeism have become instrumental in illustrating the cost of lost employee productivity. Presenteeism reflected as lost productivity, costs organisations 18% to 60% more than medical aid costs for health conditions (Mulvihill, 2005).

Presenteeism, performance and productivity are multi-dimensional terms and important in this study. Depending on the context within which it is used, there are common characteristics that tend to be embraced by the term productivity. Tangen (2005) consider productivity as the relation between output quantity and input quantity. According to Johnston and Jones (2004), productivity is the ratio of what is produced by the employee compared to what the employee is required to produce, or more simply the ratio of actual

output to input over a period of time. Inputs might include materials, equipment, customers and staff and the outputs are goods and services.

Productivity of services is a difficult concept to operationalise because of its unique characteristics – intangibility, perishability and variability. Among other things, these characteristics have implications for productivity primarily because they affect the ability to specify the exact sequence of steps that will always produce the desired outcome. They, moreover, complicate the process of defining clear standards of performance and accurately measuring work output (Dobni, 2004). It is also important to emphasise the symbiosis between productivity and quality. The definition of service productivity must embrace the notion of both performance and the results measured; it must recognise cost structures but also encompass indicators of speed, simplicity and innovation. In recent service studies service productivity was measured by comparing actual output with pre-specified standards, assessing the service providers improvement in feelings of competence and mastery at work, counting the number of transactions completed for a work period and by tracking the combination of performance, commitment and citizenship-related behaviours exhibited by the service worker (Dobni, 2004). For the purpose of this research productivity is defined as the number of transactions completed by the employee and the quality of the transactions completed, measured by the number of errors on the transactions.

Koopmanschap, Burdorf, Jacob, Meerding, Brouwer, and Severens (2005) demonstrated that healthy people are more productive in performing work. However, performing work may have an adverse effect on employees' health as a result of strenuous working conditions and cause temporary sickness, absence and permanent disability. Nicotine fits, feelings of stress, strain, illness, hunger, tiredness, emotional exhaustion and chronic pain are all conditions that whittle away at the ability of service workers to be productive. In some cases these conditions are brought to work and in others they are brought on by work. These health conditions are experienced in many ways. Workers who have some form of breakdown are likely to feel sluggish at work, find it harder to concentrate, work at a slower pace, lose their motivation or are more prone to making mistakes and having accidents (Dobni, 2004).

A Swedish study amongst computer users showed that the mean loss in productivity among those that reported health complaints affecting their work, amounted to almost 17 hours per month. Furthermore, it was found that 25% of absentees experienced production losses before

absence and 20% after absence (Koopmanschap et al., 2005). Dobni (2004) found that workers experiencing poor health and wellness tend to be less productive, absent themselves from work at higher than normal rates and are on the whole poorer contributors to the organisation. The holistic model of work related wellness has shown significant correlations between job demands and lack of job resources and burnout, which in turn, lead to physical and psychological ill-health (Rothmann & Rothmann, 2006). As already established, high job demands lead to burnout, which in turn, lead to ill-health that might adversely affect productivity.

Organisations make use of call centre facilities to increase productivity. Organisations have benefited from this facility because it has enabled them to reduce the cost of existing functions, extend and improve customer service facilities and generate new avenues of revenue (Holman, 2003). Despite these benefits, call centre facilities have been labelled as "electronic sweatshops" (Holman, 2003). The benefits to call centre employees are less clear. The perception is that call centre work is demanding, boring, monotonous and stressful. Studies on stress experienced by call centre employees have shown that a lack of method control, task ability, intensity of performance monitoring and emotional dissonance all impact negatively on employees (Holman 2003). Holman (2003) proved that customer-employee interaction could affect employee wellness. One can argue that whereas some employees enjoy call centre work, for many it is stressful and demanding (Bakker et al., 2003). Further research on call centres has indeed shown that lack of job control, role stress, performance monitoring, inadequate coaching and training, emotional labour and lack of team leader support can all lead to job stress – including depression, emotional exhaustion and anxiety (Bakker et al., 2003). In a study on empowerment, job satisfaction and stress, it was found that low levels of job satisfaction are strongly related to health. Call centre staff were found to be significantly less empowered than the general population and attributed more stress to the intrinsic factors, such as organisational structure and climate, organisational role, career and achievement aspects of their jobs, than the general population. They also reported poorer job satisfaction and lower mental and physical health than the general population (Holdsworth & Cartwright, 2003).

The specific call-centre researched in this study is faced with quite a few challenges. The call-centre is an inbound call-centre that takes calls from clients and brokers in the insurance industry. Call-centre staff service their clients on a diverse range of products for example,

investments, risk cover, lifestyle, medical and banking products. The call-centre agent is consequently faced with the challenge of being able to understand and be knowledgeable about all these products. The agents' work is monitored by a performance monitoring system that monitors the number of calls taken and the number of transactions completed by each agent. Two layers of quality controllers review the work to check on quality. The pay-for-performance remuneration system is based on a small basic salary and the rest is made up of commission for every transaction completed. If the agent makes a mistake or the quality of the call is not up to standard, the transaction is failed. Money is deducted from the commission earned for every failed transaction. If an agent is absent, commission is based on the sick leave rate, which is, for the top performer, much less that the commission he or she could have earned if physically present.

Job control is limited, as the agents have to follow specific procedures and a specific format when talking to clients and brokers. They do not have the authority to make any decisions as all decisions are referred to their managers. There is little job independence as agents have to complete the instruction received on the electronic inbox. Work is distributed automatically to the agents" inboxes and they are not able to plan their own work or give input on what should be done and how. The work environment is not very nurturing, as they have to chase quantity to earn their living. Support from supervisors and management is limited. An agent is able to push up his/her remuneration to very high levels if he/she is productive or puts in very long hours.

Applied research has, in the past, focused unduly on the identification of financial costs to the organisation of distressed, dissatisfied and unhappy employees. The cause of this employee dissatisfaction and unhappiness is typically seen as being deeply imbedded in the emotional maladjustment of the employee, as opposed to aspects of the job itself (Rothmann & Cilliers, 2007). According to Wright (2003), this approach might be seen as a repair-shop approach and might be less than successful. Whilst this approach is of value to those interested in the bottom-line, it does not help employees to lead healthier and more meaningful lives (Wright, 2003).

Companies that focus their business health culture on reactive approaches, such as dealing with attendance, accidents, EAP utilisation and/or staff turnover rates and costs, tend to concentrate their resources and energy on controlling failure costs (Dyck, 1999). Instead,

illness prevention activities impact positively on an organisation's business outcomes. Dyck (1999) researched such prevention activities and found that prevention activities such as high-performance leadership, quality communication, support of a work and personal life balance, meaningful participation, control over work and development of effective interpersonal skills can be the best preventative measures for workplace failures.

The purpose of the study is to explain where absenteeism and productivity might fit into a holistic work wellness model for employees in a call centre by expanding the JD-R model to also incorporate absenteeism and productivity as organisational outcomes. The study will look at the possible impact of job demands and job resources on absenteeism and productivity. These results will enable the organisation to address the job demand and job resources that have the most influence in the call-centre, so as to reduce the impact of absenteeism and increase productivity.

No research involving productivity and absenteeism as part of the JD-R model could be found in South Africa and this study will contribute to a greater understanding of where the organisational outcome of productivity and absenteeism would fit into a holistic work wellness model. Little research is available on the impact of work wellness on organisational outcomes. Organisations are also questioning the added value of work wellness interventions (wellness programmes) in the organisation. In the South African context it would add value to understand what the impact of work wellness is on the employee and the benefits that it would hold for the organisation if it addresses work wellness. Els (2005) found that a holistic work wellness model can contribute to the development of managed wellness care programmes that will result in increased productivity, organisational effectiveness and work-home life balance. This will in turn lead to effective job design, optimal working conditions and a healthier workplace (Bakker, Demerouti, & Schaufeli, 2003).

The following research questions arise based on the abovementioned description of the research problem:

- Are there relationships between job demands, job resources, burnout, and ill-health in a call centre?

- Are there relationships between job demands, job resources, work engagement and organisational commitment in a call centre?
- Are low organisational commitment and/or high levels of ill-healthassociated with increased absenteeism in a call centre?
- Are low organisational commitment and/or high levels of ill-health associated with lower productivity in a call centre?

1.2 RESEARCH OBJECTIVES

1.2.1 General objective

The aim of this study is to assess the relationship between work wellness and the organisational outcomes of absenteeism and productivity in a call-centre in the insurance industry.

1.2.2 Specific objectives

The specific objectives of this study are as follows:

- To investigate the relationships between sense of coherence, job demands, job resources, burnout, and ill-health in a call centre.
- To study the relationships between sense of coherence, job demands, job resources, work engagement and organisational commitment in a call centre.
- To establish whether physical and psychological ill-health and low organisational commitment are associated with absenteeism in a call centre.
- To establish if physical and psychological ill-health and low organisational commitment are associated with lower productivity in a call centre.

1.3 RESEARCH METHOD

The research method includes the research design, the participants, the measuring instruments and the statistical analysis performed.

1.3.1 Research design

A quantitative approach was used to examine the statistical relationships empirically between the different variables. A cross-sectional survey design was used to achieve the objectives of the study. A sample of the population was taken at a particular point in time and the sample was evaluated on several constructs at the same time (Kerlinger & Lee, 2000).

1.3.2 Participants

The population that the sample was drawn from, consisted of the employees in the client service call centre that voluntarily completed the South African Employee Health and Wellness Survey (SAEHWS) (Rothmann & Rothmann, 2006). The sample comprised all the employees in the call-centre that are remunerated on a "pay for performance" basis and that completed the SAEHWS on a given date. It was essential that this study used the employees of the call centre as its sample, as the productivity of the employees in the call centre is monitored and measured electronically. Objective data that was drawn from the performance management system on the productivity of the sample were assessed. Of the employees in the call centre, 206 completed the SAEHWS.

1.3.3 Measuring instrument

The work wellness data of the employees was collected via the South African Employee Health and Wellness survey. Employees voluntarily completed the electronic internet-based questionnaire. The data for absenteeism and productivity for every respondent was drawn from the organisation's performance management system. The productivity statistics for every employee in the call centre were measured via the workflow system that the employee worked on. Reports on the number of transactions, the quality of work and the number of errors were drawn for every respondent in the sample. The data was compiled in an Excel spreadsheet file format. The Salaries department keeps record of all absenteeism days for every employee. A report on the absenteeism of every respondent in the sample was drawn from the payroll system.

The SAEHWS is a self-report instrument based on the dual-process model of work-related wellness (Rothmann & Rothmann, 2006). The SAEHWS is based on the assumption that

employees' perceptions and experiences represent important information regarding the wellness climate in the organisation. The SAEHWS instrument measures an employee's health and wellness status whilst relating these to the organisational climate and comparing the results to the South African norm (Rothmann & Rothmann, 2006). The SAEHWS measures organisational climate, wellness, health and lifestyle, organisational commitment, and personal variables. Organisational climate is expressed in terms of two sets of factors, namely job demands and job resources. Job demands include pace and amount of work, emotional demands, cognitive demands, work-home interference, and diversity experiences. Job resources consist of organisational support, social support, growth opportunities, advancement, and job security. Wellness variables include energetic processes which measures energy varying from exhaustion to vitality, and motivational processes which measures identification with work varying from mental distance to work devotion. Health and lifestyle variables include physical and psychological well-being and lifestyle which impact on job outcomes. Two types of organisational commitment are measured, namely affective and normative commitment. Sense of coherence measures an individual's general resistance resources.

Exploratory and confirmatory analyses were used to assess the factor structures of all the components of the measurement model of the SAEHWS. The results may be summarised as follows:

- Affective well-being. Two-factor models (compared to one factor models) were superior for exhaustion and mental distance as well as vitality and work devotion.
- Job demands and job resources. Exploratory factor analysis consistently indicated that five factors could be extracted from work experiences, as part of the SAEHWS. These factors include overload, organisational support, growth opportunities, advancement and job security. Social support by colleagues loaded on a separate factor in some studies, and on organisational support in other studies. Second-order factor analysis showed that these factors result in two higher-order factors, namely job demands and job resources.
- Sense of coherence. Confirmatory factor analysis with structural equation modelling showed that the fit of a one-factor model is superior to a three- factor model.

Therefore, it seems better to regard comprehensibility, manageability and meaningfulness as one factor.

- Ill-health. Exploratory as well as confirmatory factor analysis resulted in two factors namely physical ill-health and psychological ill-health.
- Organisational commitment. Factor analysis confirmed that organisational commitment consists of two related factors, namely affective commitment and normative commitment (Rothmann & Rothmann, 2006).

Studies further showed that the factor structures of the measuring instruments are equivalent for different ethnic groups and organisations. Looking at reliability, we see that the internal consistency of all the subscales of the SAEHWS is highly acceptable ($\alpha > 0,70$).

1.3.4 Statistical analysis

First, descriptive statistics (e.g., means, standard deviations, skewness and kurtosis) were used to explore the data. Our theoretical model was tested in a path analysis, following a two-step procedure. Firstly, a simple principal components analysis was conducted on the constructs, which formed part of the measurement model. The eigenvalues and scree plot were studied to determine the number of factors. In the second step either a principal components analysis with a direct Oblimin rotation was conducted if factors were related, or a principal component analysis with a Varimax rotation was used if the obtained factors were not related (Tabachnick & Fidell, 2001). Cronbach alpha coefficients (α) were used to assess the internal consistency of the measuring instruments (Clark & Watson, 1995). Pearson product-moment correlation coefficients were used to specify the relationships between the variables. Multiple regression analyses were used to determine whether the organisational climate and/or personal characteristics predict the psychological conditions (e.g. burnout and engagement) and to determine if these conditions in turn predict the stress and eustress process outcomes (e.g. physical illness, psychological illness and organisational commitment) (Arbuckle, 2005).

1.4 ETHICAL ISSUES

The organisation gave the researcher permission to use the data of the South African Employee Health and Wellness Survey, as well as the data on employee absenteeism and productivity. The participation in the health and wellness study in the organisation was voluntary.

1.5 CHAPTER SUMMARY

In this chapter the problem statement and motivation were discussed. The general and specific objectives for the research were formulated and the method for the research described. The method of statistical analysis was also discussed.

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CHAPTER 2

RESEARCH ARTICLE

WORK WELLNESS, ABSENTEEISM AND PRODUCTIVITY IN A CALL CENTRE IN THE INSURANCE INDUSTRY

ABSTRACT

The objective of this study was to confirm a work wellness model for employees in a call centre according to the dual-process model framework and to examine the relationship between the dual-process model with productivity and absence duration and frequency. A cross-sectional survey design was used. The sample consisted of 206 call centre employees in the insurance industry. The South African Employee Health and Wellness Survey was used to gather the data. Regression analysis showed that sense of coherence, job demands and job resources were related to burnout, which in turn was related to ill-health. Sense of coherence and job resources were related to work engagement, which in turn was related to organisational commitment. The findings also partially supported the hypothesis that ill-health predicted lower productivity and found no support for a relationship between commitment and productivity. Discriminant analysis showed that there is no support for the relationship between ill-health and absence and weak support for the relationship between organisational commitment and absence in the call centre.

OPSOMMING

Die doelstelling van die navorsing was om 'n werkwelstandmodel vir werknemers in 'n kliëntedienssentrum na te vors volgens die dubbele prosesmodel asook om die verwantskap van die dubbele prosesmodel met produktiwiteit en afwesigheidslengte en frekwensie te bepaal. 'n Eenmalige dwarssnee opname-ontwerp is gebruik. Die steekproef het bestaan uit 206 werknemers van 'n kliëntedienssentrum van 'n organisasie in die versekeringsbedryf. Die Suid-Afrikaanse Werknemer Gesondheid en Welstand Vraelys is gebruik om die data in te samel. Regressie-analise het getoon dat koherensiesin, werkseise en werkshulpbronne verband hou met uitbranding, wat weer verband gehou het met swak gesondheid. Koherensiesin en werkshulpbronne het verband gehou met werksbegeestering, wat weer verband gehou het met organisasie-verbondenheid. Geen verband is gevind tussen produktiwiteit en organisasieverbondenheid nie en 'n gedeeltelike verwantskap is gevind tussen produktiwiteit en gesondheid. Diskriminanat analises het aangetoon dat afwesigheid geen verband toon met gesondheid nie en het en 'n swak verband toon met organisasieverbondenheid in 'n kliëntedienssentrum.

Key words: Work wellness, dual-process model, absenteeism, productivity, call centres

Over the past 40 years, major changes have taken place in the workplace. The increased use of information technology at work, the globalisation of many industries, organisational restructuring, changes in work conditions and work time scheduling have radically transformed the nature of work (Sparks, 2001). In the new economy knowledge work as intangible capital is supplanting physical capital as the critical asset. Knowledge workers in this paradigm, then, are increasingly viewed as "human capital". The key challenge in human capital management is to convert knowledge into work performance. This depends largely on people's capacity and functionality, which forms part of their health and wellness (Mulvihill, 2005).

As early as 1947 The World Health Organization (WHO) defined health in terms of wellness, i.e. as "physical, mental, and social well-being, not merely the absence of disease" and later provided a definition of optimal health as a "state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (Hattie, Myers, & Sweeney, 2004, p. 354). Hattie et al. (2004) identified five life tasks, i.e. spirituality, self-direction, work, friendship and love as part of their model of wellness. Dunn (1961) who is widely credited as being the architect of the modern wellness movement, defined wellness as "an integrated method of functioning which is oriented toward maximizing the potential of which the individual is capable" (Hattie et al., 2004, p. 354).

Organisations, management and employees are under constant pressure to achieve higher targets and increased profitability (Rothmann, Steyn, & Mostert, 2005). With fewer staff doing more work in nearly every industry, employees experience both mental and physical exhaustion (Rothmann et al., 2005). In some organisations employees are faced not only with increased workloads and pressure, but also with decreased job control (Coetzer, 2004). A study conducted in the insurance industry by Lindstrom, Leino, Seitsamo, and Tordtila, (1997) showed that a great deal of job insecurity is being experienced. In this study the lack of content variety and control were related to high mental demands, high physical workload, poor interpersonal relationships and job insecurity.

In a study by the University of Texas, Reese (2001) reported that work issues accounted for 35% of unscheduled absences, more than personal responsibilities (34%), family issues (20%) and personal health problems (11%). Work-related causes of absence most frequently stemmed from job dissatisfaction, such as lack of control or poor relationship with managers

and co-workers, and job demands relating to overload and the corporate culture (Reese, 2001). In a recent survey conducted by the Institute for Health and Productivity Management (IHPM) (Van Der Merwe, 2005) among 34 employers with a combined total of 1,2 million employees, arthritis, lower back pain and repetitive strain injury, all examples of musculoskeletal conditions, were the second most common reason for employee absenteeism and presenteeism. Presenteeism, performance and productivity are multi-dimensional terms and relevant for the purposes of this study. Depending on the context within which it is used, there are common characteristics that tend to be embraced by the term productivity. Dobni (2004) found that workers experiencing poor health and wellness tend to be less productive, absent from work at higher than normal rates and on the whole are poorer contributors to the organisation.

In contrast with the above, work can also have a positive impact on the wellness of employees through goal directed structured activity (Rothmann et al., 2005). Research has shown that some employees do not show symptoms of burnout when exposed to high job demands and long work hours, instead they find pleasure in dealing with these stressors (Rothmann et al., 2005). Meaningful work can lead to eustress, which in turn promotes engagement in work even under demanding conditions (Jackson, Rothmann, & Van de Vijver, 2006). It clear from the above that work can also have a positive effect on employees.

Organisations uses call centre facilities to increase productivity. A call centre according to Holman (2003) can then be defined as a work environment in which the main business is mediated by computer and telephone-based technologies; it enables the efficient distribution of incoming calls (or allocation of outgoing calls) to available staff, and permits customer-employee interaction to occur simultaneously with the use of display screen equipment and the instant access to, and inputting of, information. Organisations have benefited from call centres because it has enabled them to reduce the cost of existing functions, extend and improve customer service facilities and generate new avenues of revenue (Holman, 2003). Despite these benefits call centres has been labelled as "electronic sweatshops". The benefits for call centre employees are less clear. Recent research in call centres has indeed shown that lack of job control, role stress, performance monitoring, inadequate coaching and training, emotional labour, and lack of team leader support can lead to job stress – including depression, emotional exhaustion, and anxiety (e.g., Holman, 2003; Knights, & McCabe, 1998; Taylor & Bain, 1999). In addition, call centre employees often work in noisy

environments under high time pressure, and their performance is usually monitored on line (Ferreira & Saldiva, 2002). It is therefore understandable that high absenteeism and personnel turnover are realities in call centres (Michel, 2001).

In the call centre studied, the agents seem to lack job control, the authority to make decisions, job independence and they are not able to plan their own work or give input on what should be done and how. The environment they are working in is not very nurturing. They are paid on a commission basis for transactions handled and a "pay for performance" remuneration system is used to monitor performance and give feedback. On average the call centre completes 28474 transactions daily (within the same day turnaround) and handles 5231 telephone calls per day. On average call centre agents need to handle 50 transactions (varying from a few minutes to a few hours) and 65 calls per day. Each call centre agent has to carry his/her share of transactions and calls. Agents work on an automated workflow system that routes work or calls automatically to the next "available" call centre agent. It tracks the number and type of transactions worked on, as well as the number of calls taken. Traditionally the focus has been on volume and the pay for performance remuneration structure incentivises call centre agents to complete high volumes of work. If a call centre agent is absent or particularly productive, the work then routes automatically to other "available" employees. If the available staff are not able complete all the additional work in the same day, the turnaround time is not adhered to. Consequently, one absent or less productive employee has a major affect on the completion of work and the rest of the employees in the call centre. Thus both the constructs of absenteeism and productivity play an important role in the call centre environment.

Research indicates that work can impact negatively (leading to ill-health) and positively (leading to wellness) on employees. The dual-process model of Schaufeli and Bakker (2004) integrates positive and negative aspects of work-related wellness. This study uses the dual-process model as a framework to explain the impact of work related wellness on the absenteeism and productivity of call centre employees.

Little research has been done on the relationship between work wellness and in particular the dual-process model, productivity and absenteeism. Some research could be found on the Job Demands-Resources model and absenteeism (Bakker, Demerouti, de Boer, & Schaufeli, 2001; de Boer, Bakker, Syriot, & Schaufeli, 2002). The researcher could not find evidence of

research conducted on the relationship between productivity and the outcomes of the dual-process model. No studies involving productivity and absenteeism as part of the dual-process model could be found in South Africa and this study will contribute to a greater understanding of where the organisational outcome of productivity and absenteeism would fit into a holistic work wellness model.

The objective of this study was to a) test a model of work-related wellness for employees in a call centre in the insurance industry and b) to determine the relationship of absenteeism and productivity to the constructs in the structural model.

Dual-process model of work related wellness

The dual-process model of Bakker, Demerouti, and Schaufeli (2003) is a theoretical model that can be used to understand the impact of work on the wellness of employees. The central proposition of the dual-process model is that work characteristics can be organised in two broad categories, namely, job demands and job resources. Job demands refer to those physical, psychological or organisational aspects of the job that require sustained physical and/or mental effort and are therefore associated with certain physiological and/or psychological costs. Examples are high work pressure and high physical or emotional demands (Bakker & Geurts, 2004; Bakker et al., 2003; Bakker, Demerouti, De Boer & Schaufeli, 2001).

Job resources refer to those physical, psychological or organisational aspects of the job that may be functional in meeting task requirements (i.e. job demands) and may thus reduce the associated physiological and/or psychological costs and at the same time stimulate personal growth and development. Resources may be located in the task itself (e.g. performance feedback, skill, variety, autonomy (Hackman & Oldham, 1976) as well as in the context of the task, for instance, organisational resources (e.g. career opportunities, job security) and social resources (e.g. supervisor and co-worker support) (Bakker & Geurts, 2004).

A second proposition of the dual-process model is that work characteristics may cause two different processes. First, the energetic process links job demand with health problems via burnout. High job demands (i.e. work overload) may exhaust employees' mental and physical

resources and may therefore lead to burnout and health problems. In other words, burnout mediates the relationship between high job demands and ill-health (Bakker et al., 2003; Bakker & Geurts, 2004).

Second, the motivational process links job resources via engagement with organisational outcomes (i.e. turnover intentions and organisational commitment) (Bakker et al., 2003; Schaufeli & Bakker, 2004; Yoon & Thye, 2002). Job resources may either play an intrinsic motivational role because they foster employees' growth, learning and development, or they may play an extrinsic motivational role because they are instrumental in achieving work goals (Schaufeli & Bakker, 2004). Poor or lacking job resources preclude actual goal accomplishment, which is likely to cause failure or frustration. This, in turn, may lead to withdrawal from work, and reduced motivation or commitment (Bakker & Geurts, 2004). In other words, work engagement mediates the relationship between job resources and organisational commitment.

Research has further shown that personal resources also affect burnout and psychological ill-health of employees (Feldt, Kinnunen & Mauno, 2000; Rothmann, Jackson, & Kruger, 2003; Rothmann, et al., 2005; Soderfeldt, Soderfeldt, Ohlson, Theorell, & Jones, 2000). A strong sense of coherence, of all the personal resources, turned out to be the most important determinant of the differences between those with serious burnout and those with no burnout (Kalimo, Pahkin, Mutanen, & Toppinen-Tanner, 2000). In a study by Rothmann et al. (2003) it was found that a sense of coherence reduced the effects of job stress and protected the employee from exhaustion. Rothmann et al. (2003) also found that a sense of coherence acted as a mediator between job stress and work wellness and explained 26% of the variance of work wellness (low burnout and high work engagement).

In a study by Bakker et al. (2003), two different processes responsible for absenteeism and turnover intentions in call centres were revealed. They confirmed that the first process can best be described as an energy depletion process starting with high job demands, which lead to health problems and that the second process is motivational in nature, and starts with job resources. Their study also showed that job demands were the most important predictors of call centre employees' levels of exhaustion. Job resources were unique predictors of commitment and dedication (positive relationship), and indirectly of turnover intentions (negative relationship). The results of a study by Bakker and Geurts (2004) on the dual-

process model and work-home interference supported the validity of the dual-process model. Their study found evidence of a health impairment process and a motivational process.

Based on the discussion above, the following hypotheses are formulated:
H1: Job demands are related to ill-health through burnout.
H2: Job resources are related to organisational commitment through work engagement.

Absenteeism

Obtaining agreement on what is meant by absence is somewhat difficult. Most organisations distinguish between different types of absence. There are no less that six different categories, namely sickness absence, statutory time off, strikes or other industrial action, holidays, special leave, and personal/domestic leave (Huczynski & Fitzpatrick, 1989).

Generally two different absence measures are distinguished: absence frequency and duration (Bakker et al., 2003). Absence frequency is the number of spells or times an individual has been absent during a particular period, regardless of the length of those spells. Usually, absence frequency is considered to be an indicator of "voluntary absenteeism" and a function of the employees' motivation. In contrast, absence duration is the total length of time an individual has been absent over a specified period regardless of the number of absence spells. Absence duration is generally considered to be an indicator of " involuntary absence" that results from the inability rather than the unwillingness to come to work, for example as a result of ill-health (Bakker et al., 2003).

Schaufeli and Bakker (2004) showed in their four-sample study that burnout mediated the relationship between job demands and health problems, whereas work engagement mediated the relationship between job resources and turnover intentions. In addition, the energy-driven process (i.e., job demands leading to job strain) has been found to predict absence duration among production staff (Bakker et al., 2003). In contrast, in line with the motivation-driven process, job resources predicted (reduced) absence frequency and (increased) extra-role performance (Hakanen, Bakker, & Schaufeli, 2006).

Most empirical studies that focus on individual experiences at work as precursors of absenteeism can be classified along two main explanations for employees' decision to report

themselves sick. First, employees may be absent because they want to withdraw from adverse work circumstances. Using a general withdrawal hypothesis, it has been found that employees who experience low job satisfaction and organisational commitment are more frequently absent than those who experience high job satisfaction and commitment (de Boer et al., 2002). A second explanation for absenteeism is that employees are stressed by the work situation. This 'stress' explanation is based on stress-theories assuming that employees are not able to cope with certain work conditions ('stressors') and develop stress symptoms, such as psychosomatic health complaints (de Boer et al., 2002). This explanation makes it clear that absenteeism may be used as a coping mechanism to deal with job strain and that it is not simply a behavioural reaction to dissatisfaction (Bakker et al., 2003). The dual-process model explains this view by proposing that several demanding characteristics of the working environment, including emotional demands, problems with work equipment or changes in the task, may lead to impairment of health and consequently to absenteeism (Bakker et al., 2003). Simply stated, employees are absent because they temporarily do *not want* to work because of adversive work conditions and as a result are less committed to the organisation ('withdrawal' explanation) and/or are not able to work because they are stressed by certain work conditions and as a result physically ill ('stress' explanation) (de Boer et al., 2002).

Based on the discussion in the above paragraphs, the following hypotheses are set:

H3: Physical and psychological ill-health is related to sickness absenteeism.
H4: Low organisational commitment is related to absenteeism.

Productivity

Productivity is a multi-dimensional term, the meaning of which can vary, depending on the context within which it is used. However, the term embraces certain common characteristics (Tangen, 2005). Productivity can be seen as the relation between output quantity and input quantity (Tangen, 2005).

According to Johnston and Jones (2004), productivity is the ratio of what is produced by an operation of process to what is required to produce it, or more simply the ratio of actual output to input. Inputs might include transforming and transformed resources (such as materials, equipment, customers and staff) and the outputs are goods and services.

Productivity of services is a difficult concept to operationalise because of its unique characteristics – intangibility, perishability and variability. Among other things, these characteristics have implications for productivity primarily because they affect the ability to specify the exact sequence of steps that will always produce the desired outcome and complicate the process of defining clear standards of performance and accurately measuring work output (Dobni, 2004).

Dobni (2004) emphasise the symbiosis between productivity and quality, suggesting that the definition of service productivity must embrace both the notion of performance and the results measured, and that it must go well beyond cost structures to encompass indicators of speed, simplicity and innovation. In recent service studies it was measured by comparing actual output with pre-specified standards, by assessing the service provider's improvement in feelings of competence and mastery at work, by counting the number of transactions completed for a work period and by tracking the combination of performance, commitment and citizenship-related behaviours exhibited by the service worker (Dobni, 2004).

According to Dobni (2004), there is a link between productivity and health and well-being. Nicotine fits, feelings of stress, strain, illness, hunger, tiredness, emotional exhaustion and chronic pain are all conditions that whittle away at the ability of service workers to be productive. In some cases these conditions are brought to work and in others they are brought on by work. Their impact is felt in many ways – workers who have some form of breakdown are likely to feel sluggish at work, find it harder to concentrate, work at a slower pace, loose their motivation or are more prone to making mistakes and having accidents.

Research suggests that workers experiencing poor health and well-being tend to be less productive, absent themselves from work at higher that normal rates and are on the whole poorer contributors to the organisation (Dobni, 2004). The holistic model of work related well-being has shown significant correlations between job demands and lack of job resources and burnout, which in turn, lead to physical and psychological ill-health (Rothmann & Rothmann, 2006). Rudow (1999) argued that teachers' cognitive and emotional workload may evoke chronic stress, over fatigue and finally burnout, which may lead to psychosomatic disorders and complaints as well as restrictions in pedagogical performance.

It is difficult to understand what the impact of the lack of wellness of employees are on their productivity and absenteeism as there is little research on the subject. Research has shown us though that burnout leads to illness that in turn could lead to absenteeism and lowered performance or productivity (Bakker et al., 2003; Rudow, 1999). We have also seen that disengagement or lower engagement levels leads to reduced organisational commitment that leads to absenteeism because of withdrawal from work (de Boer et al., 2002). There is weak evidence that low organisational commitment may lead to low performance (Rikette, 2002).

Based on the discussion above, the following hypotheses are formulated:
H5: Physical and psychological ill-health is related to lower productivity.
H6: Low organisational commitment is related to lower productivity.

METHOD

Research design

A cross-sectional survey design was used to achieve the objectives of the study. A sample of the population was taken at a particular point in time and the sample was evaluated on several constructs at the same time (Shaughnessy & Zechmeister, 1997).

Participants

The client and broker call centre used in this study employed 720 employees at the time of the study. Most of the employees in the call centre are remunerated on a commission basis for the number of transactions completed without errors. Statistics of the productivity of these employees with regard to the number of transactions completed, the number or errors and the working hours of the employees are kept on a daily basis. The call centre agents service clients and brokers that phone or e-mail various instructions to the call centre relevant to the products that the client bought from the company. These transactions have to be completed accurately on the same day that the call centre agent received the instruction.

A sample of 206 employees that completed the South African Employee Health and Wellness Survey in July 2006 were drawn from the call centre commissioned employees. Table 1 presents the demographic characteristics of the participants.

Table 1

Characteristics of the Participants

Item	Category	Percentage	Total percentage
Gender	Male	31,10	100,03
	Female	68,93	
Marital status	Divorced	4,40	100,10
	Engaged	3,90	
	Married	36,90	
	Single	53,40	
	Widow	1,50	
Home language	Afrikaans	40,77	99.98
	English	37,86	
	African languages	20,87	
	Other	0,48	
Qualification	High school	75,24	99.98
	Degree/diploma	22,81	
	Masters degree	0,48	
	Technical college	1,45	
Department	Client service	50,00	100
	Broker service	50,00	
Work hours per week	Up to 10	7,76	99,97
	11-20	3,39	
	21-30	0,48	
	31-40	19,41	
	41-50	50,00	
	51 or more	18,93	
Overtime per week	Never	6,31	99,98
	Less than 10 hours	60,19	
	11-15	23,30	
	16-20	3,39	
	21-25	3,88	
	More than 25 hours	2,91	
Annual leave	More than 21 days	4,36	99,96
	15-21	15,04	
	12-14	15,53	
	7-11	25,72	
	Less than 7	27,18	
	None	12,13	

The sample consisted mainly of Afrikaans speaking (40,8 percent), females (68,9 percent), who are single (53,4 percent), possess a high school qualification (75,2 percent), who works

31-40 hours per week (19,4 percent) and less than 10 hours overtime (60,2 percent), took less than 7 days annual leave (27,2 percent) and that have experienced a major stressful event in the last six months (58,7 percent).

Measuring instrument

The South African Employee Health and Wellness Survey (Rothmann & Rothmann, 2006) was used to measure the health and wellness of employees in the organisation. The questionnaire is a self-report instrument based on the dual-process model of work-related well-being and includes negative and positive aspects of work. The scales of the SAEHWS as well as their alpha coefficients are represented in Table 2.

Table 2

Scales and Alpha Coefficients of the SAEHWS

Scale	α
Exhaustion	0,83
Mental Distance	0,70
Vitality	0,71
Work devotion	0,85
Overload	0,76
Sense of Coherence	0,80
Organisational Support	0,91
Growth Opportunities	0,85
Physical Ill Health	0,80
Psychological Ill Health	0,85
Affective commitment	0,83
Behavioural commitment	0,71

The alpha coefficients (α) of all the sub-scales were consistently higher than 0,70, consequently the internal consistency of all the sub-scales were highly acceptable (Rothmann & Rothmann, 2006). The construct validity and structural equivalence of the SAEHWS were explored and confirmed through exploratory and confirmatory factor analyses as shown in the user manual. (Rothmann & Rothmann, 2006).

Statistical analysis

The statistical analysis was carried out with the SPSS program version 15 (SPSS Inc., 2007). Descriptive statistics in the form of means, standard deviations, skewness and kurtosis were used to explore the data. Cronbach alpha coefficients were computed to assess the internal consistency of the constructs (Pallant, 2005). The relationships between the variables were assessed using Pearson correlation coefficients. Effect sizes were set at the 0,30 level to indicate the relationship was practically significant (medium effect) and at 0,50 to indicate a large effect.

Multiple regression analyses were used to determine whether the organisational climate and/or personal characteristics predict the psychological conditions (e.g. burnout and engagement) and to determine if these conditions in turn predict the stress and eustress process outcomes (e.g. physical illness, psychological illness and organisational commitment) as stated in Hypothesis 1 and 2. The significance level was set at the 95% confidence interval level ($p < 0,05$) (Pallant, 2005). Multiple regression analysis was also used to determine if a relationship existed between physical and psychological ill-health and productivity as well as organisational commitment and productivity as stated in Hypothesis 5 and 6. For the interpretation of the productivity data, the significance level was set at the 90% confidence interval level ($p<0$, 10). The error margin then increases to 10% in the study on productivity (Terre Blanche & Durrheim, 1999).

Discriminant analyses were use to determine if the work wellness constructs, physical ill-health, psychological ill-health, affective commitment, behavioural commitment, exhaustion, mental distance, vitality and work devotion accurately predict whether an employee belongs to the absent or non-absent group as stated in Hypothesis 3 and 4. Discriminant analyses tested if the independent variable could distinguish between the two groups and the significance of prediction of membership (Kerlinger & Lee, 2000). If the discrimination was significant, we could then say that the independent variable predicts the group membership (Kerlinger & Lee, 2000) and in this study that the work wellness constructs predict absence or non-absence.

RESULTS

Descriptive statistics and correlations

Table 3 depicts the descriptive statistics, alpha coefficients and correlation coefficients of the scales of the measuring instrument.

The Cronbach alpha coefficients that were obtained on all the scales varied from 0,66 to 0,93 as seen in Table 3. As seen in Table 3, Vigour was the only scale that tested lower than the ideal value of 0,70 at 0,67; all the other scales tested higher than the recommended lower limit of 0,70 (Pallant, 2005) with job insecurity the highest at 0,93. The internal consistencies of the scales that were obtained in this study were acceptable.

Table 3 indicates that most of the scores on the scales are normally distributed. Advancement seems to be negatively skewed (Pallant, 2005). Pallant (2005) states that in samples larger than 200 skewness and kurtosis will not substantially affect the analysis.

Table 3

Descriptive Statistics and Cronbach Alpha Coefficients of the Measuring Instrument

Scale	Mean Sten	Mean	*SD*	Skewness	Kurtosis	α
1. Exhaustion	6,35	14,51	7,00	-0,34	-0,89	0,87
2. Mental distance	5.00	6,96	6,11	0,09	-1,42*	0,66
3. Vigour	5,96	21,71	5,00	-0,11	-1,30*	0,66
4. Work devotion	5,54	22,63	6,52	0,03	-1,30*	0,88
5. Organisational support	6,99	46,12	7,89	-0,40	-0,94	0,87
6. Growth opportunities	4,83	23,57	5,56	0,38	-0,87	0,84
7. Social support	6,37	18,68	3,13	-0,55	-0,75	0,79
8. Advancement	8,83	17,09	3,98	-1,60*	1,90*	0,81
9. Job insecurity	5,31	7,88	3,04	-0,05	-1,04*	0,92
10. Job demands	6,42	26,38	4,48	-0,38	-0,80	0,79
11. Work-life balance	5,57	13,29	4,53	0,01	-1,52*	0,82
12. Diversity	6,18	18,31	3,46	-0,27	-1,09*	0,77
13. Sense Of coherence	6,59	62,14	12,24	-0,47	-0,89	0,84
14. Physical ill-health	5,94	14,35	4,32	-0,06	-1,19*	0,79
15. Psychological ill-health	4,80	21,80	7,13	0,54	-0,69	0,88
16. Affective commitment	7,00	23,74	4,71	-0,61	-0,78	0,84
17. Behavioural commitment	6,78	19,94	3,30	-0,64	-0,26	0,80

* Values larger than 1 indicate substantial skewness/kurtosis

Statistically significant positive relationships were found between Exhaustion and Mental distance, Job demands and Psychological ill-health as seen in Table 4. Exhaustion also had a statistically significant negative relationship with Vigour.

Table 4 also shows that Mental distance had a significant positive relationship with Psychological ill-health thus the higher the Mental distance the higher the Psychological ill-health of employees. Statistically and practically (large effect) significant negative relationships were found between Mental distance and Vigour, Work devotion, Growth opportunities, Sense of coherence, Affective commitment, and Behavioural commitment.

In Table 4 it shows that Vigour has a statistically and practically (large effect) significant relationship with Work devotion. Work devotion had statistically significant relationships with Exhaustion, Mental distance and Vigour. The last two were also practically significant (large effect). Growth opportunities had statistically significant relationships with Exhaustion (also practically significant with a medium effect), Mental distance (also practically significant with a large effect), Vigour (also practically significant with a medium effect), Work devotion (also practically significant with a large effect) and Organisational support (also practically significant with a large effect). Statistically significant relationships were found between Organisational support and Social support as well as between Organisational support, Growth opportunities and Affective commitment. Advancement had statistically significant relationships with Exhaustion, Mental distance, Work devotion, Organisational support, Growth opportunities and Social support, all with practical significance (medium effect). Job insecurity did not correlate significantly with any of the constructs. Job demand had significant negative correlations with Vigour, Work devotion and Organisational support. Job demand also correlated negatively with Social support and Advancement (practically significant with medium effect). Work-life balance had a statistically significant positive relationship with Exhaustion, Mental distance Job demands (also practically significant with large effect). Work- life balance also had statistically significant relationships with Vigour, Work devotion, Organisational support, Social support and Advancement.

Diversity correlates negatively with Exhaustion, Mental distance, Job demands and work-life balance. Diversity also correlates negatively with Menatl Distance (practical significant (medium effect). Diversity correlates positively with Organisational support (Practically significant, medium effect), Growth opportunities, Social support (practically significant, medium effect), Advancement (practically significant, medium effect). Sense of coherence correlates negatively with Exhaustion (practically significant, medium effect), Job demands (practically significant, medium effect) and work-life balance (practically significant, medium effect), Job insecurity (practically significant, medium effect) and Mental distance (practically significant, large effect). Sense of coherence correlated positively with Vigour, Work devotion, Organisational support, Growth opportunities Social support, Advancement and diversity, all with practical significance, medium effect.

Affective commitment also had statistically significant positive relationships with Vigour (practically significant, medium effect), Work devotion (practically significant, large effect), Organisational support (practically significant, large effect), Growth opportunities (practically significant, large effect), Social support (practically significant, large effect), Advancement (practically significant, medium effect), Diversity (practically significant, medium effect) and Sense of coherence (practically significant, medium effect). Exhaustion (practically significant, medium effect), Mental distance (practically significant, large effect), Job insecurity, Job demands (practically significant, medium effect), Work-life balance 9practically significant, medium effect), Physical ill-health and psychological ill-health (practically significant, medium effect) correlated negatively with Affective commitment (see Table 4).

Psychological ill-health showed a statistically significant positive relationship with Exhaustion (practically significant, large effect), Menatl distance (practically significant, large effect), Job insecurity, Job demand (practically significant, medium effect), Work-life balance (practically significant, medium effect) and Physical ill-health (practically significant, large effect and a negative relationship with Sense of coherence, Vigour (practically significant, medium effect), Work devotion (practically significant, medium effect), Organisational support (practically significant, medium effect), Groeth opportunities, Social support (practically significant, medium effect), Advancement (practically significant, medium effect) and Diversity as seen below in Table 4.

Physical ill-health has statistically significant positive relationships with Exhaustion (practically significant, medium effect), Mental distance, Job demands and Work-life balance. Physical ill-health correlates negatively with Organisational support, Social support, Advancement (practically significant, medium effect), Diversity and Sense of coherence (practically significant, medium effect).

As seen in Table 4, Behavioural commitment correlated negatively with Exhaustion (practically significant, medium effect), Menatl distance (pratically significant, large effect), Job demands, Work-life balance, and Psychological ill-health (practically significant, medium effect). Behaviourla commitmenthad statistically significant positive relationships with Vigour (practically significant, medium effect), Work devotion (practically significant, medium effect), Organisational support (practically significant, medium effect), Growth

opportunities (practically significant, medium effect), Social support (practically significant, medium effect), Advancement (practically significant, medium effect), Diversity (practically significant, medium effect), Sense of coherence (practically significant, medium effect) and Affective commitment (practically significant, large effect).

Table 4

Pearson Correlation Coefficients of the Measuring Instrument

Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Exhaustion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Mental Distance	0,63*++	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Vigour	-0,51*++	-0,63*++	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4. Work Devotion	-0,46*+	-0,70*++	0,79*++	-	-	-	-	-	-	-	-	-	-	-	-	-
5. Organisational Support	-0,38*+	-0,50*+	0,31*+	0,37*+	-	-	-	-	-	-	-	-	-	-	-	-
6. Growth Opportunities	-0,32*+	-0,51*++	0,49*+	0,63*++	0,53*++	-	-	-	-	-	-	-	-	-	-	-
7. Social Support	-0,37*+	-0,41*+	0,32*+	0,38*+	0,74*++	0,52*++	-	-	-	-	-	-	-	-	-	-
8. Avancement	-0,34*+	-0,39*+	0,18	0,33*+	0,50*+	0,38*+	0,41*+	-	-	-	-	-	-	-	-	-
9. Job Insecurity	0,12	0,12	-0,08	-0,04	-0,15	-0,07	-0,11	-0,10	-	-	-	-	-	-	-	-
10. Job Demands	0,55*++	0,42*+	-0,28*	-0,29*	-0,29*	-0,13	-0,33*+	-0,34*+	0,19	-	-	-	-	-	-	-
11. Work-life Balance	0,47*+	0,35*+	-0,23*	-0,25*	-0,27*	-0,15	-0,25*	-0,26*	0,13	0,42*+	-	-	-	-	-	-
12. Diversity	-0,28*	-0,35*+	0,19	0,25*	0,45*+	0,23*	0,40*+	0,37*+	-0,19	-0,29*	-0,27*	-	-	-	-	-
13. Sense of Coherance	-0,50*+	-0,52*++	0,31*+	0,40*+	0,44*+	0,34*+	0,40*+	0,37*+	-0,31*+	-0,42*+	-0,37*+	0,46*+	-	-	-	-
14. Physical Ill Health	0,47*+	0,30*	-0,14	-0,17	-0,26*	-0,08	-0,23*	-0,33*+	0,14	0,30*	0,27*	-0,23*	-0,34*+	-	-	-
15. Psychological Ill Health	0,62*++	0,56*++	-0,36*+	-0,39*+	-0,42*+	-0,25*	-0,37*+	-0,42*+	0,21*	0,47*+	0,39*+	-0,30*	-0,59*+	0,69*++	-	-
16. Affective Commitment	-0,50*+	-0,63*++	0,45*+	0,57*++	0,53*++	0,54*++	0,54*++	0,44*+	-0,22*	-0,36*+	-0,31*+	0,45*+	0,54*+	-0,25*	-0,45*+	-
17. Behavioural Commitment	-0,44*+	-0,54*++	0,47*+	0,49*+	0,49*+	0,44*+	0,45*+	0,39*+	-0,14	-0,25*	-0,25*	0,46*+	0,45*+	-0,16	-0,35*+	0,78*++

* $p < 0,05$ - statistically significany

\+ $r > 0,30$ - practically significant (medium effect)

++ $r > 0,50$ - practically significant (large effect)

Multiple regression analyses were carried out with organisational climate and personal characteristics independent variables and Burnout and Engagement as dependent variables (See Table 5).

Table 5

Regression Analysis with Organisational Climate and Personal Characteristics as Independent Variables and Burnout and Engagement as Dependent Variables

Variable		Unstandardised coefficients		Standardised coefficients	*t*	*p*	*F*	*R*	R^2
		B	STD error	Beta					
Exhaustion							18,70*	0,68	0,46
	Constant	11,30	4,95		2,29	0,02*			
	Job Demands	0,53	0,10	0,34	5,34	0,00*			
	Work-life Balance	0,35	0,09	0,22	3,74	0,00*			
	Diversity	0,08	0,13	0,04	0,64	0,52			
	Insecurity	-0,14	0,13	-0,06	-1,12	0,26			
	Organisational Support	-0,07	0,08	-0,07	-0,86	0,39			
	Growth Opportunities	-0,17	0,08	-0,13	-2,00	0,05*			
	Social Support	-0,00	0,17	-0,00	-0,02	0,99			
	Advancement	-0,04	0,11	-0,02	-0,31	0,76			
	Sense of Coherence	-0,13	0,04	-0,23	-3,35	0,00*			
Mental Distance							20,00*	0,69	0,48
	Constant	19.00	4,25		4,47	0,00*			
	Job Demands	0,30	0,09	0,22	3,49	0,01*			
	Work-life Balance	0,13	0,08	0,10	1,68	0,09			
	Diversity	-0,07	0,11	-0,04	-0,65	0,52			
	Insecurity	-1,12	0,11	-0,06	-1,06	0,29			
	Organisational Support	-0,20	0,07	-0,19	-2,30	0,02*			
	Growth Opportunities	-0,36	0,07	-0,33	-5,07	0,00*			
	Social Support	0,20	0,15	0,11	1,38	0,17			
	Advancement	-0,04	0,10	-0,02	-0,39	0,70			
	Sense of Coherence	-0,12	0,03	-0,23	-3,45	0,01*			
Vitality							9,47*	0,55	0,30
	Constant	18,22	4,02		4,53	0,00*			
	Job Demands	-0,21	0,08	-0,19	-2,58	0,01*			
	Work-life Balance	-0,10	0,08	-0,09	-1,27	0,21			
	Diversity	0,01	0,10	0,01	0,11	0,91			
	Insecurity	0,02	0,10	0,01	0,23	0,82			
	Organisational Support	-0,00	0,06	-0,00	-0,04	0,97			
	Growth Opportunities	0,41	0,07	0,45	6,11	0,00*			
	Social Support	0,03	0,14	0,02	0,24	0,81			
	Advancement	-0,14	0,09	-0,11	-1,57	0,12			
	Sense of Coherence	0,03	0,03	0,08	1,07	0,29			
Work Devotion							19,07*	0,68	0,47
	Constant	8,58	4,58		1,87	0,06			
	Job Demands	-0,21	0,09	-0,15	-2,35	0,02*			
	Work-life Balance	-0,09	0,09	-0,07	-1,10	0,27			
	Diversity	0,04	0,12	0,02	0,31	0,76			
	Insecurity	0,17	0,12	0,08	1,44	0,15			
	Organisational Support	-0,06	0,07	-0,07	-0,83	0,41			
	Growth Opportunities	0,68	0,08	0,58	8,96	0,00*			
	Social Support	-0,02	0,16	-0,01	-0,11	0,91			
	Advancement	0,04	0,10	0,02	0,35	0,73			
	Sense of Coherence	0,08	0,04	0,16	2,33	0,02*			

*$p < 0,05$ - Statistically significant

Table 5 shows that 46% of the variance in Exhaustion is predicted by the independent variables. Job demands, Work/life balance, Growth opportunities and Sense of coherence showed statistically significant relationships with Exhaustion. Job demands seemed to be making the biggest contribution in explaining Exhaustion (β= 0, 34), followed by low Sense of coherence (β = -0,23) and low Work/life balance (β = 0,22).

Table 5 also shows that 48% of the variance in Mental distance is predicted by the independent variables. Job demands, Organisational support, Growth opportunities and Sense of coherence have statistically significant relationships with Mental distance. Low growth opportunities seemed to make the biggest contribution in explaining the variable (β = 0,33), followed by low Sense of coherence (β = -0,23) and high Job demands (β = 0,22).

In Table 5 we can also see that 30% of the variance in Vitality can be explained by the independent variables. Growth opportunities and Job demands have statistically significant relationships with Vitality. High growth opportunities make the biggest contribution in explaining Vitality (β = 0,45), followed by low Job demands (β = -0,19).

As shown in Table 5, 47% of the variance in Work devotion is explained by the independent variables. Work devotion has statistically significant relationships with Growth opportunities, Job demands and Sense of coherence. High growth opportunities (β = 0,58) make the biggest contribution in explaining Work devotion, followed by high Sense of coherence (β = 0,16) and low Job Demands (β = -0,15).

In the next set of multiple regressions the independent variables are Vitality, Work devotion, Exhaustion and Mental distance. The dependent variables are Physical illness, Psychological illness, Affective commitment and Behavioural commitment respectively.

Table 6

Regression analysis of Burnout and Engagement as Independent Variables and Ill-Health and Commitment as Dependent Variables

Variable	Unstandardised coefficients		Standardised coefficients	*t*	*p*	*F*	*R*	R^2
	B	STD error	Beta					
Physical Ill-Health						16,06*	0,49	0,24
Constant	6,46	2.00		3,23	0,00*			
Exhaustion	0,31	0,05	0,51	6,24	0,00*			
Mental distance	0,05	0,07	0,07	0,74	0,46			
Vitality	0,17	0,09	0,20	1,92	0,06			
Work devotion	-0,03	0,07	-0,05	-0,45	0,65			
Psychological Ill-Health						39,04*	0,66	0,43
Constant	10,69	2,85		3,75	0,00*			
Exhaustion	0,47	0,07	0,46	6,59	0,00*			
Mental distance	0,35	0,10	0,30	3,56	0,00*			
Vitality	0,12	0,13	0,09	0,94	0,35			
Work devotion	-0,03	0,11	-0,03	-0,32	0,75			
Affective Commitment						40,82*	0,67	0,45
Constant	24,61	1,87		13,2	0,00*			
Exhaustion	-0,12	0,05	-0,18	-2,64	0,00*			
Mental distance	-0,27	0,06	-0,36	-4,25	0,00*			
Vitality	-0,13	0,08	-0,14	-1,58	0,12			
Work devotion	0,25	0,07	0,35	3,67	0,00*			
Behavioural Commitment						25,65*	0,58	0,34
Constant	18,9	1,43		13,21	0,00*			
Exhaustion	-0,07	0,04	-0,14	-1,85	0,06			
Mental distance	-0,16	0,05	-0,29	-3,15	0,00*			
Vitality	0,06	0,07	0,09	0,90	0,37			
Work devotion	0,08	0,05	0,16	1,53	0,13			

*$p < 0,10$ - Statistically significant

Table 6 shows that 24% of the variance in Physical ill-health is predicted by the independent variables. Exhaustion has a statistically significant relationship with Physical ill-health. High exhaustion seems to be making the biggest contribution in explaining Physical ill-health (β= 0,51), followed by high Vitality (β = 0, 20).

Furthermore, Table 6 also shows that 43% of the variance in Psychological ill-health is predicted by the independent variables. Exhaustion and Mental distance have statistically significant relationships with Psychological ill-health. High exhaustion seems to be making

the biggest contribution in explaining Psychological ill-health (β= 0,46), followed by high Mental distance (β = 0,30).

Table 6 also shows that 45% of the variance in Affective commitment is explained by the independent variables. Exhaustion, Mental distance and Work devotion have statistically significant relationships with Affective commitment. High work devotion (β = 0,35), Low mental distance (β = -0,36) and low Exhaustion (β = -0,18) make the biggest contribution in explaining Affective commitment.

We can also see in Table 6 that 34% of the variance in Behavioural commitment is explained by the independent variables. Mental distance has a statistically significant relationship with Behavioural commitment. Low Mental distance (β = -0,29), High work devotion (β = 0,16) and low Exhaustion (β = -0,14) make the biggest contribution in explaining Behavioural commitment.

Regression analyses were also done with productivity data over a period of six months. Data on the number of failed transactions of each individual a well as the number of transactions completed were used in the regression analysis with the different constructs in the work wellness model to determine if there is a fit for productivity in the model.

In the analysis, of the failed transactions and the work wellness constructs, for the months of June to November, there was only one month that reported statistically significant findings, i.e. the month of September (See Table 7 below).

Table 7

Regression Analysis with Ill-Health, Commitment, Burnout and Engagement as Independent Variables and Fail Count as Dependent Variable for 200609

Model		Unstandardised coefficients		Standardised coefficients	*t*	*p*	*F*	*R*	R^2
		B	STD error	Beta					
							1,80	0,14	0,02
1	Constant	1,63	0,19		8,62	0.00			
	Physical Ill-Health	0,04	0,04	0,09	0,97	0,34			
	Psychological Ill-Hcalth	-0,07	0,04	-0,17	-1,87	0,06*			
							1,86	0,19	0,04
2	Constant	1,85	0,35		5,24	0.00			
	Physical Ill-Health	0,04	0,04	0,10	1,03	0,30			
	Psychological Ill-Health	-0,75	0,05	-0,18	-1,77	0,07*			
	Affective Commitment	0,07	0,05	0,17	1,48	0,14			
	Behavioural Commitment	-0,11	0,05	-0,22	-1,95	0,05*			
							2, 11*	0,25	0,06
3	Constant	1,67	0,45		3,76	0.00			
	Physical Ill-Health	0,02	0,04	0,05	0,58	0,57			
	Psychological Ill-Health	-0,09	0,05	-2,00	-1,82	0,07*			
	Affective Commitment	0,07	0,05	0,16	1,37	0,17			
	Behavioural Commitment	-0,11	0,05	-0,22	-1,93	0,06*			
	Exhaustion	0,09	0,04	0,22	2,12	0,03*			
	Mental Distance	-0,05	0,04	-0,15	1,46	0,25			
							2.37*	0,30	0,09
4	Constant	2,30	0,52		4,48	0,00*			
	Physical Ill-Health	0,03	0,03	0,09	0,94	0,35			
	Psychological Ill-Health	-0,09	0,05	0,18	1,51	0,13			
	Affective Commitment	0,07	0,05	0,17	1,51	0,13			
	Behavioural Commitment	-0,09	0,06	-0,18	-1,59	0,11			
	Exhaustion	0,08	0,04	0,18	2,79	0,74			
	Mental Distance	-0,09	0,04	-0,26	-2,28	0,02*			
	Vitality	-0,08	0,05	-0,20	-1,72	0,09*			
	Work Devotion	-0,02	0,05	-0,05	-0,38	0,70			

*$p < 0,10$ - Statistically significant

As shown in Table 7, 14% of the variance of failed transactions can be predicted by Physical and Psychological ill-health. When the constructs Affective commitment, Behavioural commitment, Exhaustion, Mental distance, Vitality and Work devotion were introduced, the variance that explained Fail Count increased somewhat at 4%, 6% and 9% for step 2, 3 and 4 respectively. Table 7 also shows that there is a statistically significant relationship between

Exhaustion in step 3 and Mental distance in step 4 and failed transactions. Low Mental distance (β = -0,26) and low Vitality (β = -0,20) make the biggest contribution in explaining Fail Count. The model for Fail Count in step 4 is statistically significant. The addition of Work devotion and Vitality in step 4 increased the statistical significance of the model.

In looking at the number of transactions completed by the Client Liaison Consultants the statistical analyses showed significant relationships with work wellness constructs in the data for the months of June, July, August and October. The variance explained for Transaction Count for June 2006 as seen in Table 8 was 0% in step 1, 7% in step 2 and 3 and 8% in step 4. Low Psychological ill-health made the biggest contribution in explaining Transaction Count in Step 2-4 (Step 2, β = -0,17; Step 3, β = -0,19; Step 4, β = -0,19). The model for Transaction Count in steps 2, 3 and 4 is statistically significant. The addition of Work devotion and Vitality in step 4 increased the statistical significance of the model.

In Table 9 the variance of Transaction Count for July 2006 explained by the independent variables is 0% in step one, 5% in step two, 7% in step three and 8% in step four. Statistically significant relationships were found between the independent variable Affective commitment and the dependant variable in step two, Affective commitment and Exhaustion in step three and Affective commitment and Exhaustion in step four. Low affective commitment (β = -0,25) made the biggest contribution in explaining Transaction count in step two, as did Affective commitment (β = -0,24) and high Exhaustion (β = 0,22) in step three, and low Affective commitment (β = -0,24) and high Exhaustion (β = -0,21) in step four (See Table 9). The model for Transaction Count is statistically significant for step three and four. The addition of Work devotion and Vitality in step 4 decreased the statistical significance of the model.

Table 8

Regression Analysis with Ill-Health, Commitment, Burnout and Engagement as Independent Variables and Transaction Count as Dependant Variable for June 2006.

Model		Unstandardised coefficients		Standardised coefficients	*t*	*p*	*F*	*R*	R^2
		B	STD error	Beta					
							0,11	0,03	0.00
1	Constant	2,85	0,25		11,57	0.00			
	Physical Ill-Health	0,02	0,05	0,03	0,37	0,72			
	Psychological Ill-Health	-0,02	0,05	-0,04	-0,47	0,64			
							3,53*	0,26	0,07
2	Constant	4,25	0,45		9,53	0.00			
	Physical Ill-Health	0,04	0,05	0,07	0,77	0,44			
	Psychological lll-Health	-0,10	0,05	-0,17	-1,77	0,08*			
	Affective Commitment	0,08	0,06	-0,14	-1,26	0,20			
	Behavioural Commitment	-0,09	0,07	-0,15	-1,36	0,18			
							2,50*	0,27	0,07
3	Constant	4,10	0,56		7,30	0.00			
	Physical Ill-Health	0,03	0,05	0,05	0,58	0,57			
	Psychological Ill-Health	-0,11	0,06	-0,19	-1,81	0,07*			
	Affective Commitment	-0,08	0,06	-0,14	-1,20	0,23			
	Behavioural Commitment	-0,09	0,07	-0,15	-1,31	0,19			
	Exhaustion	0,05	0,05	0,10	1,00	0,32			
	Mental Distance	-0,02	0,05	-0,04	-0,42	0,68			
							2,08*	0,28	0,08
4	Constant	4,50	0,66		6,79	0,00*			
	Physical Ill-Health	0,03	0,05	0,06	0,68	0,50			
	Psychological Ill-Health	-0,11	0,06	-0,19	-1,80	0,07*			
	Affective Commitment	-0,06	0,06	-0,12	-1,00	0,31			
	Behavioural Commitment	-0,09	0,07	-0,14	-1,21	0,23			
	Exhaustion	0,05	0,05	0,08	0,83	0,41			
	Menatl Distance	-0,05	0,05	-0,11	-0,94	0,35			
	Vitality	0,01	0,06	-0,02	-0,18	0,86			
	Work Devotion	-0,06	0,06	-0,11	-0,92	0,36			

*$p < 0,10$ - Statistically significant

Table 9

Regression Analysis with Ill-Health, Commitment, Burnout and Engagement as Independent Variables and Transaction Count as Dependent Variable for July 2006

Model		Unstandardised coefficients		Standardised coefficients	*t*	*p*	*F*	*R*	R^2
		B	STD error	Beta					
							0,10	0,01	0.00
1	Constant	2,82	0,25		11,21	0.00			
	Physical Ill-Health	-0,01	0,05	-0,01	-0,14	0,89			
	Psychological Ill-Health	0.00	0,05	0,01	0,07	0,94			
							2,31	0,21	0,05
2	Constant	3,85	0,46		8,37	0.00			
	Physical Ill-Health	0,01	0,05	0,02	0,18	0,87			
	Psychological Ill-Health	-0,06	0,06	-0,11	-1,07	0,29			
	Affective Commitment	-0,14	0,06	-0,25	-2,22	0,03*			
	Behavioural Commitment	0,02	0,07	0,03	0,25	0,80			
							2,45*	0,26	0,07
3	Constant	3,50	0,59		5,92	0.00			
	Physical Ill-Health	-0,01	0,05	-0,02	-0,20	0,84			
	Psychological Ill-Health	-0,90	0,06	-0,16	-1,47	0,14			
	Affective Commitment	-0,13	0,06	-0,24	-2,11	0,04*			
	Behavioural Commitment	0,02	0,07	0,04	0,32	0,75			
	Exhaustion	0,13	0,06	0,22	2,30	0,02*			
	Mental Distance	-0,05	0,05	-0,10	-1,00	0,33			
							2,01*	0,28	0,08
4	Constant	3,89	0,70		5,61	0,00*			
	Physical Ill-Health	-0,00	0,05	-0,01	-0,07	0,94			
	Psychological Ill-Health	-0,09	0,06	-0,16	-1,46	0,15			
	Affective Commitment	-0,13	0,06	-024	-2,03	0,04*			
	Behavioural Commitment	0,03	0,07	0,05	0,46	0,65			
	Exhaustion	0,12	0,06	0,21	2,08	0,04*			
	Mental Distance	-0,07	0,05	-0,15	-1,30	0,19			
	Vitality	-0,06	0,06	-0,11	-0,96	0,34			
	Work Devotion	0,00	0,06	-0,01	-0,01	0,99			

*$p < 0,10$ - Statistically significant

Table 10

Regression Analysis with Ill-Health, Commitment, Burnout and Engagement as Independent Variables and Transaction Count as Dependent Variable for August 2006

Model		Unstandardised coefficients		Standardised coefficients	*t*	*p*	*F*	*R*	R^2
		B	STD error	Beta					
							1,57	0,13	0,02
1	Constant	3,18	0,25		12,88	0.00			
	Physical Ill-Health	-0,08	0,05	-0,15	-1,61	0,11			
	Psychological Ill-Health	0,03	0,05	0,05	0,50	0,62			
							2,76*	0,23	0,05
2	Constant	4,05	0,46		8,84	0.00			
	Physical Ill-Health	-0,06	0,05	-0,13	-1,37	0,17			
	Psychological Ill-Health	-0,03	0,06	-0,05	-0,54	0,60			
	Affective Commitment	-0,14	0,06	-0,27	-2,31	0,02*			
	Behavioural Commitment	0,05	0,07	0,08	0,68	0,50			
							3,06*	0,30	0,09
3	Constant	3,62	0,58		6,28	0.00			
	Physical Ill-Health	-0,09	0,05	-0,17	-1,83	0,07*			
	Psychological Ill-Health	-0,06	0,06	-0,11	-1,04	0,30			
	Affective Commitment	-0,14	0,06	-0,30	-2,23	0,03*			
	Behavioural Commitment	0,05	0,07	0,08	0,76	0,45			
	Exhaustion	0,15	0,05	0,26	2,66	0,01*			
	Mental Distance	-0,05	0,05	-0,12	-0,12	0,25			
							2,28*	0,30	0,09
4	Constant	3,60	0,70		5,24	0,00*			
	Physical Ill-Health	-0,09	0,05	-0,17	-1,81	0,07*			
	Psychological Ill-Health	-0,06	0,06	-0,11	-1,04	0,30			
	Affective Commitment	-0,14	0,06	-0,26	-2,21	0,03*			
	Behavioural Commitment	0,05	0,07	0,08	0,75	0,46			
	Exhaustion	0,15	0,06	0,26	2,62	0,01*			
	Mental Distance	-0,05	0,05	-0,11	-1,00	0,33			
	Vitality	*-0,00*	*0,06*	*0,11*	-0,96	0,34			
	Work Devotion	0.00	0,06	-0,00	-0,03	0,97			

*$p < 0,10$ - Statistically significant

In Table 10 the variance of Transaction Count for August 2006 explained by the independent variables is 2% in step one, 5% in step two, 9% in step three and 9% in step four. Statistically significant relationships were found between the independent variable Affective commitment and the dependant variable in step two, Affective commitment and Exhaustion in step three and Affective commitment and Exhaustion in step four. Low Affective commitment (β = -0,27) made the biggest contribution in explaining Transaction count in step two, as did low Affective commitment (β = -0,30) and high Exhaustion (β = 0,26) in step three, and low

Affective Commitment (β = -0,26) and high Exhaustion (β = -0,26) in step four as seen in Table 10. The model for Transaction Count is statistically significant for step two, three and four.

Discriminant analyses were used to determine whether the work wellness constructs as measured by the SAEHWS and as stated in hypothesis 3 and 4 predicts absence or non-absence. Discriminant analyses were done for family responsibility leave and sick leave for the two groups in the population, as well as for absence duration and frequency for both absenteeism measures. The analyses in the absenteeism measures were done for a six-month period.

In the month of June there was significant discrimination between the two groups (absent and non-absent) for sick leave absence duration (p=0,00) and sick leave absence frequency (p=0,04) as shown in Table 11 and Table 12. The discriminating variables accurately categorised 66% of absent and non-absent employees in the correct groups on sick leave frequency and 65% on sick leave duration. The model explained 10,89% of the variance between the two groups for sick leave duration and sick leave frequency for the month of June. The biggest predictors in explaining non-absence in sick leave duration for June was Affective commitment (0,34) and Vitality (0,28).

In sick leave frequency for June, the biggest predictors of non-absence were Affective commitment (0,43) and Psychological ill-health (0,24).

Table 11

Discriminant Functions for Sick Leave Duration for 200606 and 200611

Month	Eigen value	Wilk's λ	Canonical Correlation	*p*
200606	0,12	0,89	0,33	0,00*
200611	0,09	0,92	0,28	0,04*

65% of original cases correctly classified in 200606
68% of original cases correctly classified in 200611

Similar results, as seen in Table 11 and Table 12, were found for the month of November for sick leave duration and frequency for the two groups. The discriminant variables significantly (p=0,00) distinguish between the two groups (absent and non-absent) with regard to sick leave for the month of November for absence duration as seen in Table 11 and absence frequency as seen in Table 12. A total of 68% of the individuals were classified correctly for absence duration and frequency in the month of November. The model explained 7,84% of the variance between the two groups for sick leave duration for November and 10,89% of sick leave frequency for the month of November. The biggest predictors in explaining non-absence in sick leave duration for November were Vitality (0,84) and Work devotion (0,79), closely followed by Affective commitment (0,61).

In sick leave frequency for November, the biggest predictors of non-absence were Vitality (0,84), Work devotion (0,79) and Affective commitment (0,60).

Table 12

Discriminant Functions for Sick Leave Frequency for 200606 and 200611

Month	Eigen value	Wilk's λ	Canonical Correlation	p
200606	0,12	0,89	0,33	0,00*
200611	0,12	0,89	0,33	0,00*

66% of original cases correctly classified in 200606
68% of original cases correctly classified in 200611

DISCUSSION

The purpose of this study was twofold, firstly to test a structural model for work wellness in a call centre in the insurance industry according to the framework of the dual-process model, and secondly, to determine the relationship of absenteeism and productivity with both positive and negative aspects of work wellness. A cross-sectional research design was used with a sample of 206 call centre employees in the insurance industry that are remunerated on a "pay for performance" structure. Acceptable alpha coefficients were obtained for each of the sub-scales ranging from 0,66 to 0,92. In looking at burnout and engagement the results show that Exhaustion was best predicted by high job demands, high work/life imbalance,

growth opportunities and low sense of coherence (46% of the variance explained). Mental distance was best predicted by high job demands, low organisational support, low growth opportunities and low sense of coherence (have statistically significant relationships with mental distance - 48% of the variance explained). Low growth opportunities made the biggest contribution in explaining mental distance. Vitality can best be predicted by low growth opportunities and high Job demands (30% of the variance explained). Work devotion is best predicted by high growth opportunities, high sense of coherence and low job demands (47% of the variance explained). In looking at ill-health the results show that 24% of the variance in physical ill-health is predicted by high exhaustion and high vitality. Psychological ill-health is best predicted by the high exhaustion and high mental distance (43% of the variance explained). The results for organisational commitment show that 45% of the variance in affective commitment is explained by high work devotion, low mental distance and low exhaustion. Behavioural commitment is best predicted by low mental distance, high work devotion and low exhaustion (33% of the variance explained), although the last two were not statistically significant. Productivity also formed part of the research and the results showed that low mental distance and low vitality best predicted a high fail count (9% of variance explained). Low affective commitment, high exhaustion, psychological ill-health and physical ill-health were in general the best predictors of high transaction count (8% of the variance explained). The model explained 10,89% of the variance between the absent and non-absent employees for sick leave duration and sick leave frequency for the month of June. The model explained 7,84% of the variance between the two groups for sick leave duration for November and 10,89% of sick leave frequency. The main predictors in explaining non-absence in sick leave duration was high affective commitment, high work devotion and low vitality. In sick leave frequency the best predictors of non-absence were low affective commitment and high psychological ill-health, high work devotion and high vitality.

In interpreting the results it was found that higher job demands, work/life balance and growth opportunities related to exhaustion. High job demands and a lack of organisational support and growth opportunities resulted in high mental distance. Physical ill-health was best predicted by high exhaustion and vitality, and psychological ill-health by exhaustion and mental distance.

High growth opportunities and low job demands made the biggest contribution to vitality. Work devotion is best predicted by high growth opportunities and low job demands. In

looking at organisational commitment the results show that both affective commitment and behavioural commitment were best predicted by low mental distance. Thus employees that are devoted to their work and not distracted will be more committed.

With limited variety in the jobs in the call centre, little support from the organisation and no opportunities to learn, the findings lead us to believe that the employees in the call centre might experience burnout where there are high job demands that would result in mostly higher psychological ill-health and some physical ill-health.

Sense of coherence also impacted on burnout and engagement. The results show that sense of coherence had a statistically significant negative relationship with exhaustion and mental distance and a positive relationship with vitality and statistically positive relationship with work devotion. It seems that employees with a high sense of coherence are able to deal better with the demands in the workplace, which makes it possible to experience more work engagement (Rothmann et al., 2005)

Productivity in the service industry is a difficult concept to operationalise as there are many factors that have an influence on productivity. One cannot, for instance, ignore the role that quality plays in productivity in a service industry (Dobni, 2004). The remuneration structure as well as the technology being used in a call centre also plays a role in productivity. For the purposes of interpreting the results the researcher decided to lower the significance level to a 90% confidence interval level (Terre Blanche & Durrheim, 1999), taking into account the many factors influencing productivity. The study measured the number of errors made by the call centre agent, through the measurement of failed counts, in relation to the dual-process model. The number of failed transactions gives us an indication of the true productivity of the call centre agent. If the call centre agent completed x amount of transactions, but they were all wrong, the agent was not optimally productive. For every error made by the call centre agent, money is deducted from his/her monthly remuneration. Therefore, the more errors the call centre agent makes, the less productive he/she is and the lower the remuneration.

For the six months that we studied fail count of the call centre employees, the month of September showed that the model of burnout and engagement had a significant relationship with failed transactions. The biggest contributors to fail count in step 3 were low psychological ill-health, low behavioural commitment and exhaustion. This suggests that

employees who don't show commitment towards the organisation and who show psychological ill-health seem to be making the most errors. Step four was the most significant model and contributed 9% of the variance in errors made. The results further show that employees with low vitality and low mental distance made the most mistakes. We can also conclude that in the month of September, the demands in the workplace must have increased and support decreased to place the employees on a low eustress path as their low work engagement shows. When looking at productivity as a consequence of the number of errors the call centre employees made, the statistical model did not support Hypothesis 5 (that physical and psychological ill-health leads to lower productivity) and did not support Hypothesis 6 (that low organisational commitment leads to lower productivity).

Productivity was also scrutinised by looking at the number of transactions completed on average, per month by the call centre agents. The higher the number of transactions, the more productive the agents appear to be. Agents are remunerated for every transaction they complete successfully and accurately. Regression analyses were used to determine the relationship between the work wellness constructs and transaction count. For the period June, July and August higher transaction count had a statistically significant relationship with the models tested. In June a statistically significant relationship was found between low Psychological ill-health and high transaction count. In The following month, empeloyees lewith low affective commitment and high exhaustion seemed to have done the most transactions. Employees with low affective commitment, high exhaustion and low psychological ill-health did the most transactions in August. The findings suggest that some employees' level of psychological ill-health prevented them from achieving high transaction rates. The model in total explained 8% of the variance in productivity. We could say in looking at the model that Hypothesis 5, namely that physical and psychological ill-health leads to lower productivity is partially supported by the findings. There was some evidence that psychological ill-health led to lower transaction rates. Hypothesis 6 which states that low organisational commitment leads to lower productivity, is only supported in July and August.

It is also understandable in the context of the pay for performance system that employees with low affective commitment achieve high transactional levels. We can speculate that if an employee was committed to the organisation, that the employee would also be committed to delivering excellent customer service by spending more time on a transaction to ensure quality. Therefore the employee that is only in the department to make money through the

pay for performance system, would do more transactions, but may leave some unhappy customers in their wake. In doing more transactions, the employee's exhaustion levels is also higher than an employee doing less. Overall the models only explained up to 8% of the variance in transaction count and had a weak fit to the hypothesis. The results can also be explained by looking at the compensatory control model of performance regulation of Robert Hockey (Hockey, 1997). Hockey found that when an individual is under stress, trauma or illness, the individual will self-regulate his/her behaviour to ensure the maintenance of his/her performance in the achievement of his/her primary goals to the detriment of his/her well-being (Hockey, 1997). His model states that an individual will first experience subsidiary task failure under prolonged stress after which he/she will make a strategic adjustment to maintain optimal performance in achieving his/her primary goals. He/she will then start experiencing the compensatory effects and strain of maintaining the performance and eventually experience fatigue after effects (Hockey, 1997). Hockey also found that an individual in stress goes through these stages over a period of 12 months and longer and advises that the effects of stress on performance should be studied longitudinally to get a true reflection of the effects of stress on performance. Thus we can conclude that the employees in the call centre could be in the different stages of this model. Some are in the stage of making strategic adjustments and are still performing at a high level. This could account for the seemingly low relationship between productivity and work wellness. Although the employees are experiencing distress, they have made strategic adjustments and are still performing well. We could speculate that according to Hockey (1997) the effects of distress could manifest in ill-health six to twelve months after this study was done.

Bakker et al. (2001) found evidence that absence duration and frequency could be predicted by the energetic and motivational processes of the dual-process model. This study found that there was a weak relationship between absenteeism and work wellness. In examining the sick leave duration of non-absent employees, sick leave duration was best predicted by high vitality, high work devotion and high affective commitment. Consequently employees that feel committed to the organisation, have high vitality levels, are devoted to their jobs are sick for shorter periods. In examining the predictors of sick leave frequency we found that for the month of June, the biggest predictors in the frequency of non-absence were affective commitment and psychological ill-health. We can, therefore, say that employees who had high levels of affective commitment and psychological ill-health were sick less often. It seems that the employees that do not take their sick leave also have high levels of

Psychological ill-health and we could attribute this to presenteeism. Presenteeism was not part of the scope of this study, but could be a reason why employees that are not frequently absent have high levels of psychological ill-health. In November the frequency of sick leave for non-absent employees was best predicted by vitality and work devotion. Thus employees that had high vitality and high work devotion levels, were less frequently absent that other employees. In summary we can say that both absence duration and frequency had a fit to the model and that the best predictors of both for non-absent employees were vitality, work devotion and affective commitment. Little support was found for Hypothesis 3 (i.e. that physical and psychological ill-health lead to sickness absenteeism). Regarding Hypothesis, 4, we found evidence that affective commitment is a predictor of non-absence. The evidence is very weak and cannot be generalised to the larger population.

This study had several limitations. Firstly a self-report questionnaire was used in gathering data. This implies that the results could be subject to a common method variance that could result in an overestimation of the correlations. Secondly a cross sectional survey design was used that is a snapshot of a group of employees in time that might make it difficult to establish causal relationships and it becomes difficult to generalise the findings to other employees in call centres. Thirdly, presenteeism did not form part of the scope of the study and could be a great influencing factor on the results. For the interpretation of the productivity data, the significance level was set at the 90% confidence interval level ($p<0$, 10). The error margin then increases to 10% in the study on productivity.

RECOMMENDATIONS

In order to manage the burnout and work engagement levels of the call centre employees, and therefore ultimately their ill-health and commitment levels, the organisation should ensure that the organisational support is sufficient in the call centre and that more variety is introduced in the jobs of the call centre agents. Growth opportunities played a big part in the burnout and work engagement of the call centre employees. Multi-skilling, job rotation and career paths in the call centre might also assist in creating more meaning in the jobs that the call centre agents need to perform. The organisation in this study should examine the functionality of the "pay for performance" remuneration structure as the structure seems to be rewarding employees with low commitment. As this study showed, the "pay for performance" environment also lends itself to high levels of exhaustion, that results in

psychological ill-health; this could ultimately affect productivity and absenteeism. It is also suggested that the paradigm of productivity measurement change to include the quality of service rendered to a client. It could be more beneficial for the organisation to remunerate employees on a larger basic salary with a smaller incentive portion that reward the employee not only for the volume of work completed, but also the quality of service rendered.

In terms of research we recommend that a longitudinal study be undertaken to determine the long-term effects of both the positive and negative effects of work on call centre employees and their absenteeism and productivity. More research is needed on the relationship between work wellness and productivity, absenteeism and presenteeism. Little research has been done on the subject internationally and also in a South African context.

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CHAPTER 3

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

In this chapter the conclusions of the study are presented. Moreover, the limitations of the study are discussed and recommendations to solve the research problems as well as recommendations for future research are set forth.

3.1. CONCLUSIONS

In the current economic environment the insurance industry is under pressure and profits seem to be declining (I-Net Bridge, 2008). The industry's focus is now on supporting the expectations of customers by focusing on disclosure, service, value for money and reduced costs (Finweek, 2006). Many organisations make use of call centres as a means to reduce costs and to improve customer service (Holman, 2003). Generally, call centres continually introduce improved infrastructure and advanced technology to respond to the service demands of customers (Holdsworth & Cartwright, 2003). This has resulted in a working environment where the call length can be measured in seconds and quantitative statistics are often the only criteria used for the assessment and remuneration of call centre agents (Holdsworth & Cartwright, 2003). Holdsworth and Cartwright (2003) found that working in a call centre is a stressful, not particularly satisfying and a physical and psychological unhealthy occupation for an employee. To ensure high-performance in a call centre, managers have realised that to enable employees to interact with customers in a productive and positive way, and to keep customers coming back, employees need to feel good about what they do and where they work (Tschida, 2005). Studies have shown that work can have positive and negative effects on employees and that this can result in organisational commitment or ill-health (Rothmann, Steyn & Mostert, 2005) The negative effects of work may result in high turnover, absenteeism and lowered performance (Bakker, Demerouti & Schaufeli, 2003, Holdsworth & Cartwright, 2003, Holman, 2003, Knights & McCabe, 1998, Michel, 2001, Rothmann et al., 2005).

On average the call centre in this study has to complete 28474 transactions daily within the same day turnaround and handle 5231 calls per day. Work wellness, productivity and

absenteeism are therefore factors that can have a huge impact on the quality and effectiveness of service delivery.

With the realisation of the importance of the well-being of employees in the call centre and the impact their wellness have on their performance, we set out to examine the work wellness of the call centre employees and the effect it had on absenteeism and productivity. This study therefore set out to establish if the dual-process model of work wellness was at play in the call centre and to determine the relationship, if any, of the dual-process model with absenteeism and productivity.

The findings supported the existence of the energetic and motivational processes found in the dual-process model of work wellness. The results showed that burnout is related to sense of coherence, job demands, a lack of job resources and ill-health, supporting previous studies that found evidence of the energetic process at work (Bakker et al., 2003, Bakker & Geurts, 2004, Schaufeli & Bakker, 2004). The study also found evidence in support of previous findings that work engagement is related to job resources and organisational commitment (Bakker et al., 2003, Bakker & Geurts, 2004, Schaufeli & Bakker, 2004). With regard to the work wellness of the call centre agents the results show that high job demands, work-life balance, few growth opportunities and low sense of coherence contributed significantly to the level of exhaustion of the call centre agents. High job demands, low organisational support, few growth opportunities and low sense of coherence made the highest contribution to significant mental distance in the employees in this call centre. We can, therefore, conclude that burnout amongst the employees in this call centre is facilitated by high job demands and little support from the organisation. The lack of variety and learning opportunities in the job further contribute to the burnout level of the employees. These findings are supported by previous studies done in call centres and in other industries such as the government, an electricity supply organisations, educators and production workers (Bakker et al., 2001, Bakker et al., 2003, Bakker & Geurts, 2004, Jackson et al., 2006, Rothmann et al., 2003, Rothmann et al., 2005). The results are not unique to the call centre environment.

In looking at the motivational process of work engagement of the call centre employees, the results show for both vitality and work devotion that low job demands and high growth opportunities makes significant contributions to work engagement. The call centre employees that are engaged in the company, experience autonomy in their jobs, opportunities to learn,

find their work challenging and perceive their work to contain a lot of variety. These findings are supported by a study done in a call centre by Bakker et al. (2003). These are important findings for the organisation to consider with regard to the work engagement of employees in an environment where some of the call centre agents are fully multi-skilled to do all of the transactions and others work in an environment where they do the same work over and over again.

The findings in this study replicated the results of a study by Bakker et al. (2003) which showed that burnout led to ill-health in call centre employees. In this study, high levels of exhaustion was related to physical illness and high levels of exhaustion and mental distance to psychological illness. This supports the findings in previous studies of other occupations (Bakker et al., 2001, Bakker et al., 2003, Bakker & Geurts, 2004, Rothmann et al., 2003, Rothmann et al., 2005; Jackson et al., 2006). In the motivational process of the dual-process model, work engagement is related to job resources and organisational commitment (Bakker et al., 2001, Bakker et al., 2003, Bakker & Geurts, 2004). Consequently it is also necessary to look at the relationship between work engagement and affective and behavioural commitment to fully understand work wellness. In this study low mental distance, high work devotion and low exhaustion in order of contribution were the main contributors to affective commitment. Low mental distance and high work devotion were the chief contributors to behavioural commitment. A study by Bakker et al. (2003) supported the above findings and also found that employees with low organisational commitment tended to be absent from work more frequently. The impact of low organisational commitment could be disastrous for a call centre environment if employees are frequently absent from work. In a study by Yoon and Thye (2002) on organisational commitment, it was found that organisational support factors such as communication, variety in the job and autonomy had the biggest impact on the organisational commitment of employees. This correlates well with the results in this call centre that showed that growth opportunities made the biggest contribution to work engagement. It is clear from all the results in the work wellness model that adequate job resources such as autonomy, variety in the job and opportunities to learn should become the main focus areas in ensuring that employees in this call centre remain engaged in their work and not burn out.

A further focus of this study was to examine the impact of work wellness on productivity in the call centre environment. Little research could be found on the interaction of the dual-

process model of work wellness and productivity. There is, however, research evidence that stress may reduce the performance levels of employees and that employees could be less productive if under prolonged stress (Dobni, 2004, Rudow, 1999). This study used the number of errors made and the number of transactions completed by the call centre agents to examine the relationship of productivity with physical and psychological ill-health, as well as organisational commitment. The findings show that there was a weak fit of the dual-process model with both failed transactions and transactions completed. Although there is evidence that the models are statistically significant, their contribution in explaining productivity is very low. We could therefore only establish a weak fit between the dual-process model and productivity. As Dobni (2004) rightly stated it is very difficult to operationalise the concept of productivity in the service sector as there are many factors (e.g. quality) that influence productivity. Many factors that play a role in the productivity of the call centre employees, such as quality, the remuneration system and technology did not form part of the scope of this study. The results show that employees that made the most errors were not distracted, but had low vitality levels. This factor was the main contributor in explaining the relationship of work wellness with errors made in the call centre. Every error made by a call centre agent reduces his/her productivity and also costs the agent money. For every error made, money is deducted from the employee's remuneration. The pay for performance system could be one explanation for the findings. Employees need to be very "present" to be able to complete the necessary number of transactions that will give them an adequate remuneration package, but their vitality levels drop with the amount of work they need to do to maintain their remuneration. As their vitality levels drop, they make more mistakes and inadvertently, lower their remuneration as well. This seems to be a lose-lose situation for both the employee and the organisation.

In looking at the number of transactions completed by the call centre agents as a measure of their productivity, the results show that the employees that completed the most transactions had low affective commitment levels and high exhaustion levels. If we interpret the results in the context of the "pay for performance" remuneration model, we can see that the employees that are earning the most money are not committed to the organisation. We need to keep in mind that quantity and not quality is measured and that delivering effective service also means focussing on the quality of service offered to the client (Dobni, 2004). This means that it may take a call centre agent that delivers excellent service to a customer a bit longer to complete a transaction or telephone call than one that is just focussing on achieving his/her

volume of transactions. Therefore in looking at the results we can deduct that the employees with the highest transaction completion rate, are not very committed to the organisation and rather concentrate on ensuring a high remuneration package by completing as many transactions as possible. They do not focus on quality and spending more time with a client to ensure excellent client service but rather on quantity. In conclusion we can say that through the "pay for performance" system the organisation is rewarding the employees that are not really committed to the organisation. The result of their focus on quantity is a high level of exhaustion. In the long-term we can speculate that this would result in ill-health as per the findings in previous studies of the dual-process model and the compensatory control model of performance regulation (Bakker et al., 2001, Bakker et al., 2003, Bakker & Geurts, 2004, Hockey, 1997, Jackson et al., 2006, Rothmann et al., 2003, Rothmann et al., 2005) that could result in frequent absence from work (Bakker et al., 2003).

As mentioned above the long-term effect of sustained performance under severe pressure and stress could be ill-health as explained by looking at the compensatory control model of performance regulation of Robert Hockey (Hockey, 1997). Hockey found that when an individual is self-regulating his/her behaviour to ensure the maintenance of performance in the achievement of primary goals it will be to the cost of other systems, for example behavioural or physiological costs (Hockey, 1997). His model states that an individual will first experience subsidiary task failure under prolonged stress after which he/she will make a strategic adjustment to maintain optimal performance in achieving the primary goals. He/she will then start experiencing the compensatory effects and the strain of maintaining the performance and eventually experience fatigue after effects (Hockey, 1997). These stages that an individual in stress go through occur over a period of 12 months and longer. Hockey advises that the effects of stress on performance should be studied longitudinally to get a true reflection of the effects of stress on performance. Therefore, we can conclude that the weak relationship between productivity and work-related well-being might be an reflection of the strategic adjustment that the employees in the call centre made to ensure the maintenance of their performance levels. Their remuneration after all depends on their performance or productivity level. It is possible that if it is the goal of the call centre agent to ensure stability in his/her remuneration and performance, that he/she would, in a stressful situation, put in extra effort to maintain a stable level of performance. This will, according to Hockey's model (1997), result in decreased well-being and physical ill-health in the long-term. This study

will therefore, not be able to determine the effects of stress or burnout on productivity as yet, as it will only manifest over a period of six to twelve months.

It was also one of the objectives of this study to establish the relationship of absenteeism with ill-health and organisational commitment. A previous study by Bakker et al. (2003) found that there was a relationship between the burnout and absence duration and further a relationship between the work engagement and absence frequency. Studies also found that employees who are not committed to the organisation withdraw (withdrawal explanation for absence) from the organisation and are therefore absent more often; employees that are ill because they are stressed are absent because they cannot work (stress explanation for absence) (de Boer et al., 2002). This study could find only limited support for this theory in the call centre. High affective commitment and high engagement seem to have been the main predictors for the non-absent group in looking at sick leave duration. In looking at the frequency of sick leave, high affective commitment, high psychological ill-health and high vitality were the best predictors for the non-absent group. Thus we have found some evidence that the motivational process of the dual-process model could be linked to absenteeism, although the evidence is weak.

There is very little evidence in this study to support the findings by Bakker et al. (2003) of a relationship between the energetic process of the dual-process model and absence frequency. This study found some evidence of a relationship between the motivational process of the dual-process model and absence frequency. In conclusion we can say that at this stage the call centre employees in this study have made strategic adjustments to remain productive and present irrespective of their wellness status. We can attribute many of these findings to the interaction of the compensatory control model of performance regulation (Hockey, 1997) and the "pay for performance" remuneration model used in the call centre. Presenteeism could also be a problem in the call centre that needs to be examined.

3.2. LIMITATIONS OF THIS RESEARCH

The cross-sectional research design used in this study gives a snap shot view of the sample at a specific time. This has its benefits, as comparisons can be made in the group between the different responses of the sample on the instrument (Kerlinger & Lee, 2000). The limitations of the survey design are that the developmental changes in the group cannot be assessed

(Kerlinger and Lee, 2000). The progress of the group through the motivational and energetic processes cannot be tracked and this study may not be an accurate reflection of the impact of the positive and negative effects of work on productivity and absenteeism. According to Kerlinger & Lee (2000) the depth of the survey information is ordinarily poor when compared to the scope. Deductions from research results cannot effectively be generalised to the larger population.

We relied on perceptual data by using a self-report questionnaire to gather the data. This implies that the results could be subject to a common method variance and or demand characteristics that could result in an overestimation of the correlations. Future studies can resolve this issue by using a research design that uses multiple sources of information over a period of time.

Dobni (2004) emphasises the symbiosis between quantity and quality in the definition of service productivity. The data used in this study focussed only on the quantity of transactions completed and did not take into consideration the quality of work produced. Consequently the findings with regard to productivity might be skewed. We would suggest that the data gathered in future studies should include both quantity and quality of work.

The sample used were all employees on the "pay for performance" remuneration model as it was the most accurate productivity data available on employees in the organisation. We believe that it could affect the validity of the study as employees on this remuneration model can increase their remuneration by completing a larger number of transactions and ensuring that they are not absent from work. The more transactions they complete and the less absent they are, the more they will earn. We could, therefore, not accurately determine the relationship of work wellness or "unwellness" on the productivity of employees as all the employees in this study would rather be at work and do as much as possible to ensure that they are remunerated adequately. The effects of performance regulation (Hockey, 1997) to determine the true effect of work wellness on productivity was not studied. Presenteeism was not part of the scope of this study and the effect thereof on productivity and absenteeism was not measured.

3.3. RECOMMENDATIONS

The results of this study showed that job demands, growth opportunities and the sense of coherence of employees played a big role in determining whether an employee was on the energetic process or the motivational process of work wellness. Some employees are also experiencing burnout that could lead to absenteeism and lowered productivity. The recommendations in this study are made within this context.

Where employees are experiencing high burnout levels it is recommended that tertiary interventions such as counselling and psychotherapy be utilised to assist employees to deal with their burnout levels. Some employees do not have the coping mechanisms to handle their stressful environment and may need therapy to equip them with such. The organisation has sufficient qualified resources that could counsel employees; where psychotherapy may be needed the organisation supports these employees by paying for the first four sessions.

On a daily basis, the call centre employees deal with frustrated clients and they work in a highly emotional environment. As transactions have to be completed on the same day, the environment is also highly pressured. In addition, agents' remuneration is affected by errors made. It would consequently be advisable for the organisation to implement secondary interventions such as stress management, emotional intelligence training and coaching programmes, resilience training and burnout prevention programmes to ensure that employees have the ability to cope with the pressured environment. The secondary interventions are proactive measures to ensure that the employees are productive and that absenteeism levels remain under control.

At primary intervention level, the organisation need to re-look the structure and design of the jobs in the service department. It is recommended that all employees be multi-skilled to ensure that job variety increases. It is also further recommended that the organisation examine job enrichment programmes to enhance the psychological meaning of the jobs in the call centre. Where possible, some autonomy should be given to the call centre employees through the establishment of clear performance outcomes. The workload of each employee must be examined to ensure that the department is adequately staffed and that employees are not expected to handle unrealistic job demands.

We furthermore recommend that the organisation examine the "pay for performance" remuneration model to determine its effectiveness in creating a climate in which employees can flourish and deliver quality customer service. Productivity should also be measured taking quantity, as well as quality, into account. The current environment seems to support employees that are not committed to the organisation and who want to push up their remuneration levels. We would suggest that the organisation bring in a stronger focus on quality of service delivered in the remuneration of employees. It might be prudent to build in a larger basic salary with an incentive to deliver quality service within set turnaround times.

It is also recommended that further research be conducted using a longitudinal research design to study the impact of the positive and negative effects of work on the productivity and absenteeism of employees over a prolonged period of time. The stages of performance regulation (Hockey, 1997) on the relationship between productivity and work wellness need to be considered in any future research. Effects on health and organisational commitment may only be visible after a few months and their effect on productivity and absenteeism even later. We also recommend that the relationship of presenteeism to the dual-process model in the call centre form part of future research. Presenteeism may account for the lack of a relationship between absence and ill-health in this study and should be examined.

Little research on this topic has been done in a South African context and any future research would add value to the understanding of the relationship between productivity and absenteeism and the dual-process model.

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