

**THE RELATION OF WORK STRESSORS TO WORK/LIFE BALANCE AND HEALTH
IN A TRANSFORMING HIGHER EDUCATION INSTITUTION**

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COMMENTS

The reader is reminded of the following:

- The references as well as the editorial style as prescribed by the *Publication Manual (5th edition)* of the American Psychological Association (APA) were followed in this dissertation. This practice is in line with the policy of the Programme in Industrial Psychology of the North-West University to use APA style in all scientific documents as from January 1999.
- The dissertation is submitted in the form of two research articles. 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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TABLE OF CONTENTS

	Page
Acknowledgements	iii
List of Tables	vii
Abstract	viii
Opsomming	x
CHAPTER 1: INTRODUCTION	1
1.1 Problem statement	1
1.1.1 Work related variables	3
1.1.1.1 Role overload, social support and work/life balance	3
1.1.1.2 Job autonomy, centralisation, work/life balance and employee health	7
1.2 Research objectives	10
1.2.1 General objective	10
1.2.2 Specific objectives	10
1.3 Research method	12
1.3.1 Phase 1: Literature review	12
1.3.2 Phase 2: Empirical study	13
1.3.2.1 Research design	13
1.3.2.2 Participants	14
1.3.2.3 Measuring instruments	14
1.3.2.4 Statistical analysis	16
1.3.2.5 Procedure	17
1.4 Chapter division	18
References	19
CHAPTER 2: RESEARCH ARTICLE 1	24
Abstract	25
Opsomming	26
Social support as moderator	31

Method	33	
Research design and sampling	33	
Participants	34	
Measuring instruments	36	
Statistical analysis	37	
Results	38	
Discussion	44	
Recommendations	46	
References	49	
CHAPTER 3: RESEARCH ARTICLE 2	53	
Abstract	54	
Opsomming	55	
Work/life balance as moderator	58	
Method	60	
Research design and sampling	60	
Participants and procedure	60	
Measuring instruments	62	
Statistical analysis	63	
Results	65	
Discussion	68	
Recommendations	70	
References	73	
CHAPTER 4: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS	77	
4.1	Conclusions	77
4.1.1	Conclusions in terms of specific objectives of Article 1	77
4.1.2	Conclusions in terms of specific objectives in Article 2	81
4.2	Limitations	84

4.3	Recommendations	85
4.3.1	Recommendations for the organisation in managing work/life and life/work imbalance of employees and employee general health	85
4.3.2	Recommendations for future research	86
	References	87

CHAPTER 2: LIST OF TABLES

Table	Description	Page
Table 1	Characteristics of the participants (n=207)	35
Table 2	Descriptive statistics of the measuring instruments	38
Table 3	Correlation coefficients between role overload, work/life imbalance, life/work imbalance and social support from supervisor, co-workers and family	39
Table 4	Multiple regression analysis with work/life imbalance as dependent variable	40
Table 5	Multiple regression analysis with life/work imbalance as dependent variable	42

CHAPTER 3: LIST OF TABLES

Table	Description	Page
Table 1	Characteristics of the participants (n=207)	61
Table 2	Descriptive Statistics of the measuring instruments	65
Table 3	Correlation coefficients between job autonomy, centralisation, work/life imbalance, life/work imbalance and general health	66
Table 4	Multiple regression analysis with general health as dependent variable	67

ABSTRACT

Title: The relation of work stressors to work/life balance and health in a transforming higher education institution

Keywords: Qualitative role overload, quantitative role overload, social support, work/life balance, life/work imbalance, job autonomy, centralisation, employee health, higher education institutions

Across the world, transformation plays a critical role in organisations. Many organisations have embarked on programmes to transform the workplace to remain competitive, and higher education institutions in South Africa have not been excluded from this. These institutions have experienced pressure to change, mainly due to the political transformation following the transition to a new political dispensation and the resulting change in government policy. Social transformation has, in turn, led to mergers, acquisitions and structural reorganisation in these institutions. In addition, the market economy, privatisation, technological advancement, innovation, and cultural influences have all contributed to transformation at higher education institutions.

The general objectives of this study were twofold, and were investigated in two separate articles. The first article studied the relationship between qualitative and quantitative role overload, work/life balance and life/work imbalance and social support. A further objective was to determine whether social support from different sources (supervisor, co-workers and family) moderated the effect of role overload on work/life- and life/work balance. The second article studied the relationship between job autonomy and centralisation, work/life balance and life/work imbalance and employee health. A further objective was to determine whether work/life- and life/work balance moderated the effect of job autonomy and centralisation on employee health.

A cross-sectional design was used. The study population ($n=207$) comprised all staff of a higher education institution in South Africa. The measuring instruments of quantitative role overload,

qualitative role overload, social support (supervisor, co-workers and family) and work/life balance, life/work imbalance were administered in order to meet the research objectives of the first article. For the second article, measuring instruments of job autonomy, centralisation, work/life balance, life/work imbalance and employee health were employed.

For both articles, descriptive statistics (e.g. means, standard deviations, skewness and kurtosis) were used to analyse the data. Hierarchical multiple regression analyses was used to test for the hypothesized moderating effects.

In the first article, the results of the regression analyses showed that quantitative role overload proved to be a predictor of work/life imbalance, however, employees experiencing quantitative role overload are also likely to experience qualitative role overload, both quantitative- and qualitative role overload relating to conditions that require more of an individual than what he/she possesses, impacting on work/life imbalance. Social support from supervisors, co-workers and family proved that only social support from co-workers moderated the effect of role overload on work/life imbalance, whereby co-workers serve as a buffer and outlet sharing knowledge and advice.

In the second article, the results of the regression analyses proved that job autonomy, as a job characteristic, related to better general health. Job autonomy proved to be consistently the more important determinant of job satisfaction whereby the employee experiences a greater degree of decision-making authority, impacting on the job. Work/life imbalance also showed a positive correlation with general health thus moderating the effect on employee general health.

By way of conclusion, the limitations of the study are noted and recommendations for the organisation and future research are made.

OPSOMMING

Titel: Die verhouding van werkstressors op werk/lewe-balans en gesondheid in 'n transformerende hoër-opvoedkundige-instelling

Sleutelbegrippe: Kwalitatiewe roloorlading, kwantitatiewe roloorlading, sosiale steun, werk/lewe-balans, lewe/werk-wanbalans, outonomie in die werkplek, sentralisasie, werknemergesondheid, hoër-opvoedkundige-instellings

Wêreldwyd speel verandering 'n kritieke rol in organisasies. Menige organisasie implementeer veranderingsprogramme in die werkplek om kompetend te bly. Hoër-opvoedkundige-instellings in Suid-Afrika is nie uitgesluit van hierdie veranderinge nie. Hierdie instellings beleef druk om te verander, hoofsaaklik as gevolg van politieke veranderinge voortspruitend uit die oorgang na 'n nuwe politieke bedeling en verandering in regeringsbeleid. Sosiale veranderinge het gelei tot die samesmelting van instellings, uitbreiding van instellings en strukturele herorganisasie van instellings in Suid-Afrika. Bydraend tot hierdie veranderinge, het die wêreld ekonomie, privatisering, tegnologiese ontwikkeling, innovasie en kulturele invloede bygedra tot die veranderinge in hoër-opvoedkundige-instellings.

Die doel van hierdie studie was tweeledig, en word in twee afsonderlike artikels bestudeer. Die eerste artikel bestudeer die verhouding tussen kwalitatiewe en kwantitatiewe roloorlading, werk/lewe-balans en lewe/werk-wanbalans en sosiale steun. 'n Verdere doel was om te bepaal of sosiale steun van verskeie bronne (toesighouer, medewerker en familie) die effek van roloorlading op werk/lewe-balans en lewe/werk-wanbalans modereer. Die tweede artikel bestudeer die verhouding tussen outonomie en sentralisasie, werk/lewe-balans en lewe/werk-wanbalans en werknemergesondheid. 'n Verdere doel was om te bepaal of werk/lewe- en lewe/werk-balans die effek van outonomie en sentralisasie op werknemergesondheid modereer.

'n Dwarsnee opname-ontwerp is gebruik. Die studiepopulasie ($n=207$) het bestaan uit alle werknemers van 'n hoër-opvoedkundige-instelling in Suid-Afrika. Meetinstrumente van kwantitatiewe roloorlading, kwalitatiewe roloorlading, sosiale steun (toesighouer, medewerker

en familie) en werk/lewe-balans, lewe/werk-wanbalans is geadministreer om die navorsingsdoelwitte vir die eerste artikel te bereik. Om die navorsingsdoelwitte vir die tweede artikel te bereik, is die meetinstrumente van outonomie, sentralisasie, werk/lewe-balans, lewe/werk-wanbalans en werknemergesondheid toegepas.

Vir beide artikels is die beskrywende statistiek van gemiddeldes, standaardafwykings, skeefheid en kurtose gebruik om die data te analiseer. Hiërargies-veelvuldige regressie-analise is gebruik vir die toetsing van die gehipotetiseerde modererende effekte.

Die resultate van die regressie-analise in artikel 1 het daarop gedui dat kwantitatiewe roloorlading 'n voorspeller van werk/lewe-balans is, met dien verstande dat beide kwantitatiewe en kwalitatiewe roloorlading deur werknemers ondervind word. Beide kwalitatiewe en kwantitatiewe roloorlading verwys na omstandighede waar daar meer vereis word van werknemers en wat werk/lewe-wanbalans veroorsaak. Sosiale steun van toesighouers, medewerkers en familie het bewys dat slegs medewerkerondersteuning die invloed op werk/lewe-balans modereer en dat medewerkers in die werkplek as buffer dien deurdat kennis gedeel en advies gegee word.

Die resultate van die regressie-analise in artikel 2 het daarop gedui dat outonomie positief deur werknemers beleef word en 'n positiewe bydrae lewer tot werknemergesondheid. Outonomie is deurgaans die belangrikste bepaler van werkstevredenheid, waarvolgens werknemers wat oor 'n groter vlak van besluitneming beskik, meer werkstevredenheid ervaar. Werk/lewe-wanbalans het 'n positiewe invloed op werknemergesondheid getoon en modereer dus die effek op werknemergesondheid.

Beperkings van die studie word vermeld en aanbevelings vir die organisasie en toekomstige navorsing word gedoen.

CHAPTER 1

INTRODUCTION

This dissertation focuses on the relation of work stressors to work/life balance and health in a transforming higher education institution. In this chapter, the problem statement and the research objectives (including the general and specific objectives) are discussed. Following this, the research method is discussed. The chapter concludes with an outline of the chapter division.

1.1 PROBLEM STATEMENT

Change in organisations, brought about by factors such as globalisation, the market economy, privatisation, technological advancement, innovation, politics and cultural influences, has become a fact of life. As a result, many organisations have embarked on programmes to transform the workplace in order to remain competitive in this ever-changing environment. Higher Education Institutions (HEIs) in South Africa have not been excluded from this, and have experienced pressure to change during the past decade, mainly as a result of political transformation and globalisation (Mathabe, 2004, p. 5).

New Government policy has resulted in competition between HEIs for scarce financial resources. In addition, social transformation has produced mergers and reorganisation of many institutions. This has consequently led to structural reorganisation between the merged institutions in an effort to meet social objectives, whilst remaining financially viable and delivering services at a competitive level (Gratton, Hope-Hailey, & Stiles, 1999).

Since HEIs have not found themselves in this competitive environment in the past, a more businesslike approach had to be adopted to remain viable and competitive. Initiatives such as downsizing, rightsizing, economic constraints and fierce competition have been employed (Baruch, 1999). In addition, new approaches to education have been adopted, such as blended learning, outcomes based education, community service and adult skills development, vocational education to adult students and life long learning (Vaal University of Technology, 2007).

These changes are impacting on the working life of individuals at the affected institutions. Amongst others, transformation has led to role overload as a result of more demanding work pressures, less work resources, role changes and increased demands on time (Bakker & Geurts, 2004; Burke & Greenglass, 1999). With this condition in existence, social support from supervisors, co-workers and family members has become increasingly important.

Role overload affects employee work/life balance, as employees have a wider interest than just work itself. Workload specific to the work situation is likely to be brought home (Montgomery, Peeters, Schaufeli, & Den Ouden, 2003), hence the importance of social support serving as a buffer between role overload and work/life imbalance. Previous research has also indicated that social support appears to be of major importance to the psychological well-being of workers (Caplan, Cobb, French, van Harrison, & Pinneau, 1975).

In addition to impacting role overload, transformation also influences experienced autonomy in the workplace. With the reorganisation and redesign of functions, roles, responsibilities, and accountability, individuals quite often find themselves in a situation of “having too much to do in too little time” (Beehr, Walsh, & Taber, 1976; Geurts, Rutte, & Peeters, 1999), with limited resources. This requires increased employee commitment, self-direction, autonomy and decision latitude (Karasek, 1979), which, if not managed, could result in work/life imbalance (Netemeyer, Boles, & McMurrian, 1996). According to De Cieri, Homes, Abbott, and Pettit (2005, p. 90), “work-life balance strategies have been defined as those that enhance the autonomy of workers in the process of co-ordination and integrating work and non-work aspects of their lives”.

The lack of job autonomy, or unclear role definitions, often affects the health of the job incumbents. Previous research has shown that high demands (role overload) and poor resources can lead to stress and/or burnout, and is considered a work-related indicator of psychological health (Cooper, Dewe, & O’Driscoll, 2001). Centralisation also influences staff attitude and motivation. Centralisation refers to the extent to which staff is encouraged or allowed to participate, or is limited in decision-making (Scott et al., 2005).

Given the above, in this research an attempt will be made to firstly determine the influence of transformation in HEIs as reflected in employee role overload, how that impacts on work/life balance, with social support as the moderating factor. Secondly, the impact of job autonomy and centralisation on the health of employees in the institution, with work/life balance as the moderating factor, will be researched. The contribution of the research thus lies therein that antecedents as well as moderating effects of work/life balance will be investigated, within a single sample of tertiary education employees.

1.1.1 Work related variables

1.1.1.1 Role overload, social support and work/life balance

Following the change to a democratic political system, no entity in South Africa has been excluded from transformation. This transformation has been effected by global trends and international partnerships, and has affected national benchmarks, the local market economy, privatisation and technology, political and cultural systems (Daft, 2001).

Organisational transformation, acquisitions and mergers in higher education institutions (HEIs) have lead to structural reorganisation internally and externally, and may have resulted in role overload (Jansen, 2004). Role overload can be described as “the degree to which job demands exceed personal and workplace resources and the extent to which an employee is able to effectively complete work assignments” (Rahim, 1996, p. 70). In research with the role overload construct, a quantitative/qualitative distinction has emerged. *Quantitative role overload* refers to high volumes of repetitive and monotonous tasks, with large amounts of work where the employee would be required to work very fast and diligently within a certain time constraint (Greenhaus, Callanan, & Godshalk, 2000). *Qualitative role overload* refers to employee over-utilization in terms of the complexity and quality of the work output, stretching the employees’ capability and intellectual demands (Geurts et al., 1999), with work that is too difficult or demanding (Greenhaus et al.).

Organisations, and for that matter educational institutions, require increased effectiveness of individuals/employees in the workplace, working in flatter ('leaner and meaner') structures, which could easily result in role overload. This translates to having fewer employees in the organisation/institution, with insufficient work resources, which could impact negatively on individual employees' commitment. At the same time, organisations are attempting to move down the cost curve. Role overload implies larger jobs with longer hours negatively influencing employees' home life.

Research suggests that role overload is one of the most important factors determining work/home interference of individuals (Geurts et al., 1999; Voydanoff, 1988; Wallace, 1999). Work/life balance is an important factor, as work may interfere with home-life and home-life may interfere with work (Geurts et al.).

Work/life interference with life outside of the work environment occurs when excessive time is spent at work (overtime) due to role overload, thus causing an absence from the home and family. It also occurs through over-commitment, when work is taken home and time at home is dedicated to work activities, and not to home and family activities. In this instance, the mental and thought processes of the individual are continuously focused on work and not necessarily directed at home and family responsibilities, irrespective of whether the individual is at home or at work (Geurts et al., 1999; Pleck, 1977).

On the other hand, home and family commitments may also interfere with work life. For example, in the case of female employees they fulfil the role of mother and caretaker at the same time as being an employee. Taking care of family and home commitments often interfere with work life. It is also common for home activities to interfere with work in cases where dual career couples share home and family responsibilities (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). Gender differences with regard to home and work life exist, and traditionally the responsibility of family and home relates positively to females. Working life relates to men, with its inflexibilities and the required hard skills in the work domain (Greenhaus et al., 2000; Väänänen et al., 2003). Traditionally, organisations placed men in senior managerial positions

due to the demand for longer hours and high levels of work commitment (Duxbury, Higgins, & Lee, 1994).

Generally, organisations (and educational institutions) believe they have a responsibility towards their employees to assist with work/life balance and, as such, implement work/life balance programmes to assist employees in improving the balance between work and social life (Greenhaus et al., 2000). This is a deliberate strategy to transform the workplace in order to remain competitive in an ever-changing world. By the same token, employees strive to achieve balance in and control over their lives, whilst juggling work and home demands. Social support from work or family can help to moderate role overload and in doing so contribute to work/life balance (Greenhaus et al.). As social support has been viewed as a significant resource for work/life imbalance, it can serve as an effective coping mechanism, supporting the enhancement of employee well-being when experiencing work/family stress and work/life imbalance (De Cieri, Holmes, Abbott, & Petit, 2005).

Several empirical studies support the assumption that job demands and lack of workplace social support endanger the experience of work/home balance (Janssen, Peeters, de Jonge, Houkes, & Tummers, 2004). Social support, as moderator, can simply be defined as the availability of 'help' from supervisors, co-workers, and family members. Supervisor support can be related to work (tasks), strain and/or time scheduling in the working environment, setting realistic deadlines, providing proper employee mentoring, providing workplace resources, giving and handling employee feedback and giving employee support and assistance. Supervisors may also assist employees in dealing with high volumes of work and complex tasks, the delegation of tasks and sometimes just saying no to projects (Greenhaus et al., 2000). Co-workers can support employees by sharing high volumes of work, responsibilities and emotional support (Kidder, 1996; Milne, Blum, & Roman, 1994). "Family support is usually instrumental in providing understanding and support, empathy and information" (LaRocco, House, & French, 1980, p. 204). Families are particularly noted for supplying feedback and guidance, mediating problem solutions, serving as a haven for rest and recuperation, validating an individual's identity, and contributing to emotional mastery (Caplan, 1976).

Different sources of support can moderate the effects of stress on well-being in different ways (Roberts, Cox, Shannon, & Wells, 1994; Väänänen et al., 2003; Vahtera, Pentti, & Uutela, 1996), while a lack of social support may sometimes be associated with increased absenteeism (Rael, Stansfeld, Shipley, & Head, 1995; Väänänen et al., 2003). Social support appears to be of major importance to the psychological well-being of workers (Caplan et al., 1975), by buffering the negative effects of role overload and its impact on work/life balance.

Social support is also an important predictor of adverse health outcomes like burnout (Jansen et al., 2004). Greenberger, Goldberg, Hamill, O'Neil, and Payne (1989, p. 779–780) indicated that co-worker support was the “most consequential in reducing the role strain of married men and single women”. Many authors (Caplan et al., 1975; Caplan, 1976; LaRocco et al., 1980; Väänänen et al., 2003) have suggested that support from different sources may moderate the effects of stress on well-being.

According to Greenhaus et al. (2000, p. 287)

“Support from others can help people alter the stressful environment and ‘buffer’ or protect them from the harmful effects of stress. In fact, individuals who reported high strain symptoms and high levels of social support reported lower health care costs than individuals who reported low strain symptoms.”

Individuals with social support systems may be better at coping with stress and may interpret strains (stress) in the workplace as a positive heightened feeling instead of a feeling of misery or anguish (Greenhaus et al., 2000). Geurts and Demerouti (2003) emphasized social support from family as an important characteristic of individuals who cope effectively with stress. The importance of family social support is also underlined by Carlson and Perrewé (1999), who stated that family role conflict and family role ambiguity are positively associated with experienced family/work conflict. Organisations could introduce support programmes as part of their organisational culture or value system, and recommendations from the current research project may help the tertiary education institution initiate such programmes.

Important individual differences may govern the translation of role overload into work/life imbalance. It was generally believed that work is more important to men, and family life is more important to women (Pleck, 1977). This has changed drastically over the past decades as more women have entered the labour market and the increase in the appointment of women in senior positions (traditionally reserved for male employees) means that, in the modern organisation, women and men are competing for equal career and job opportunities. It has been hypothesized that, because of higher family responsibilities, family factors intrude into the work situation more often for women than for men, whereas work factors intrude into the family situation more often for men than for women (Demerouti, Geurts, & Kompier, 2004). It is traditionally believed that so-called 'hard skills' are necessary to occupy senior managerial positions, requiring long hours of work with limited or no flexibility. Historically, females have been underrepresented in senior managerial positions, due to this belief (Greenhaus et al., 2000). However, in modern times, dual-earner and dual-career couples with childcare commitments require more flexibility in the workplace and it was shown that dual-earners benefited from a family-friendly workplace, allowing employees to combine work and family responsibilities (Kluwer, Boers, Heesink, & van der Vliert, 1997).

1.1.1.2 Job autonomy, centralisation, work/life balance and employee health

Job autonomy can be described as the individual's ability to decide on when, how and what work is done (Jansen et al., 2004). According to Väänänen et al. (2003), job autonomy consists of worker independence and decision latitude, *independence* when carrying out tasks and *decision* when determining their work pace and phases. Prior research has shown that weak autonomy in one's work is related to psychological stress and, if continuing, may be the source of health problems (Gangster & Schaubroeck, 1991; Karasek & Theorell, 1990; Väänänen et al., 2003).

According to Hackman and Oldham (1975) and Jacko (2004) an employee arrives at a state of autonomy when *experienced meaningfulness of the work*; *experienced responsibility for the work*; and *knowledge of the results* are reached. Experienced meaningfulness of the work relate to the employee's experience of a job which is significantly meaningful, important, valuable, useful and worthwhile within either the immediate organisation or the external environment.

Whilst experienced responsibility for the work relates to employee accountability and responsibility for the results or outcomes of the work, and knowledge of the results relates to the employee's knowledge and understanding of his or her effectiveness and performance in the job. Job autonomy has been related to job satisfaction, job challenge and job involvement (Jansen et al., 2004). Job autonomy can affect health, however work/life balance as a moderator should be studied carefully as it may show a significant outcome (Montgomery et al., 2003). In addition, experienced responsibility for work outcomes may increase when a job has high autonomy (Bird, 1994; Väänänen et al., 2003)). Autonomy is critical for the individual's success or failure at work, as well as the individual's experience of satisfaction with work. This is perceived as a psychological challenge. Autonomy exists when the employee exercises freedom, independence and discretion when scheduling work and applying their own procedures when doing the work, thus ultimately influencing work/life balance positively.

Centralisation is defined as the extent to which power and decision-making are shared by employees (Mellor, Mathieu, & Swim, 1994). Centralisation deals with staff attitude and motivation in the workplace and the extent to which staff is encouraged or allowed to participate, or is limited in decision-making. According to Bird (1994), job autonomy refers to individuals who have the freedom in the workplace to use their own discretion. The individual with wider discretion is allowed the opportunity to become personally committed through individualised experience, and knowledge and group knowledge deemed as developmental as a means of generating new meaning through professional gatherings and conferences through exchanging ideas and information. Individualised commitment is a key success factor in the change process (Clarke & Garside, 1997).

According to Demerouti et al. (2004):

“The existence of job control and job support that enable individuals to deal with the demanding aspects of their job and simultaneously increase their willingness to do so, are likely be associated with positive load effects that build up during working hours and that spill over to the home domain.”

In general, negative work/home interaction may have detrimental effects on health and well-being since it increases, for instance, psychosomatic symptoms and physical health complaints (Demerouti et al., 2004; Geurts et al., 1999; Grandy & Cropanzano, 1999;). Work/life imbalance is positively related to overall self-reported poor physical health (Frone, Russell, & Cooper, 1997) and psychological stress related outcomes (Allen, Herst, Bruck, & Sutton, 2000). Decision latitude can be manifested as a mental strain (Henry & Cassell, 1969), and job strain is subject to decision latitude (Karasek, 1979).

Given the increase in technology and the globalisation of work enabling people to work anywhere and at anytime, instead of experiencing more work/life balance, people are working more and are available to work twenty-four hours a day, seven days a week (Fleenor, 2005). Organisations and institutions deciding to implement work/life balance strategies may be influenced by cost reduction or productivity improvements. The focus of the work/life balance literature is on helping individuals and their immediate families to achieve balance in their lives. Employees want to lead successful careers, whilst at the same time having fulfilling personal lives. Some organisations see work/life balance strategies as a retention strategy, and as such need to be aware of the changing needs of employees in order to retain them. Work/life balance strategies in organisations can add to the organisation's increased and sustainable competitive advantage. Employees see work/life balance strategies as part of the organisation's culture and support (De Cieri et al., 2005).

According to De Cieri et al. (2005, p. 90), work/life balance can be defined as: "the maintenance of a balance between responsibilities at work and at home". Work/life balance as moderator is about finding rhythm when combining work and other responsibilities or aspirations and being able to adjust work patterns to easier combine these responsibilities (Department for Education and Employment, 2000). Employees have wider interests than just work, but find it difficult to balance work and private life (Geurts & Demerouti, 2003). The roles and responsibilities of dual-earner and dual-career couples, especially those with dependants, add to the challenges of achieving work/life balance as individuals and employees need to organise not only their work, but also their domestic duties and responsibilities (Geurts & Demerouti, 2003).

The impact of stress at work on a person's health can be physical or psychological in nature (Kantor, Schomer, & Louw, 1997; Väänänen et al., 2003). A lack of autonomy has been found to be closely related to ill health, and often impacts differently on men and women, mainly because men generally have more influence in their work than women (Greenhaus et al., 2000; Väänänen et al.). Organisations have consciously embarked on programmes to transform the workplace to remain competitive. This transformation is leading to a new organisational design and organisational structures which require increased effectiveness and shared service delivery. In turn, this may result in employees facing role overload as the challenges of job autonomy and participative decision-making leads to greater responsibility in the workplace. Within this context, the experience of, or threat to, work/life balance of employees may present an important variable in understanding health outcomes. A second focus for this research is thus to investigate the moderating effect of work/life balance on employees' experience of autonomy and centralisation on the one hand, and health outcomes on the other.

1.2 RESEARCH OBJECTIVES

The research objectives are divided into general and specific objectives. In order to address the research questions, the following research objectives are set.

1.2.1 General objective

The general objective of this research is twofold, and is investigated in two separate articles. The general objective of the first article is to study the relationship between qualitative and quantitative role overload, social support from different sources (supervisor, co-workers and family) and work/life balance. The general objective of the second article is to study the relationships between job autonomy, centralisation, work/life balance and employee health. In both articles, the moderating effects of social support and work/life balance respectively, are also investigated.

1.2.2 Specific objectives

Graphically, the model for this research (and the two chapters), can be represented as follows:

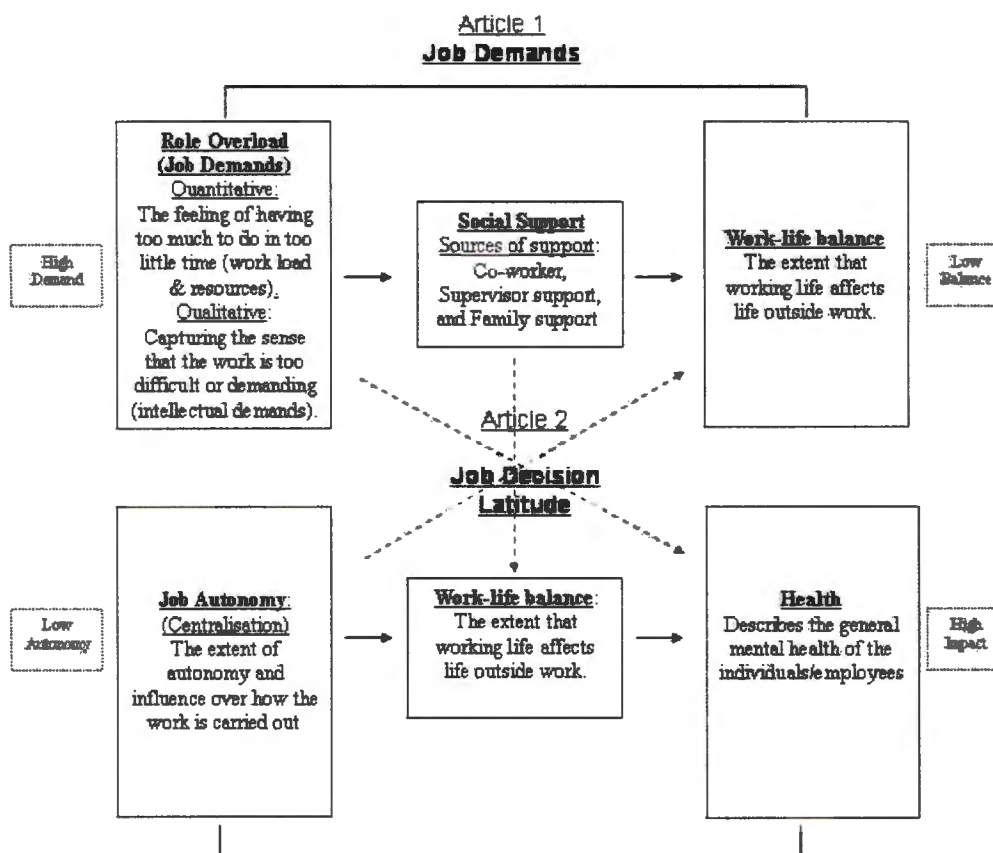


Figure 1.1. Proposed model for the research.

The specific objectives of the first article are:

- To conceptualise the variables of qualitative and quantitative role overload, social support from supervisor, co-workers and family, and work/life balance, and the relationship between these variables, from the literature.
- To investigate the relationships between qualitative and quantitative role overload, social support from supervisor, co-workers and family, and work/life balance in a group of tertiary education employees.
- To investigate whether work/life balance of tertiary education employees can be predicted by qualitative and quantitative role overload and social support from supervisors, co-workers and family.

- To investigate whether social support from supervisors, co-workers and family moderates the relationship between quantitative and qualitative role overload on the one hand, and work/life balance on the other.
- To make recommendations regarding the enhancement of work/life balance of tertiary education employees based on their experiences of qualitative and quantitative role overload and social support from supervisors, co-workers and family.

The specific objectives of the second article are:

- To conceptualise the variables of job autonomy, centralisation, work/life balance and health, and the relationship between these variables, from the literature.
- To investigate the relationships between job autonomy, centralisation, work/life balance and health in a group of tertiary education employees.
- To investigate whether the health of tertiary education employees can be predicted by job autonomy, centralisation and work/life balance.
- To investigate whether work/life balance moderates the relationship between job autonomy and centralisation on the one hand, and health on the other.
- To make recommendations regarding the management of tertiary education employees' health, based on their experiences of job autonomy, centralisation and work/life balance.

A final, generic objective is to make recommendations for future research.

1.3 RESEARCH METHOD

This research, pertaining to the specific objectives, consists of two phases, namely a literature review and an empirical study.

1.3.1 Phase 1: Literature review

Phase 1 entails the literature review in the form of descriptive research.

In research article one, a complete review regarding the following constructs is obtained:

- Role overload
- Social support (from supervisor, co-workers and family)
- Work/life balance (as outcome)

In research article two, a complete review regarding the following constructs is obtained:

- Job autonomy
- Centralisation
- Work/life balance (as moderator)
- Health

The sources that will be consulted include:

- Books
- Journals
- National and International Articles
- Academic and business practitioner discussions

1.3.2 Phase 2: Empirical study

The empirical study consists of the research design, participants, measuring battery, and statistical analysis.

1.3.2.1 Research design

“The aim of research design is to plan and structure a given research project in such a way that the eventual validity of the research findings is maximised.” (Mouton & Marais, 1993, p. 33.) A cross-sectional study will be conducted in the form of a survey amongst all the staff of a higher education institution. The limitation of cross-sectional data is that it cannot prove causation. However, it can be a valuable method of sorting out which causal hypotheses are sufficiently plausible (Montgomery et al., 2003).

1.3.2.2 Participants

All staff members (academic faculty, administrative support staff and services staff) of a higher education institution with its merged institutions, irrespective of the participants' level of occupation, department, age, background or length of service with the education institution will be included. A large enough sample is required in order to obtain an accurate measurement.

1.3.2.3 Measuring instruments

Measuring instruments of quantitative role overload (Beehr et al., 1976), qualitative role overload (Sverke, Hellgren, & Öhrming, 1999), social support (Caplan et al., 1975) and work/life balance (Netemeyer et al., 1996) will be administered in order to meet the research objectives of the first article.

For the second article, measuring instruments of job autonomy (Sverke & Sjöberg, 1994), centralisation (Mellor et al., 1994), work/life balance (Netemeyer et al., 1996) and health (Goldberg, 1979) will be utilised in order to meet the research objectives.

Quantitative role overload. This scale consists of three items from Beehr et al. (1976), and measures the feeling of having too much to do in too little time. The response alternatives range from 1 (disagree) to 5 (strongly agree), and a high score represents a heavier workload. A typical item for this scale is represented by: "I often have too much to do in my job." In previous research (Beehr et al.), the scale represented with adequate reliability, as indicated by a Spearman-Brown coefficient of 0,56.

Qualitative role overload. These four items were developed by Sverke et al. (1999), and capture the sense that the work is too difficult or demanding. The response alternatives range from 1 (disagree) to 5 (strongly agree), with a high score representing more difficult or demanding tasks. A typical item for this scale is represented by: "I have work demands that are difficult to accomplish." In previous research (Sverke & Sjöberg, 1994), the scale represented with adequate reliability, as indicated by a Cronbach alpha-coefficient of 0,69.

Job autonomy. This four item scale was adapted by Sverke and Sjöberg (1994), based on Hackman and Oldham (1975) and Walsh, Taber, and Beehr (1980), and measures the extent of autonomy and influence over how the work is carried out. The response alternatives range from 1 (disagree) to 5 (strongly agree); a high score indicates a stronger sense of autonomy. A typical item for this scale is represented by: "I can make my own decisions on how to organise my work." In previous research (Sverke & Sjöberg), the scale represented with adequate reliability, as indicated by a Cronbach alpha-coefficient of 0,74.

Centralisation. This scale consists of three items based on Mellor et al. (1994), and measures to what extent the staff is encouraged or allowed to participate in decision-making processes. The response alternatives range from 1 (disagree) to 5 (strongly agree), and a high score represents a more centralized decision-making process. A typical item for this scale is represented by: "I have satisfactory influence over decisions concerning my job." (reverse scored). In previous research (Mellor et al.), the scale represented with adequate reliability, as indicated by a Cronbach alpha-coefficient of 0,83.

Work/life (im)balance. This scale, based on Netemeyer et al. (1996), consists of four items measuring to what extent working life affects life outside of work. The response alternatives range from 1 (disagree) to 5 (strongly agree), and a high score reflects a negative effect of work on life outside of work. A typical item for this scale is represented by: "My work is on my mind even on the weekends.", or "Demands in my work have a negative effect on my private life." In previous research (Netemeyer et al.), the scale represented with adequate reliability, as indicated by a Cronbach alpha-coefficient of 0,88.

Life/work (im)balance. This scale, based on Netemeyer et al. (1996), consists of four items measuring to what extent life outside of work affects work tasks. The response alternatives range from 1 (disagree) to 5 (agree), and a high score reflects a negative effect of life outside of work on the carrying out of work tasks. A typical item for this scale is represented by: "Demands in my private life have a negative effect on my work." In previous research (Netemeyer et al.) the scale represented with adequate reliability, as indicated by a Cronbach alpha-coefficient of 0,86.

Social Support is measured by ten (10) items, based on Caplan et al. (1975). This scale consists of three (3) factors based on the source of the support – co-worker support (three (3) items), supervisor support (three (3) items), and family support (four (4) items). The response alternatives range from 1 (disagree) to 5 (strongly agree) and a high score on either scale reflects a sense that support is available. A typical item for the *supervisor support* scale is represented by: □I always receive help from my manager when difficulties in my work arise.” A typical item for the *co-worker support* scale is represented by: □I usually receive help from my co-worker when something needs to be done quickly.” A typical item for the *family support* scale is represented by: □I have someone outside of work to whom I can talk about difficulties and problems in my work.” In a previous South African study, supervisor support ($\alpha=0,91$) and co-worker support ($\alpha=0,80$) presented with sufficient reliability (Pienaar, Sieberhagen, & Mostert, 2007).

Health. This 12-item version of the General Health Questionnaire by Goldberg (1979), describes the general mental health of the individual. The response alternatives range from 0 (never) to 3 (always), and a high score reflects a greater degree of general health complaints. A typical item for this scale is represented by: □Have you during the previous 12 months suffered from heart or chest problems?” In previous research, this scale represented with sufficient and adequate reliability.

Biographical information such as gender, home language, educational qualification, household situation, parental status, employment status, number of years employed, and remuneration will also be gathered in support of the research.

1.3.2.4 Statistical analysis

The data analysis will be carried out with the help of the SPSS-programme (SPSS, 2007). The programme will be used to carry out statistical analysis regarding the reliability and validity of the measuring instruments and descriptive statistics. The reliability and validity of the measuring instruments will be assessed with the use of Cronbach alpha-coefficients (Clark & Watson, 1995). Descriptive statistics (e.g. means, standard deviations, skewness and kurtosis) and

inferential statistics will be used to analyse the data. Correlations between the variables will be demonstrated indicating the linkages and the extent to which the variables are related to each other. Correlations are considered statistically significant at the 0,01 and 0,05 levels (Christensen & Stoup, 1991), and practically significant with low ($\leq 0,30$), medium ($\leq 0,49$) or large ($\geq 0,50$) effect (Cohen, 1988).

In article one, the main and interactive effects of social support will be tested using hierarchical multiple regression analysis. Demographic characteristics will be controlled for in the first step. Role overload and social support variables will be entered in the second step. Interaction terms of role overload with each of the indicators of sources of social support will be entered in the third step to test for the hypothesized moderating effect of social support on the relation between role overload and work/life balance.

In article two, the main and interactive effects of work/life balance will again be tested using hierarchical multiple regression analysis. Demographic characteristics will be controlled for in the first step. Job autonomy, centralisation and work/life balance variables will be entered in the second step. Interaction terms of job autonomy and centralisation with both of the work/life balance variables (work/life and life/work) will be entered in the third step to test for the hypothesized moderating effect of work/life balance on the relation between autonomy and centralisation and employee health. Following the procedures described by Aitken and West (1991), the predictor variables are centered, i.e. the means of these variables are set to zero, while the standard deviations are kept intact.

1.3.2.5 Procedure

Staff will be informed about the purpose and the interest of the study during the distribution of the questionnaires. One week after all the staff members have received the questionnaires, a reminder will be sent out in which the importance of the participation of each staff member will be emphasized. This will be followed up with another reminder two weeks after the initial distribution to all staff members.

1.4 CHAPTER DIVISION

The chapters in the mini-dissertation will be presented as follows:

Chapter 1: Introduction

Chapter 2: Research Article 1

Chapter 3: Research Article 2

Chapter 4: Conclusions, limitations and recommendations

REFERENCES:

- Aitken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage Publications.
- Allen, T. D., Herst, D. E., Bruck, C. S., & Sutton, M. (2000). Consequences associated with work-to-family conflict: A review and agenda for future research. *Journal of Occupational Health Psychology, 5*, 278–308.
- Bakker, A. B., & Geurts, S. A. E. (2004). Toward a dual-process model of work-home interference. *Work and Occupations, 31*, 345–366.
- Baruch, Y. (1999). Integrated career systems for the 2000's. *International Journal of Manpower, 20*, 432–457.
- Beehr, T. A., Walsh, J. T., & Taber, T. D. (1976). Relationship of stress to individually and organizationally valued states: Higher order needs as a moderator. *Journal of Applied Psychology, 61*, 41–47.
- Bird, A. (1994). Careers as repositories of knowledge: A new perspective on boundaryless careers. *Journal of Organizational Behavior, 15*, 325–344.
- Burke, R. J., & Greenglass, E. R. (1999). Work-family conflict, spouse support, and nursing staff well-being during organizational restructuring. *Journal of Occupational Health Psychology, 4*, 327–336.
- Caplan, G. (1976). The family as a support system. In G. Caplan & M. Killilea (Eds.), *Support systems and mutual help: Multi-disciplinary explorations* (pp. 19–36). New York: Grune and Stratton.
- Caplan, R. D., Cobb, S., French, J. R. P. (Jr.), Van Harrison, R., & Pinneau, S. R. (Jr.) (1975). *Job demands and worker health*. Michigan: Survey Research Center, Institute for Social Research, The University of Michigan.
- Carlson, D. S., & Perrewé, P. L. (1999). The role of social support in the stressor-strain relationship: An examination of work-family conflict. *Journal of Management, 25*, 513–540.
- Christensen, L. B., & Stoup, C. M. (1991). *Introduction to statistics for the social and behavioral sciences* (2nd ed.). Pacific Grove, CA: Brooks/Cole.
- Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychometric Assessment, 7*, 309–319.

- Clarke, A., & Garside, J. (1997). The development of a best practice model for change management. *European Management Journal*, *15*, 537–545.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Orlando, CA: Academic Press.
- Cooper, C., Dewe, P. J., & O’Driscoll, M. P. (2001). *Organizational stress: A review and critique of theory, research and applications*. London: Sage Publications.
- Daft, R. L. (2001). *Organization theory and design*. St. Paul, MN: West.
- Demerouti, E., Geurts, S. A. E., & Kompier, M. (2004). Positive and negative work-home interaction: Prevalence and correlates. *Equal Opportunities International*, *23*(1/2), 6–35.
- Department of Education and Employment. (2000). Higher Education Empirical Research Database. Retrieved from the world wide web on 18 April, 2007: http://www.department_of_education_and_employment.
- De Cieri, H., Holmes, B., Abbott, J., & Pettit, T. (2005). Achievements and challenges for work/life balance strategies in Australian organizations. *The International Journal of Human Resource Management*, *16*(1), 90–103.
- Duxbury, L., Higgins, C., & Lee, C. (1994) Work-family conflict: A comparison by gender, family type, and perceived control. *Journal of Family Issues*, *15*, 449–466.
- Fleenor, J. W. (2005). Book review. *Personnel Psychology*, *58*, 1055–1110.
- Frone, M. R., Russell, M., & Cooper, M. L. (1997). Relation of work-family conflict to health outcomes: A four-year longitudinal study of employed parents. *Journal of Occupational and Organizational Psychology*, *70*, 325–335.
- Gangster, D. C., & Schaubroeck, J. (1991). Work stress and employee health. *Journal of Management*, *17*, 235–271.
- Geurts, S. A. E., & Demerouti, E. (2003). Work/Non-work interface: A review of theories and findings. In M. Schabracq, J. Winnubst, & C. L. Cooper (Eds.). *The handbook of work and health psychology* (2nd ed.) (pp. 279–312). Chichester, UK: Wiley.
- Geurts, S., Rutte, C., & Peeters, M. (1999). Antecedents and consequences of work-home interference among medical residents. *Social Science and Medicine*, *48*, 1135–1148.
- Goldberg, D. (1979). *Manual of the General Health Questionnaire*. London: NFER Nelson.
- Grandy, A. A., & Cropanzano, R. (1999). The conservation of resources model applied to work-family conflict and constrain. *Journal of Vocational Behavior*, *54*, 350–370.

- Gratton, L., Hope-Hailey, V., & Stiles, P. (1999). Linking individual performance to business strategy: The people process model. *Human Resource Management, 38*(1), 17–31.
- Greenberger, E., Goldberg, W. A., Hamill, S., O’Neil, R., & Payne, C. K. (1989). Contributions of a supportive work environment to parents’ well-being and orientation to work. *American Journal of Community Psychology, 17*, 755–783
- Greenhaus, J. H., Callanan, G. A., & Godshalk, V. M. (2000). *Career management* (3rd ed.).
- Hackman, J. R., & Oldham, G. R. (1975). Development of the Job Diagnostic Survey. *Journal of Applied Psychology, 60*, 159–170.
- Henry, J., & Cassell, J. (1969). Psychological factors in essential hypertension, recent epidemiological and animal experimental evidence. *American Journal of Epidemiology, 90*, 171–200.
- Jacko, P. (2004). Enriching the job enrichment theory. *Research methods for the Social Scientist*. Madrid: Carlos III University.
- Jansen, J. D. (2004). *Changes and continuities in South Africa’s higher education system, 1994 to 2004*.
- Janssen, P. P. M., Peeters, M. C. W., de Jonge, J., Houkes, I., & Tummers, G. E. R. (2004). Specific relationships between job demands, job resources and outcomes and the mediating role of work home interference: A cross cultural validation study among nurses. *Journal of Vocational Behavior, 65*, 411–429.
- Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. (1964). *Organizational stress: Studies in role conflict and ambiguity*. New York: Wiley.
- Kantor, L., Schomer, H., & Louw, J. (1997). Lifestyle changes following a stress management programme: an evaluation. *South African Journal of Psychology, 27*(1), 16–21
- Karasek, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly, 24*, 285–308.
- Karasek, R. A., & Theorell, T. (1990). *Healthy work, stress, productivity and the reconstruction of work life*. New York: Basic Books.
- Kluwer, E. S., Boers, S. A., Heesink, J. A. M., & van der Vliert, E. (1997). Role conflict among dual earners: The impact of a “family-friendly” workplace. *Behavior and Organization, 10*, 223–241.

- Kidder, D. L. (1996). *On call or answering a calling? Temporary nursing professionals and extra-role behaviours*. Minneapolis, MN: The Graduate School, University of Minnesota.
- LaRocco, J. M., House, J. S., & French, J. R. P. (Jr.) (1980). Social support, occupational stress, and health. *Journal of Health and Social Behavior, 21*, 202–218.
- Mathabe, N. (2004). Future trends and challenges in the South African higher education. SAASAP Women's symposium. (Symposium).
- Mellor, S., Mathieu, J. E., & Swim, J. K. (1994). Cross-level analysis of the influence of local union structure on women's and men's union commitment. *Journal of Applied Psychology, 79*, 203–210.
- Milne, S. H., Blum, T. C., & Roman, P. M. (1994). Factors influencing employees' propensity to use an employee assistance program. *Personnel Psychology, 47*, 123–145.
- Montgomery, A. J., Peeters, M. C. W., Schaufeli, W. B., & Den Ouden, M. (2003). Work-home interference among newspaper managers: Its relationship with burnout and engagement. *Anxiety, Stress, and Coping, 16*, 195–211.
- Mouton, J., & Marais, H. C. (1993). *Basic concepts in the methodology of the social sciences*. Pretoria: Human Sciences Research Council.
- Netemeyer, R. G., Boles, J. S., & McMurrian, R. (1996). Development and validation of work-family conflict and family-work conflict scales. *Journal of Applied Psychology, 81*, 400–410.
- Pienaar, J., Sieberhagen, C. F., & Mostert, K. (2007). Investigating turnover intentions by role overload, job satisfaction and social support moderation. *South African Journal of Industrial Psychology, 33*(2), 62–67.
- Pleck, J. H. (1977). The work-family role system. *Social Problems, 24*, 417–427.
- Rael, E. G. S., Stansfeld, S. A., Shipley, M., & Head, J. (1995). Sickness absence in the Whitehall II study, London: The role of social support and material problems. *Journal of Epidemiology and Community Health, 49*, 474–481.
- Rahim, M. (1996). A structural equations model of stress, locus of control, social support, psychiatric symptoms, and propensity to leave a job. *Journal of Social Psychology, 136*(1), 69–84.
- Roberts, C., Cox, C. E., Shannon, V. J., & Wells, V. J. (1994). A closer look at social support as a moderator of stress in breast cancer. *Health and Social Work, 3*, 157–164.

- Scott, J., Tallia, A., Crosson, J. C., Orzano, A. J., Stroebel, C., DiCicco-Bloom, et al. (2005). Social network analysis as an analytic tool for interaction patterns in primary care practices. *American Academy of Family Physicians*, 3(5), 443–448. Available online at: www.aafp.org/afp.
- SPSS (2007). *SPSS 15.0 for Windows*. Chicago, IL: SPSS Incorporated.
- Sverke, M., Hellgren, J., & Öhrming, J. (1999). Organizational restructuring and health care work: A quasi-experimental study. In P. M. le Blanc, M. C. W. Peeters, A. Bussing, & W. B. Schaufeli (Eds.), *Organizational Psychology and Health Care: European contributions* (pp. 15–32). Munchen: Rainer Hampp Verlag.
- Sverke, M., & Sjöberg, A. (1994). Dual commitment to company and union in Sweden: An examination of predictors and taxonomic split methods. *Economic and Industrial Democracy*, 15, 531–564.
- Väänänen, A., Toppinen-Tanner, S., Kalimo, R., Mutanen, P., Vahtera, J., & Peiró, J. M. (2003). Job characteristics, physical and psychological symptoms, and social support as antecedents of sickness absence among men and women in the private industrial sector. *Social Science and Medicine*, 57, 807–824.
- Vaal University of Technology. (2007). *Your world to a better future*. Retrieved on 18 April, 2007, from the world wide web: <http://www.vut.ac.za>.
- Vahtera, J., Pentti, J., & Uutela, A. (1996). The effect of objective job demands on registered sickness absence spells: Do personal, social and job-related resources act as moderators? *Work and Stress*, 10, 286–308.
- Voydanoff, P. (1988). Work role characteristics, family structure demands and the work/family conflict. *Journal of Marriage and the Family*, 50, 749–761.
- Wallace, J. E. (1999). Work-to-nonwork conflict among married male and female lawyers. *Journal of Organizational Behavior*, 20, 797–816.
- Walsh, J. T., Taber, T. D., & Beehr, T. A. (1980). An integrated model of perceived job characteristics. *Organizational Behavior and Human Performance*, 25, 252–267.

CHAPTER 2

RESEARCH ARTICLE 1

ROLE OVERLOAD, SOCIAL SUPPORT AND WORK/LIFE IMBALANCE IN A TRANSFORMING HIGHER EDUCATION INSTITUTION

ABSTRACT

The objectives of this article were to study the relationship between qualitative and quantitative role overload in predicting work/life imbalance, and to determine whether social support from different sources (supervisor, co-workers and family) moderates the effect of role overload on work/life imbalance. A cross-sectional survey design was used. The study population ($n=207$) comprised of the academic faculty, administrative support and service staff of a higher education institution in South Africa. Measuring instruments of quantitative and qualitative role overload, social support and work/life imbalance were included in a survey. The results of the multiple regression analyses showed that quantitative role overload proved to be a statistically significant predictor of work/life imbalance, and none of the interaction terms reached a level of statistical significance. However, none of the variables proved to be statistically significant predictors of life/work imbalance.

OPSOMMING

Die doel van hierdie studie was om die verhouding tussen kwalitatiewe en kwantitatiewe roloorlading en werk/lewe-balans te voorspel en vas te stel hoe sosiale ondersteuning van verskillende rolspelers (toesighouer, mede-werkers en familie) moontlik die effek van roloorlading op werk/lewe-wanbalans modereer. 'n Dwarssnee opname-ontwerp is gebruik. Die studiepopulasie ($n=207$) het bestaan uit akademië, administratiewe ondersteuningsdienswerknemers en diensafdelingswerknemers van 'n hoër-opvoedkundige-instelling in Suid-Afrika. Die meetinstrumente van kwantitatiewe roloorlading, kwalitatiewe roloorlading, sosiale steun en werk/lewe-wanbalans is gebruik in 'n vraelys. Die resultate van die veelvuldige regressie-analise het daarop gedui dat kwantitatiewe roloorlading verband hou en 'n invloed het op werk/lewe-wanbalans, met geen statistiese beduidenis tydens die interaktiewe metings nie. Geeneen van die veranderlikes was statisties beduidende voorspellers van lewe/werk-wanbalans nie.

Keywords: Qualitative role overload, quantitative role overload, social support, work/life balance, life/work imbalance

The landscape of the business environment has changed during the past two decades, demanding a new type of business interaction. The rules of doing business and the measurement of a successful enterprise, albeit in the private or public sector, are different in the 21st century. This has been driven by changes caused by various factors, such as the internet that has revolutionised communications, creating an inter-connected global village with real-time information and decision-making, a redefinition of market economies due to the above, technological advances and innovation, privatisation of public enterprises to become business focussed and profit orientated, and political changes across the world in the post cold war era.

The economic crisis that has ensued since October 2008 is a good example of all the above factors working together to create a crisis which has a dire impact on businesses and organisations across the world. Due to these changes during the past few years, organisations had to adapt to remain competitive. The workplace has therefore been subject to the introduction of business strategies and programmes to transform in order to remain financially sound and competitive. Like everywhere else, the Higher Education Institutions (HEIs) in South Africa have also undergone changes, in this case mainly driven by political changes and a continuous pressure for competitiveness (Jansen, 2004).

On 9 December 2002, the Minister of Education, Professor Kader Asmal, issued a public statement on the transformation and reconstruction of HEIs, approving the restructuring of HEIs with an institutional framework inclusive of the National Plan for HEIs (Ministry of Education, 2002). This transformation would result in an institution per province, inclusive of research, whilst expanding the education programmes at universities whereby students are enabled to attend the institution of their choice. The plan also addresses human resource development in the institutions to ultimately provide staff profiles reflecting the race and gender balance of the country. With this statement, sweeping changes were introduced in the HEIs in a relatively short period of time, resulting in mergers, combining former universities and technikons, merging or disestablishment of technical colleges, restructuring and acquisitions. In short, 306 separate institutions were radically reduced to 72 remaining institutions – excluding nursing and agricultural colleges (Jansen, 2004).

The organisation of university management and governance had to change fundamentally to cope with the new transformational demands (Jansen, 2004). Change in university management and governance took place, which dramatically changed the social relationships on campuses between staff and students, between academics and administrators, and between government and institutions. Jansen (p. 2) also referred to this transformation as “new public management” and “new managerialism”, as there are new global conditions that recast the relationship. Elements of change included centralised and strategic planning, decentralisation of core administrative functions, executive management on a centralised basis, expansion of the functions of council and involvement in the management of institutions. “The movement towards centralised management is in full swing in South African higher education institutions and that, just as is the case globally, increasingly separates management from academics and from workers.” (Cloete et al., 2002, p. 171.)

Consequently, this led to structural reorganisation and changes between the merged institutions to meet social objectives, whilst being financially viable and delivering competitive services (Jansen, 2004). Since HEIs have not found themselves in this competitive environment in the past, a more businesslike approach had to be adopted to remain viable and competitive. Initiatives such as downsizing, rightsizing, shared services, profit centres and outsourcing have been employed. In addition, new approaches to education have been adopted, such as blended learning and interactive learning, outcomes-based education, community service and adult skills development, vocational education to adult students and life long learning (Vaal University of Technology, 2007).

Maassen and Cloete (2002) suggest that one of the global trends is for nation states to demand more efficiency and public accountability from HEIs. Coupled with market pressures on institutions to become more competitive, these developments result in a tendency towards greater centralisation of management. These business-minded interventions changed the nature of the academic workplace completely (Jansen, 2004), with increased competition within the institutions, as well as with competitors outside, for programmes, students and jobs; large budgets for marketing, communication and publicity; and job security versus outsourcing as the preferred mode for delivering key support services. Punishable employment equity targets, the

implementation of performance management systems, quality insurance protocols, and institutional benchmarks from research to pass rates – all of these determining not only promotions, but also retention and remuneration; resource limitation and students being treated as critical clients (Jansen).

Another factor that has emerged for HEIs is the influence of globalisation and information technology. Globalisation and information technology pose both challenges and opportunities to our HEIs.

According to Mathabe (2004, p. 5):

“Global participation, driven by knowledge and information technology is a reality that cannot be ignored, and higher education needs to be geared to face this challenge. Higher education should play a significant role of advancing IT skills to enable them a fair, effective and competitive participation in globalisation and IT imperatives”.

With the increased pressure businesses, at a price, equip themselves by attracting high-level recruits addressing employee efficiencies, supported with staff retention programmes ensuring employee commitment, morale and at the same time addressing absenteeism due to work/life conflict and family responsibilities (Vermeulen, 2006). At the same time businesses in South Africa are faced with the more basic challenges such as addressing poverty, the creation of jobs addressing the unemployment situation and redressing the workforce for equal representation and opportunities by rectifying and addressing past practices, other countries prioritise work/life balance and work towards employee flexibility (Jansen, 2004).

Transformation, whether political or social, affects the working life of employees drastically. With the decentralisation of core administrative functions, the workload at the workplace increased, which in turn could lead to employee role overload. Role overload causes work pressure and an increase in required working time. This necessitates employees to work harder and longer hours with less work resources, and within a certain time constraint. Role overload constitutes long or excessive hours of work, poor communication at work, complex jobs and

greater job demands with little control over one's work, all of which causes stress (Greenhaus, Callanan, & Godshalk, 2000). Role overload can be distinguished as qualitative or quantitative role overload. Qualitative role overload refers to employee over-utilisation in terms of complexity and quality of work output, stretching the employees' capability, intellectual demands and exposing them to unreasonable responsibility, with work that is too difficult or elements that are too demanding to the employee (Rahim, 1996). Quantitative role overload refers to high volumes of repetitive and monotonous tasks, working under pressure and having too much to do, where the employee would be required to work very fast and diligently within a certain time constraint, without having enough time to do what is expected of them in their job (Bakker & Geurts, 2004; Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964; Pleck, Staines, & Lang, 1980).

Role overload may result in employee work/life imbalance. In previous research, organisational restructuring and downsizing were consistently and strongly related to work/family conflict (Geurts & Demerouti, 2003). Furthermore, role overload (referred to as role stress) negatively relates to company commitment (Fukami & Larson, 1984, Mathieu & Zajac, 1990; Mowday, Porter, & Steers, 1982; Stevens, Beyer, & Trice, 1978). Role overload is found consistently to be the most robust antecedent of work/life imbalance (Geurts & Demerouti, 2003). Events at work influence events at home, and vice versa (Montgomery, Panagopoulou, Peeters, & Schaufeli, 2005). Work and home are interdependent (Montgomery et al., 2005). A person's total life interrelates with work, family and oneself, and workload specific to the work situation is likely to be brought home (Montgomery, Peeters, Schaufeli, & Den Ouden, 2003).

According to Vermeulen (2006), traditionally work/life issues was solely perceived as only experienced by working mothers, however today dual-career families are the practice, and a small percentage, 17% of families in the United States, live time-honoured lives. Dual-career parents receive good earnings while supporting the growth, development and exposure of their kids whilst taking care of other tasks and responsibilities.

Role pressures from work and family perceived as incompatible is indicated as a stressor. The most cited cause of stress is the balancing of work and family lives (Greenhaus et al., 2000).

Employees in the work situation and parents in the family situation find it difficult to combine work and family demands (Batt & Valcour, 2003) and indicate it being in conflict or an interference with either the work or family domain (Choi & Chen, 2006). However, research has shown that work demands are more likely to interfere negatively with family demands or obligations (Burke & Greenglass, 1999; Frone, Russel, & Cooper, 1992; Leiter & Durrup, 1996). Work demands sometimes make it impossible to do things with the family as a change in plans at work interferes with plans for family or leisure time. A strong relationship has been found between role overload and work/life imbalance (Geurts, Rutte, & Peeters, 1999).

Constant and prolonged role overload in the workplace leads to employee health problems becoming a permanent source of tension, which can ultimately lead to employee burnout (Greenhaus et al., 2000). Workload specific to the work situation is likely to be brought home (Montgomery et al., 2003), hence the importance of social support serving as a buffer between role overload and work/life imbalance. Previous research has also indicated that social support appears to be of major importance to the psychological well-being of workers (Caplan, Cobb, French, Van Harrison, & Pinneau, 1975).

Social support as moderator

In the workplace, supervisors offer employees support by means of guidance and assistance; coaching and mentoring; setting of realistic time frames and deadlines; work schedules; workplace resources; and performance and progress feedback (Greenhaus et al., 2000). Supervisor support consists of sharing information relevant to the employee about the work environment. This is especially significant during a time of transformation where regular feedback needs to be given to the employee on the way forward and progress made. Due to the existence and nature of diversity and transformation in the workplace, supervisor support is extremely important (Greenhaus et al.).

Social support provided by the family is also important to the employee and consists of informational (by giving information or advice to help solve a problem) and emotional support (by displaying affection, love, concern, trust and/or empathy) (Greenhaus et al., 2000). Families

in particular supply feedback and guidance, offering solution to problems, serving as a safety net forrest and recuperation, understanding and confirming an individual's identity, and to assist with emotional mastery (Caplan, 1976). Spouse support is an important resource for preventing work/family conflict. Family support, more specifically spouse support, provides a person with the opportunity to discuss work problems at home which might enable workers to cope better with the pressures at work (Gattiker & Larwood, 1990; Weiss, 1990). Supervisor support at work and family/spouse support may contribute to the process of managing work/life balance. Family support could play a positive role when work role overload affects work/life balance.

Co-worker support is essential to promote effective coping, sharing of workload, job sharing, emotional support and adaptation to change in the workplace. Co-worker support can help overcome obstacles and promote employee career growth, and it is found useful in coping with life's uncertainties (Greenberger, Goldberg, Hamill, O'Neil, & Payne, 1989; House & Wells, 1978).

The availability of social support acts as a buffer against stress affecting employees' health. Stress is higher when social support is low, hence the role of social support as a buffer (Rahim, 1996). Change at work may provide opportunities for achieving work/life balance, but requires considerable support from the family and the employer (supervisor and co-workers). Social support helps people to improve the quality of their lives, and social support serves as buffer between role overload and work/life imbalance (Crooker, Smith, & Tabak, 2002).

The following model serves as a work stress model in support of the variables being researched. Transformation as the stressor is embodied in role overload, and can be caused by factors such as mergers, acquisitions, organisational re-design and restructuring. In any transformation process the antecedents (information) would be transformation programmes, change management programmes, communication structures and support structures during the process of transformation (Sulsky & Smith, 2004). Based on the model, qualitative or quantitative role overload is experienced due to transformation at HEIs. The lack of or implementation of antecedents will assist employees in dealing with transformation which leads to role overload (qualitative or quantitative), social support for the supervisor, co-worker or family moderating

the effect of transformation (or work role overload) which in turn affects work/life balance or life/work imbalance.

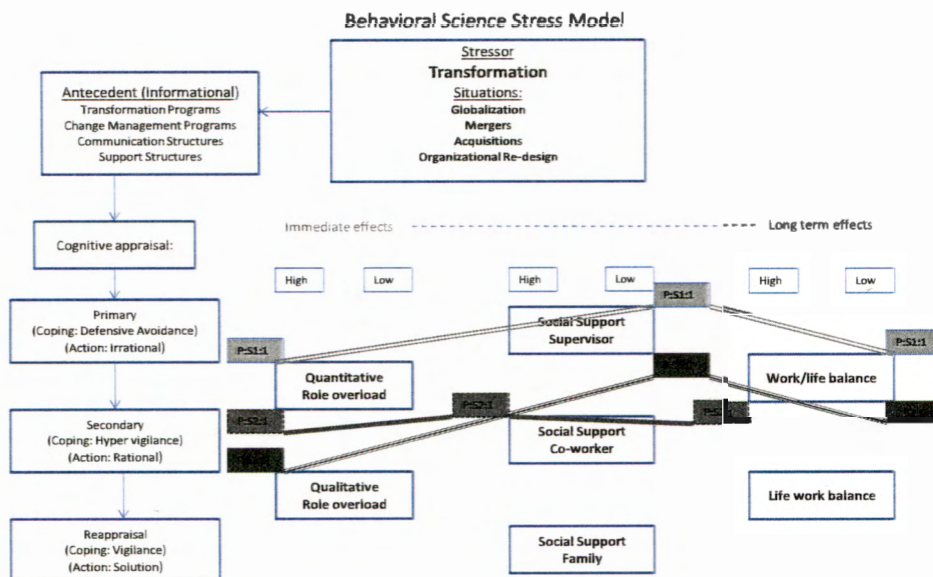


Figure 2.1. Behavioural Science Stress Model (Sulsky & Smith, 2004)

Given the above, it is the objective of this research to firstly determine the influence of transformation in HEIs as reflected in employees' experience of role overload and how that impacts on work/life imbalance. Social support as an important possible moderating factor is also investigated.

METHOD

Research design and sampling

In order to determine the effect of transformation in HEIs, all staff members of a single tertiary education institution were targeted to form part of the sample group. Transformation cuts across all levels and all employees within an organisation with its merged or acquired institutions. Against this background, it was decided to conduct a cross-sectional study amongst the academic

faculty, administrative support staff and services staff of a HEI. All measures were obtained via a questionnaire completed and returned anonymously on company time during July, August and September of 2007.

The limitation of cross-sectional data is that it cannot prove causation. A cross-sectional design is advantageous when it comes to participant attrition. Comparisons can be made between different biographical groups (for example age and gender groups) as to the differences in responses given on the survey instruments. It is practically useful to organisations and not scientifically problematic (Cartwright & Cooper, 2002).

Participants

In order to produce a sufficient sample, all staff members, irrespective of the participants' occupation, department, age, background or length of service with the institution were included in the sample group. All staff members were informed about the purpose and the interests of the study by the institution's research department. Questionnaires were distributed and delivered personally to all staff at various sections in the institution. Completed questionnaires were delivered by participants in sealed mailboxes and collected within the same week. This was followed up with another reminder two weeks after the initial distribution to all staff members. A total of 540 questionnaires were distributed to all staff members at the HEI, and 207 useful questionnaires were received from the participants. This represents a response rate of 38%. The characteristics of the participants are shown in Table 1.

Table 1

Characteristics of the Participants (n=207)

Item	Category	Frequency	Percentage*
Gender	Female	138	66,67
	Male	64	30,92
Language	Afrikaans	89	43
	English	24	11,59
	Sepedi	3	1,45
	Sesotho	37	17,87
	Setswana	16	7,73
	Isiswati	1	0,48
	Tshivenda	7	3,38
	isiTsonga	3	1,45
	isiXhosa	12	5,80
	isiZulu	11	5,31
	Other	3	1,45
Educational Qualification	Grade 10 (Standard 8)	6	2,90
	Grade 11 (Standard 9)	4	1,93
	Grade 12 (Matric)	24	12,00
	Technical College Diploma	19	9,18
	Technikon Diploma	46	22,22
	University Degree	53	25,60
	Postgraduate degree	54	26,09
Household Situation	Single (Living alone)	37	17,87
	Married (Living with a partner)	135	65,22
	Living with parents	16	7,73
	Divorced/Separated	10	4,83
	Remarried	6	2,90
Parental Status	Parents	91	43,96
	Not parents	115	55,56

* Where percentages are not equal to 100, this is due to missing values

The sample comprised mainly of females (66,67%). Of the participants, 43% were Afrikaans-speaking, 11,59% English-speaking, and 43,47% indicated to be speaking an indigenous African language. Most of the participants (83,09%) have at least completed a tertiary qualification. Of the total sample, only 16,38% indicated that they hold only some form of high school qualification (Grades 10 to 12). The household situation of the sample comprised of 65,22% participants that are married or living with a partner and 17,87% participants who are living

alone. Divorced or separated participants represent 4,83% of the sample, and 2,90% are remarried. Of the participants, 43,96% were parents and 55,56% were not parents.

Most of the participants (73%) were permanently employed at the merged HEI. The average number of years that participants had been working for the institution is 9,94 years ($SD = 10,48$ years), while the mean monthly salary of participants was R12241,90 ($SD = R 7520,92$).

Measuring instruments

Scales were taken from international literature and combined in a survey. Scales for quantitative (Beehr, Walsh, & Taber, 1976) and qualitative role overload (Sverke, Hellgren, & Öhrming, 1999), work/life and life/work imbalance (Netemeyer, Boles, & Mc Murrian, 1996) and social support (Caplan et al., 1975) were included. The survey contained a biographical section that gathered information on marital status, level of educational attainment, home language of the participants, employment status at the HEI, years service at the HEI, earnings, and changes to work assignments at the HEI during the preceding 12 months.

The *Quantitative role overload* scale (Beehr et al., 1976), measuring quantitative role overload as the feeling of having too much to do in too little time, was utilised. The response alternatives ranged from 1 (disagree) to 5 (agree) where a high score represents a heavier workload. A typical item for this scale is represented by: "I often have too much to do in my job." The scale previously represented with ample reliability 0,56, as indicated by the Spearman-Brown formula (Beehr et al.).

The *Qualitative role overload scale* (Sverke et al., 1999) captured the sense that the work is too difficult or demanding, indicating that it stretches the employee's intellectual capability. A typical item for this scale is represented by: "I have work demands that are difficult to accomplish." The response alternatives ranged from 1 (disagree) to 5 (agree), a high score representing more difficult or demanding tasks. In previous research the scale represented with adequate reliability of 0,72 (Sverke et al.).

The *Work/life imbalance* scale (Netemeyer et al., 1996), measured to what extent working life affects life outside of work. A typical item for this scale is represented by: “The demands in my work have a negative effect on my private life.” The response options ranged from 1 (disagree) to 5 (agree) and a high score reflects a negative effect of work on life outside work. In the Netemeyer et al., study the reliability ranged between 0,59 and 0,60 on average.

The *Life/Work imbalance* scale (Netemeyer et al., 1996), measured to what extent personal life affects work. A typical item for this scale is represented by: “Demands in my private life have a negative effect on my work.” The response alternatives ranged from 1 (disagree) to 5 (agree) where a high score reflects a negative effect of life outside work on the carrying out of work tasks. In previous research, reliability is indicated between 0,59 and 0,60 (Netemeyer et al.).

The *Social Support scale* (Caplan et al., 1975), measured to what extent support from co-workers, supervisors, and family is available. A typical item for the supervisor support scale is represented by: “My manager caters for my needs in terms of information.”; from the co-worker social support scale: “I usually receive help from my co-worker when something needs to be done quickly.”; and from the family social support scale: “I have a network of people outside of work with whom I can discuss work-related problems.” The response alternatives ranged from 1 (disagree) to 5 (agree) and a high score on the scale reflects a sense that support is available. Previously, the scales represented with adequate to high reliability of between 0,81 and 0,93 (Caplan et al., 1975).

Statistical analysis

The statistical analysis was carried out with the help of the SPSS-programme (SPSS, 2007). The programme was used to carry out statistical analysis regarding the reliability of the measuring instruments and descriptive statistics. The reliability of the measuring instruments was assessed with the use of Cronbach alpha-coefficients (Clark & Watson, 1995). Descriptive statistics (e.g. means, standard deviations, skewness and kurtosis) and inferential statistics were used to analyse the data. A cut-off point of 0,30 (medium effect) (Cohen, 1988) was set for the practical significance of correlation coefficients.

In this article, the main and interactive effects of social support were tested using hierarchical multiple regression analysis. Demographic characteristics were controlled in the first step. Role overload and social support variables were entered in the second step. Interaction terms of role overload with each of the social support variables were entered in the third step to test for the hypothesized moderating effect of social support on the relation between role overload and work/life imbalance.

RESULTS

Descriptive statistics for the different measuring instruments are given in Table 2 below.

Table 2

Descriptive Statistics of the Measuring Instruments

+ High skewness and/or kurtosis

Description	Mean	SD	Skewness	Kurtosis	α
Role overload – quantitative	9,76	1,59	0,09	-0,41	0,62
Role overload – qualitative	10,87	3,63	0,11	-0,58	0,72
Social support – supervisor	9,80	3,65	0,39	-0,79	0,93
Social support – family	14,18	3,83	-0,34	-0,57	0,81
Social support – co-workers	10,79	2,77	-0,36	-0,26	0,83
Work/life imbalance	11,57	3,66	0,11	-0,46	0,73
Life/work imbalance	7,83	3,58	1,18 +	1,22 +	0,76

Table 2 shows that acceptable Cronbach alpha-coefficients varying from 0,62 to 0,93 were obtained for the scales. Quantitative role overload showed the lowest alpha-coefficient, but can still be regarded as acceptable (Nunnally & Bernstein, 1994), given that this scale has not been extensively used in the South African context previously. It is evident from Table 2 that most of the scales have relatively normal distributions, with the exception of life/work imbalance showing both high positive skewness and kurtosis (i.e. values ≥ 1).

Table 3 gives the results of correlations between the variables. For life/work imbalance, Spearman coefficients were computed, due to the scales' high skewness and kurtosis. For the rest, Pearson correlation coefficients were employed.

Table 3

Correlation Coefficients between Role Overload, Work/life imbalance, Life/work imbalance and Social Support from Supervisor, Co-Workers and Family

	1	2	3	4	5	6
1 Role overload – quantitative						
2 Role overload – qualitative	0,70 ^{***+}					
3 Work/life imbalance	0,39 ^{***+}	0,40 ^{***+}				
4 Life/work imbalance	0,20 ^{**}	0,18 ^{**}	0,30 ^{***+}			
5 Social support – co-workers	0,02	-0,10	-0,16 [*]	-0,08		
6 Social support – supervisor	0,09	-0,14 [*]	-0,02	-0,01	0,36 ^{***+}	
7 Social support – family	-0,01	-0,04	0,02	-0,01	0,25 ^{**}	0,13

^{**} Correlation is statistically significant at the $p \leq 0,01$ level

^{*} Correlation is statistically significant at the $p \leq 0,05$ level

⁺ $r \geq 0,30$ practically significant (Medium effect)

⁺⁺ $r \leq 0,50$ practically significant (Large effect)

Table 3 shows the correlations between role overload, work/life imbalance, life/work imbalance and social support. It can be seen that qualitative and quantitative role overload are statistically significantly related to a practically significant large effect. Quantitative role overload also shows statistically significant positive correlations with work/life imbalance (practically significant, medium effect), and life/work imbalance. Qualitative role overload shows statistically significant correlations with work/life imbalance (practically significant, medium effect), and life/work imbalance. Work/life imbalance and life/work imbalance were statistically significantly related, with a correlation of medium practical significance. Work/life imbalance also showed a statistically significant negative correlation with social support from co-workers. Social support from co-workers showed statistically significant correlations with social support from supervisor (practically significant, medium effect), and social support from family.

Table 4 gives the results of a multiple regression analysis with work/life imbalance as the dependent variable.

Table 4

Multiple Regression Analysis with Work/life imbalance as Dependent Variable

Model		Unstandardised Coefficients		Standardised Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		B	SE	Beta						
1	(Constant)	11,09	1,51		7,34	0,00*	0,24	0,06	0,00	0,00
	Age	-0,01	0,03	-0,02	-0,28	0,78				
	Gender	0,46	0,57	0,06	0,81	0,42				
	Qualification	0,03	0,18	0,01	0,14	0,89				
2	(Constant)	1,40	1,83		0,77	0,44	30,62	0,50	0,25	0,25
	Age	-0,03	0,02	-0,08	-1,22	0,23				
	Gender	0,48	0,50	0,06	0,96	0,34				
	Qualification	0,10	0,16	0,04	0,64	0,53				
	Role overload – quantitative	1,05	0,21	0,48	4,94	0,00*				
	Role overload – qualitative	0,02	0,10	0,02	0,21	0,83				
3	(Constant)	2,87	2,23		1,29	0,20	1,84	0,52	0,27	0,02
	Age	-0,02	0,02	-0,07	-1,05	0,30				
	Gender	0,45	0,50	0,06	0,90	0,37				
	Qualification	0,07	0,16	0,03	0,42	0,68				
	Role overload – quantitative	1,05	0,21	0,48	4,88	0,00*				
	Role overload – qualitative	0,01	0,11	0,01	0,09	0,93				
	Social support – co-workers	-0,21	0,09	-0,16	-2,32	0,02*				
	Social support – supervisor	0,03	0,07	0,03	0,50	0,62				
	Social support – family	0,05	0,06	0,05	0,80	0,42				
4	(Constant)	2,56	2,27		1,12	0,26	0,62	0,53	0,28	0,01
	Age	-0,02	0,02	-0,06	-0,84	0,40				
	Gender	0,55	0,51	0,07	1,09	0,28				
	Qualification	0,06	0,16	0,03	0,41	0,69				
	Role overload – quantitative	1,06	0,22	0,49	4,75	0,00*				
	Role overload – qualitative	-0,01	0,11	-0,01	-0,10	0,92				
	Social support – co-workers	-0,18	0,09	-0,14	-1,92	0,06				

Table 4 continued

Multiple Regression Analysis with Work/life imbalance as Dependent Variable

Model	Unstandardised Coefficients		Standardised Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
	B	SE	Beta						
Social support – supervisor	0,00	0,07	0,00	0,04	0,97				
Social support – family	0,06	0,06	0,06	0,87	0,39				
Role overload – quantitative x Social support – co-worker	-0,10	0,08	-0,13	-1,23	0,22				
Role overload – quantitative x Social support – supervisor	0,02	0,06	0,03	0,31	0,76				
Role overload – quantitative x Social support – family	0,03	0,06	0,06	0,58	0,56				
Role overload – qualitative x Social support – co-worker	0,04	0,04	0,11	1,00	0,32				
Role overload – qualitative x Social support – supervisor	0,02	0,03	0,07	0,69	0,49				
Role overload – qualitative x Social support – family	-0,03	0,03	-0,11	-1,12	0,27				

Table 4 summarises the regression analysis with role overload (quantitative and qualitative) and social support from co-workers, supervisor and family as predictors of work/life imbalance. None of the biographical variables (age, gender or qualification) entered in the first step of the regression analysis were statistically significant predictors. When quantitative and qualitative role overload ($\beta = 0,48$; $t = 4,94$; $p \leq 0,05$) were entered in the second step of the regression analysis, quantitative role overload proved to be a statistically significant predictor of work/life imbalance. The two dimensions of role overload, together with biographical variables explained 25% of the total variance in work/life imbalance. Adding the social support variables to the regression proved to explain an additional 2% of the variance, but only social support from co-workers proved to be a statistically significant predictor of work/life imbalance (quantitative role overload remained statistically significant). Entering the interaction terms of overload and social support in the fourth and final step explained an additional 1% of the variance in work/life imbalance. It can, however, be seen that only quantitative role overload remained a statistically

significant predictor of work/life imbalance, and none of the interaction terms reached a level of statistical significance.

Table 5 gives the results of a multiple regression analysis with life/work imbalance as the dependent variable.

Table 5

Multiple Regression Analysis with Life/work imbalance as Dependent Variable

Model		Unstandardised Coefficients		Standardised Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		B	SE	Beta						
1	(Constant)	9,13	1,41		6,49	0,00*	2,58	0,20	0,04	0,04
	Age	-0,02	0,02	-0,06	-0,78	0,44				
	Gender	0,94	0,53	0,13	1,75	0,08				
	Qualification	-0,36	0,16	-0,16	-2,21	0,03*				
2	(Constant)	7,08	1,93		3,66	0,00*	2,22	0,25	0,06	0,02
	Age	-0,02	0,02	-0,07	-0,92	0,36				
	Gender	0,96	0,53	0,13	1,81	0,07				
	Qualification	-0,32	0,16	-0,14	-1,93	0,06				
	Role overload – quantitative	0,06	0,23	0,03	0,26	0,80				
	Role overload – qualitative	0,13	0,11	0,13	1,17	0,24				
3	(Constant)	8,61	2,38		3,62	0,00*	0,72	0,27	0,07	0,01
	Age	-0,02	0,02	-0,06	-0,87	0,39				
	Gender	0,94	0,53	0,13	1,77	0,08				
	Qualification	-0,34	0,17	-0,15	-2,04	0,04*				
	Role overload – quantitative	0,07	0,23	0,03	0,30	0,76				
	Role overload – qualitative	0,11	0,11	0,11	0,97	0,33				
	Social support – co-worker	-0,13	0,10	-0,11	-1,36	0,18				
	Social support – supervisor	-0,00	0,07	-0,00	-0,06	0,96				
	Social support – family	0,01	0,07	0,01	0,14	0,89				

Table 5 continued

Multiple Regression Analysis with Life/work imbalance as Dependent Variable

Model		Unstandardised Coefficients		Standardised Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		B	SE	Beta						
4	(Constant)	8,01	2,42		3,31	0,00*	0,82	0,31	0,10	0,03
	Age	-0,02	0,02	-0,05	-0,72	0,47				
	Gender	1,00	0,54	0,14	1,87	0,06				
	Qualification	-0,32	0,17	-0,14	-1,89	0,06				
	Role overload – quantitative	0,09	0,24	0,05	0,39	0,70				
	Role overload – qualitative	0,09	0,12	0,09	0,77	0,44				
	Social support – co-worker	-0,11	0,10	-0,09	-1,12	0,26				
	Social support – supervisor	0,00	0,08	0,00	0,01	0,99				
	Social support – family	0,01	0,07	0,12	0,17	0,87				
	Role overload – quantitative x Social support – co-worker	-0,09	0,09	-0,12	-1,00	0,32				
	Role overload – quantitative x Social support – supervisor	0,04	0,07	0,07	0,56	0,58				
	Role overload – quantitative x Social support – family	-0,06	0,06	-0,12	-1,09	0,28				
	Role overload – qualitative x Social support – co-worker	0,06	0,04	0,17	1,45	0,15				
	Role overload – qualitative x Social support – supervisor	-0,01	0,03	-0,02	-0,20	0,84				
	Role overload – qualitative x Social support – family	0,03	0,03	0,12	1,12	0,27				

Table 5 summarises the regression analyses with quantitative and qualitative role overload and social support from co-workers, supervisor and family as predictors of life/work imbalance. Entry of employee biographical data in the first step of the regression analysis produced a statistically significant model. Results indicate that 4% of the variance in life/work imbalance is explained by age, gender and qualification, with level of qualification as the only statistically significant predictor. When entering quantitative and qualitative role overload in the second step

of the regression analysis, an additional 2% of the variance in life/work imbalance is explained. However, none of the variables proved to be statistically significant predictors of life/work imbalance. An additional 1% of the variance in life/work imbalance could be explained by entering the social support variables, but only the level of qualification proved statistically significant. In the final step of the analysis, the interaction terms proved to explain an additional 3% of the variance in life/work imbalance, but none of the predictors (biographical, role overload, social support or the interaction terms), proved to be statistically significant predictors of life/work imbalance.

DISCUSSION

The aim of this study was to conceptualise the variables of quantitative and qualitative role overload, social support from supervisor, co-workers and family, and work/life and life/work imbalance, and the relationship between these variables from the literature and also investigate the relationship between the variables in a group of tertiary education employees in a transforming HEI. Further objectives included investigating whether work/life- and life/work imbalance of tertiary education employees could be predicted by quantitative and qualitative role overload and social support from supervisors, co-workers and family. Additionally, the question was posed whether social support from supervisors, co-workers and/or family moderated the relationship between quantitative and qualitative role overload.

The results indicated that all the measuring instruments used in this study are reliable in terms of their use (Lew Tek Yew, 2008), except for the quantitative role overload dimension, which presented with somewhat low but acceptable internal consistency, compared to the guidelines suggested by Nunnally and Bernstein (1994). It also needs to be noted that most of these measures have been taken from the international literature and combined in the survey employed here, with limited studies in the South African context. Recent research in South Africa by Pienaar, Sieberhagen and Mostert (2007) showed that the measuring instrument of qualitative role overload is reliable, but that of quantitative role overload is problematic – the same result was found here. Clearly, the instrument of quantitative role overload presents some problems. In an international evaluation, the quantitative role overload scale presented with good reliability

over four different samples and time, ranging from $0,74 \leq \alpha \leq 0,81$ (Näswall, Baraldi, Richter, Hellgren, & Sverke, 2006), and the problems experienced in the South African samples may thus point to fundamental problems in terms of equivalence or item functioning.

In line with the results of Pienaar et al. (2007) it is indicated here that employees experiencing quantitative role overload are also likely to experience qualitative role overload. Quantitative role overload refers to large or high volumes of repetitive tasks with completion set within a certain time constraint, and qualitative role overload refers to employee over-utilisation with work that is too difficult or demanding. Both relate to a condition that requires more of the individual than he or she possesses (Pienaar et al., 2007), and which are clearly more easily separated theoretically than practically.

Previous research (Pienaar et al., 2007) also utilised the same scale of Caplan et al. (1975) to measure the extent of social support from either the supervisor, co-workers and family. Both these studies confirm the social support measuring instruments as reliable in terms of their use. In both the studies social support from co-workers and supervisor were strongly correlated, likely pointing to the underlying work-based nature of these variables. However, it was seen that only social support from co-workers related negatively to work/life imbalance, indicating that greater social support from co-workers could aid in combating work/life imbalance. Co-worker support refers to a social network, sharing knowledge and experience, sharing workload and serving as an 'outlet' to employees who experience role overload. This research also support the research of Ganster, Fusilier, and Mayes (1986), and Moyle (1998), confirming that support from co-workers was found to be more important than support from the supervisor. When an employee experiences role overload, the support from the co-workers is more instrumental than the support from the supervisor. In the research done by Pienaar et al. (2007) co-worker support was more instrumental in serving as a source of knowledge or giving advice in terms of practical know-how, compared to social support from the supervisor, as the supervisor may well be the source of demands that contribute to role overload. The relationship between role overload and work/life and life/work imbalance (Ahmed, 1978) is confirmed in this research (correlational).

When the independent variables were considered in predicting work/life imbalance, only quantitative role overload proved to be a statistically significant predictor. In a study by Bakker and Geurts (2004), job demands were the most important predictors of exhaustion, and exhaustion was most strongly related to negative interference of work to home. Frone et al. (1992) indicated that job stressors were positively related to 'work interfering with family', while family stressors were positively related to 'family interfering with work'. Findings of this research confirm these previous results in indicating work-related stressors (i.e. role overload) to be a significant predictor of work/life imbalance.

When determining the predictive power of the independent variables on life/work imbalance, none of the predictors proved to be significant predictors of life/work imbalance. The correlational relationships between role overload (both dimensions) and work/life imbalance was also clearly stronger than the relationship between qualitative and quantitative role overload and life/work imbalance as it only reached statistical, but not practical significance. This finding may be interpreted to indicate that the participants experienced work and life as separate domains (Duxbury & Higgins, 2005), and that the effects of role overload (job stress) on these participants is more pervasive and confined to their experiences at work. Of interest would be to measure both dimensions of an individual's life (both work and non-work), in order to draw meaningful conclusions about the relationship of work and non-work. In this study however, only work-related variables were studied. This also explains why there were no significant predictors of life/work imbalance of the variables studied. Thus, the experience of role overload, referring to high volumes of repetitive and monotonous tasks, with large amounts of work where the employee would be required to work very fast and diligently within a certain time constraint (Greenhaus et al., 2000), as well as work that requires additional skills (Rahim, 1996), is what relates mostly to the experience that work infringes on home life. The experiences of home life that influence work life remain however, unclear.

RECOMMENDATIONS

HEIs in South Africa have experienced pressure to change during the past decade mainly as a result of political transformation and globalisation. This has produced mergers and

reorganisation of many institutions which have led to structural reorganisation to meet its social objectives, resulting in new approaches to education towards the management of education.

Transformation at the HEIs has led to role overload in many instances. It was found that qualitative and quantitative role overload significantly related to the work/life imbalance of employees at the HEIs, but that quantitative role overload has more predictive power. Role overload has been caused by demanding work pressures and high volumes or large amounts of repetitive and monotonous tasks, less work resources, changes to role expectations and increased demands on time, whilst completion of tasks is required in a relatively short period of time. In short, what we observe is employee over-utilisation with work that is too difficult or demanding. Role overload may lead to work/life imbalance and create a greater need with employees to balance work and life. In a business case on work/life imbalance presented by Vermeulen (2006), time, energy, stress, anxiety, guilt and control presented as causes of work/life conflict on the one hand and an increased need for work and life satisfaction for people on the other hand.

Institutions should be aware of the impact of overloading their employees with tasks beyond their level of expertise and skills, and provide skills transfer and training to employees to become more effective in dealing with tasks and execution of work. Management strategies should include interventions such as the implementation of formal employee skills development programmes that meet the learning needs and aspirations of employees, regular performance management reviews to provide feedback to employees to allow employees to focus on important job issues, employee participation in the planning and scheduling of tasks and processes, and activities aimed at developing employee understanding of the purpose of their job in the broader context of the organisation and transformation. Other normal business practices that should be pursued include the allocation of resources to prevent role overload, reorganisation of work with realistic targets and goals, and communication strategies that provide visibility on the status of tasks, targets and goals achieved.

Social support from supervisors and co-workers is important in the working life of employees, and these results again confirm the role support from co-workers can play in managing work/life imbalance. Social support at work should be supported through the promotion of team

programmes at the HEI to enhance teamwork that encourage employee- and team participation in task-related completion and decision-making (Hiltrop, 1996). Encouraging participation in task-related decision-making and job-sharing between co-workers, sharing experiences, encouraging teamwork, and promoting employee commitment providing an outlet for discussion where work-related feelings and views can be shared with co-workers should lead to work/life balance.

The sample comprised mainly of females, who support the Department of Education's employment equity goals at the workplace and redressing past employment practices and equal opportunity in the workplace. Due to the nature of their role as caretakers with family responsibilities, they may well be the employees who have a greater need for work/life balance. The establishment of work/life imbalance programmes for staff and the encouragement of participation in such programmes by the institution could be to the benefit of the institution and its staff, leading to increased productivity and motivation that supports the need for greater work and life satisfaction.

The quantitative role overload scale presented problems in this and in previous South African samples. It is recommended that a thorough investigation of the psychometric properties of the scale should be carried out. It may be indicated that additional items need to be written to enhance the reliability of this scale, and it needs to be investigated in terms of equivalence and item functioning, compared to international samples.

Furthermore, it will be advantageous to investigate the positive spillover and not only the negative spillover of work/life imbalance and life/work imbalance.

REFERENCES:

- Ahmed, A. (1978). Employee affective responses to organizational stress: Moderating effects of job characteristics. *Personnel Psychology, 31*, 561–579.
- Bakker, A. B., & Geurts, S. A. E. (2004). Toward a dual-process model of work-home interference. *Work and Occupations, 31*, 345–366.
- Batt, R., & Valcour P. M. (2003). Human resources practices as predictors of work-family outcomes and employee turnover. *Industrial Relations: A Journal of Economy and Society, 42*, 189–220.
- Beehr, T. A., Walsh, J. T., & Taber, T. D. (1976). Relationship of stress to individually and organizationally valued states: Higher order needs as a moderator. *Journal of Applied Psychology, 61*, 41–47.
- Burke, R. J., & Greenglass, E. R. (1999). Work-family conflict, spouse support, and nursing staff well-being during organizational restructuring. *Journal of Occupational Health Psychology, 4*, 327–336.
- Caplan, G. (1976). The family as a support system. In G. Caplan & M. Killilea (Eds.), *Support systems and mutual help: Multi-disciplinary explorations* (pp. 19–36). New York: Grune & Stratton.
- Caplan, R. D., Cobb, S., French, J. R. P. (Jr.), Van Harrison, R., & Pinneau, S. R. (Jr.) (1975). *Job demands and worker health*. Michigan: Survey Research Center, Institute for Social Research, The University of Michigan.
- Cartwright, S., & Cooper, C. L. (2002). ASSET: An organizational stress screening tool. *The Management guide*. Manchester, UK: RCL.
- Choi, J., & Chen, C. C. 2006. Gender differences in perceived work demands, family demands, and life stress among married Chinese employees. *Management and Organization Review, 2*: 209–229.
- Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychometric Assessment, 7*, 309–319.
- Cloete, N., Fehnel, R., Maassen, P., Moja, T., Perold, H., & Gibbon, T. (2002). *Transformation in higher education: Global pressures and local realities*. Cape Town: Juta.

- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Orlando, CA: Academic Press.
- Crooker, D. J., Smith, F. L., & Tabak, F. (2002). Creating work-life balance: A model of pluralism across life domains. *Human Resource Development Review, 1*, 387–419.
- Duxbury, L., & Higgins, C. 2005. Who is at risk? Predictors of work-life conflict. *Public Health Agency of Canada*.
- Frone, M. R., Russell, M., & Cooper, M. L. (1992). Antecedents and outcomes of work-family conflict: Testing a model of the work-family interface. *Journal of Applied Psychology, 77*, 65–78.
- Fukami, C. V., & Larson E. W. (1984). Commitment to company and union: Parallel models. *Journal of Applied Psychology, 69*, 367–371.
- Ganster, C. C., Fusilier, M. R., & Mayes, B. T. (1986). Role of social support in the experience of stress at work. *Journal of Applied Psychology, 71*, 102–110.
- Gattiker, U. E., & Larwood, L. (1990). Predictors of career achievement in the corporate hierarchy. *Human Relations, 43*, 703–726.
- Geurts, S. A. E., & Demerouti, E. (2003). Work/Non-work interface: A review of theories and findings. In M. Schabracq, J. Winnubst, & C. L. Cooper (Eds.). *The handbook of work and health psychology* (2nd ed.), (pp. 279–312). Chichester, UK: Wiley.
- Geurts, S., Rutte, C., & Peeters, M. (1999). Antecedents and consequences of work-home interference among medical residents. *Social Science and Medicine, 48*, 1135–1148.
- Greenberger, E., Goldberg, W. A., Hamill, S., O’Neil, R., & Payne, C. K. (1989). Contributions of a supportive work environment to parents’ well being and orientation to work. *American Journal of Community Psychology, 17*, 755–783.
- Greenhaus, J. H., Callanan, G. A., & Godshalk, V. M. (2000). *Career management* (3rd ed.).
- Hiltrop, J. (1996). The impact of human resource management on organisational performance: Theory and research. *European Management Journal, 14*, 628–637.
- House, J. S., & Wells, J. A. (1978). Occupational stress, social support and health. In A. McLean, G. Black, & M. Colligan (Eds.). *Reducing occupational stress: Proceedings of a conference* (HEW [NIOSH] Publication No. 78-140, pp. 8–29). Washington, DC: U.S. Department of Health, Education & Welfare.

- Jansen, J. D. (2004). *Changes and continuities in South Africa's higher education system, 1994 to 2004*.
- Jansen, J. D. (2004, August). *Accounting for Autonomy*. Presented at the 41st TB Davie Memorial Lecture. University of Cape Town.
- Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. (1964). *Organizational stress: Studies in role conflict and ambiguity*. New York: Wiley.
- Leiter, M. P., & Durup, M. J. (1996). Work, home and in-between: A longitudinal study of spillover. *Journal of Applied Behavioural Science*, 32, 29–47.
- Lew Tek Yew, (2008). Job satisfaction and effective commitment: A study of employees in the tourism industry in Sarawak, Malaysia. *Sunway Academic Journal*, 4, 27–43.
- Maassen, P. & Cloete, N. (2002). 'Global reform trends in higher education' in Cloete, N.; Fehnel, R.; Maassen, P.; Moja, T.; Perold, H. and Gibbon, T. (Eds.). *Transformation in Higher Education: Global Pressures and Local Realities in South Africa*. Lansdowne: JUTA.
- Mathabe, N. (2004, August). *Future trends and challenges in the South African Higher Education*. SAASAP Women's Symposium on 'Freedom to focus ... Time to decide!' Durban Institute of Technology'.
- Mathieu, J. E., & Zajac, D. M. (1990). A review and meta-analysis of the antecedents, correlates, and consequences of organizational commitment. *Psychological Bulletin*, 108, 171–194.
- Montgomery, A. J., Panagopoulou, E. P., Peeters, M. C. W., & Schaufeli, W. B. (2005). The meaning of work and home. *Community, Work and Family*, 8(2), 141–161.
- Montgomery, A. J., Peeters, M. C. W., Schaufeli, W. B., & Den Ouden, M. (2003). Work-home interference among newspaper managers: Its relationship with burnout and engagement. *Anxiety, Stress, and Coping*, 16, 195–211.
- Mowday, R. T., Porter, L. W., & Steers R. M. (1982). *Employee-organizational linkages*. New York: Academic Press.
- Moyle, P. (1998). Longitudinal influences of managerial support on employee well being. *Work and Stress*, 12, 29–49.
- Näswall, K., Baraldi, S., Richter, A., Hellgren, J., & Sverke, M. (2006). *The salaried employee in the modern working life: Threats and Challenges*. Stockholm, Sweden: National Institute of Working Life. SALTSA – Joint Programme for Working Life Research in Europe.

- Netemeyer, R. G., Boles, J. S., & Mc Murrian, R. (1996). Development and validation of work-family conflict and family-work conflict scales. *Journal of Applied Psychology, 81*, 400–410.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.
- Pienaar, J., Sieberhagen, & C. F., Mostert, K. (2007). Investigating turnover intentions by role overload, job satisfaction and social support moderation. *SA Journal of Industrial Psychology, 33*(2), 62–67.
- Pleck, J. H., Staines, G. L., & Lang, L. (1980). Conflicts between work and family life. *Monthly Labor Review, 103*, 29–32.
- Rahim, M. (1996). A structural equations model of stress, locus of control, social support, psychiatric symptoms, and propensity to leave a job. *Journal of Social Psychology, 136*(1), 69–84.
- SPSS (2007). *SPSS 15.0 for Windows*. Chicago, IL: SPSS Incorporated.
- Stevens, J. M., Beyer, J., & Trice H. M. (1978). Assessing personal, role and organizational predictors of managerial commitment. *Academy of Management Journal, 21*, 380–397.
- Sulsky, L. & Smith, C.S. (2004). *Work stress* (3rd ed.). Wadsworth Publishing.
- Sverke, M., Hellgren, J., & Öhrming, J. (1999). Organizational restructuring and health care work: A quasi-experimental study. In P. M. le Blanc, M. C. W. Peeters, A. Bussing & W. B. Schaufeli (Eds.), *Organizational psychology and health care: European contributions* (pp. 15–32). Munchen: Rainer Hampp Verlag.
- Vaal University of Technology. (2007). *Your world to a better future*. Retrieved on 18 April, 2007, from the world wide web: <http://www.vut.ac.za>.
- Vermeulen, S. (2006). *Business Case: Work life balance*. Retrieved on 18 April, 2007 from the world wide web: http://www.the_eqsite.co.za.
- Weiss, R. W. (1990). Bringing work stress home. In J. Eckenrode & S. Gore (Eds.), *Stress between work and family* (pp. 17–37). New York: Planum Press.

CHAPTER 3

RESEARCH ARTICLE 2

**THE RELATION OF JOB AUTONOMY, CENTRALISATION AND WORK/LIFE
BALANCE TO HEALTH IN A TRANSFORMING HIGHER EDUCATION
INSTITUTION**

ABSTRACT

With the increased focus and evidenced importance of juggling work and personal life, this study set as objective to study the relationships between job autonomy and centralisation in a transforming higher education institution in predicting general health. Further, the question beckons whether work/life and life/work imbalance could moderate the effects of autonomy and centralisation on employees' general health. A cross-sectional design was used. The study population ($n=207$) consisted of the academic faculty, administrative support staff and services staff of a higher education institution (HEI) in South Africa. Measuring instruments of job autonomy, centralisation, work/life and life/work imbalance and general health were administered. The regression analysis indicated that employees' general health in the HEIs can be predicted by work/life and life/work imbalance, job autonomy and employees' level of qualification.

OPSOMMING

Werk/lewe- en lewe/werk-wanbalans is aan die orde van die dag. Vele werknemers, veral diegene wat onderwerp word aan transformasie in die werkplek, balanseer werk en lewe en poog om 'n balans te bereik tussen dié twee hoofstrome. Die doel van hierdie studie was om die verhouding en invloed van outonomie en sentralisering met betrekking tot werknemers se gesondheid in 'n transformerende hoër-opvoedkundige-instelling te voorspel, en om vas te stel hoe werk/lewe- en lewe/werk-wanbalans die effek tussen outonomie en sentralisering werknemergesondheid voorspel. 'n Dwarssnee opname-ontwerp is gebruik. Die studiepopulasie ($n=207$) het bestaan uit akademië, werknemers van administratiewe ondersteuningsdienste en dienstewerknemers van 'n hoër-opvoedkundige-instelling in Suid-Afrika. Meetinstrumente van werksoutonomie, sentralisasie, werk/lewe en lewe/werk wanbalans en werknemergesondheid is geadministreer. Die regressie-analise het daarop gedui dat die algemene gesondheid van werknemers aan 'n hoër-opvoedkundige-instelling voorspel kan word deur werk/lewe- en lewe/werk-wanbalans, outonomie en werknemers se vlak van kwalifikasie.

Keywords: Job autonomy, centralisation, work/life balance, life/work imbalance, employee health

“To meet the challenges of a highly competitive global marketplace, many organisations have experienced dramatic changes in their structure, and this trend is expected to escalate into the 21st century” (Greenhaus, Callanan, & Godshalk, 2000, p. 5), providing even more challenges with demanding careers and increased family and personal lives for both males and females.

Political realignment and the change to a democratic political system in South Africa have required many organisations, including higher education institutions (HEIs), to transform the workplace. Transformation in the workplace often leads to structural reorganisation, mergers and acquisitions. Due to the competitive nature of work, organisations continuously seek increased productivity and focus on efficiencies and the effectiveness of their employees. Transformation requires adjustments to new tasks, relationships and expectations. Adjustment in one domain of a person’s life in turn may require adjustment in another domain. Transformation could also be associated with employee role overload, stress and less work/life and life/work balance, with employees attempting to reach balance and manage their lives.

In this regard, Meijman and Mulder (1998, in Drenth, Thierry, & de Wolff, 1998), discuss the importance of work procedures and raise the question as to what extent the task assignment and work situation allows the operator to regulate the job demands, and to adjust the work procedures when he/she considers this necessary. In particular, the study of work stress has pointed out the importance of decision latitude in work situations, reliant on the character and level of the demands, the actual amount of decision latitude the situation allows, the level of knowledge and skills, and the individual’s willingness to meet these demands and to exercise control (Greenhaus et al., 2000; Väänänen et al., 2003).

Autonomy at work is the achievement of freedom – it refers to the degree to which the job provides employees with the freedom to determine how to perform their tasks (Fried & Ferris, 1987; Hackman & Oldham, 1980). Job autonomy enables workers to cope with a high workload and increases employee commitment (Björvell & Brodin, 1992; Väänänen et al., 2003). Job autonomy is likely to contribute to the optimal experience, ability and functioning of individuals, and it is essential to psychological well-being (Shperling & Shirom, 2005). As it is related to psychological health, it may also affect general employee health. Employees should have the

ability and willingness to redefine their work roles as well as taking personal responsibility for their work.

Increased job autonomy has been noted to be the most frequently used intervention in productivity and quality of life improvement experiments (Cummings & Molloy, 1977; Jansen, 2004; Roets & Sewry, 2006). Research indicates that employees with job autonomy show an understanding of their organisation and the integration of its components (Parker, Wall, & Jackson, 1997; Wall, Jackson, & David, 1992). Lawler (1992) argued that employee learning and development also enhance job autonomy.

Increased employee involvement in changes in the organisation should enhance job autonomy (Karasek & Theorell, 1990; Shperling & Shirom, 2005). Employees in autonomous positions hold more favourable attitudes toward their company than those with little freedom to decide how to do their job (Hackman & Lawler, 1971).

Related to job autonomy is the construct of centralisation. It is defined as “the extent to which power and decision-making are shared” (Mellor, Mathieu, & Swim, 1994, p. 204). This requires encouraging employees to partake in decision-making or speaking up when they disagree with a decision rather than relying solely on managerial decision-making and bureaucracy. High centralisation leaves decision-making with one or two key people and thus does not encourage participative decision-making. This in turn may influence job autonomy, as high job autonomy assigns more decision-making ability to the employee, who consequently sees him-/herself as instrumental and as having satisfactory influence over decision-making. It implies the ability of employees to decide on the how and when of executing their duties, as well as the opportunity to prove their abilities. This links positively with employee and organisational commitment (Sverke & Sjöberg, 1994), motivation and personal responsibility for work (Hackman & Lawler, 1971).

Poor job autonomy and control and poor work/life balance in turn may affect employee health (Ganster & Schaubroeck, 1991; Karasek & Theorell, 1990). Should employees not be allowed freedom at their place of work and not be allowed to set their own goals at their own pace, organisational performance may be affected. This mechanism may operate through affecting the

motivation of the employee, and in the long term, the general health of an employee as can be seen in time off, sick-leave and medical expenses (Armenakis, Harris, & Mossholder, 1993; Vahtera, Kivimäki, Pentti, & Theorell, 2000). Such employees may lose interest in their work, be under-utilised, and no growth or skill and competency development will take place, which could all add value to the organisation.

Employees in autonomous, decentralised positions may experience enhanced work/life balance when and if the employees possess the authority to make decisions regarding his/her job, is not pushed for deadlines and can dictate his/her own authority and schedule. High levels of autonomy and decentralisation may affect the experience of work/life balance positively, and may through this mechanism ultimately lead to better general employee health status. This could also lead to an improved attitude towards the organisation, as well as a higher level of motivation.

Work/life balance as moderator

Work and life have traditionally been considered separate domains. However, the interdependence between both domains has increasingly been recognised (Greenhaus & Beutell, 1985; Netemeyer, Boles, & McMurrian, 1996). The nature of work has changed due to transformation initiatives requiring more employee commitment, longer hours and tight deadlines with greater employee self-direction, motivation and decision latitude (Greenhaus et al., 2000; Väänänen et al., 2003). As a consequence, a high level of pressure exists both in the work and home life, with sometimes incompatible home and work responsibilities.

High proportions of employed workers, and particularly of employed parents, have serious difficulty to unite obligations in the work domain and those in the domestic domain (Frone, Russell, & Cooper, 1997). Managing many roles is difficult and it may create strain. A lack of work/life balance may affect employee health negatively (Peeters, Montgomery, Bakker, & Schaufeli, 2005). Organisations talk about work/life balance, but implementation of supportive programmes and encouragement of employee participation in these programmes in a traditional bureaucratic organisation, are probably non-existent (Greenhaus et al., 2000).

A lack of autonomy, together with an incorrect “fit” between individuals and the jobs they have to perform represents a potent stressor that could influence employees’ health at the workplace (Frone, Russell, & Cooper, 1997). This may be affected by experiences of work/life balance of the employee, due to the interrelatedness of work and home. Prior cross-sectional research suggest that both work/family and family/work conflict are related to a variety of health outcomes (Frone et al., 1997, p. 330), with positive work/life balance influencing employee health positively.

According to the job strain model of Karasek (1979), the combined consequences of the demands of work and the decision-making independence available to workers are action or an increased activity level. Job decision latitude is the constraint which modulates into action. Job autonomy provides employees with the independence and liberty to determine how to carry out their tasks. Centralisation is the extent to which power and decision-making are shared and participative decision-making encouraged. Both job autonomy and centralisation are essential to psychological well-being, whereby the employee has the opportunity to prove his/her ability. High strain jobs with low decision latitude lead to unresolved strain causing mental strain, affecting general employee health, whereby a low strain job with high decision latitude leads to increased activity, essential to employees’ optimal experience, ability and functioning. Additional to job autonomy and centralisation is the moderating effect of work/life and life/work imbalance contributing to the psychological well-being of employees.

METHOD

Research design and sampling

In order to investigate the experienced autonomy and centralisation, work/life and life/work imbalance and employee health in a HEI, all staff members of the institution were targeted to participate in the study. Transformation, resulting in mergers in tertiary education, and impacting on organisational structures and reporting hierarchies, cuts across all levels and disciplines in an organisation. Most of the employees within the organisation are affected by its reorganisation, if not directly, then by the effect of reorganisation on others within that organisation.

All measures were included in a survey completed by employees and returned anonymously during July, August and September of 2007. In total, 540 questionnaires were circulated to all staff members at the HEI. Of these, 207 (38% response rate) useable questionnaires were returned, and present a convenience sample of HEI employees.

The limitation of cross-sectional data is that it cannot prove causation. A cross-sectional design is advantageous when it comes to participant attrition, and allows for comparisons between different biographical groups. It is practically useful to organisations and not scientifically problematic (Cartwright & Cooper, 2002).

Participants and procedure

All staff members of the HEI were informed about the reason and purpose of the study by the institution's research department. Questionnaires were distributed and delivered personally to all staff at various sections of the institution, with a covering letter confirming the reason and the purpose of the research. Completed questionnaires were posted by participants in sealed mail boxes and collected within the same week by the research team. This was followed up with another reminder two weeks after the initial distribution to all staff members. The characteristics of the participants are shown in Table 1.

Table 1

Characteristics of the Participants (n=207)

Item	Category	Frequency	Percentage
Gender	Female	138	66,67
	Male	64	30,92
Language	Afrikaans	89	43
	English	24	11,59
	Sepedi	3	1,45
	Sesotho	37	17,87
	Setswana	16	7,73
	IsiSwati	1	0,48
	Tshivenda	7	3,38
	isiTsonga	3	1,45
	isiXhosa	12	5,80
	isiZulu	11	5,31
	Other	3	1,45
Educational qualification	Grade 10 (Standard 8)	6	2,90
	Grade 11 (Standard 9)	4	1,93
	Grade 12 (Matric)	24	12,00
	Technical College diploma	19	9,18
	Technikon diploma	46	22,22
	University degree	53	25,60
	Postgraduate degree	54	26,09
Household situation	Single (Living alone)	37	17,87
	Married (Living with a partner)	135	65,22
	Living with parents	16	7,73
	Divorced/Separated	10	4,83
	Remarried	6	2,90
Parental status	Parents	91	43,96
	Non-parents	115	55,56

The sample comprised mostly females (66,67%). Various language groups participated in the research, of which nearly half (43%) were Afrikaans-speaking participants, 11,59% English-speaking and 43,47% indicated that they speak an indigenous African language. Of the respondents, 83,09% held a tertiary qualification, with the lowest educational level (Grade 10/Standard 8), representing only 2,90% of the total sample. The household situation of most participants can be described as either married or living with a partner (65,22%), and more than 40% of the participants (43,96%) indicated that they are parents with children.

Measuring instruments

Measures of job autonomy (Sverke & Sjöberg, 1994), centralisation (Mellor, Mathieu, & Swim, 1994), life/work imbalance and work/life imbalance (Netemeyer et al. 1996) and general health (Goldberg, 1979) were employed in this survey. Biographical information of participants was also gathered.

Job autonomy. This four item scale was adapted by Sverke and Sjöberg (1994), based on the work of Hackman and Oldham (1975) and Walsh, Taber, and Beehr (1980). It measures the extent of autonomy and influence over how the work is carried out. Items representing this scale are: “I have satisfactory influence over decisions concerning my job.”; “I can make my own decisions on how to organise my work.”; “There is scope for me to take own initiatives in my work.” and “I have a job where I can really prove my ability.” The response alternatives ranged from 1 (disagree) to 5 (agree), with a high score indicating a stronger sense of autonomy. In Sjöberg and Sverke, the scale presented with a Cronbach alpha coefficient of 0,74, indicating adequate reliability.

The *Centralisation* scale (Mellor et al., 1994), measures to what extent staff is encouraged or allowed to participate in decision-making processes. Items representing this scale are: “Employees are encouraged to participate when important decisions are made in this department.”; “Employees are encouraged to speak up when they disagree with a decision concerning the department.” and “Only people in managerial positions are involved when it comes to departmental decisions.” (reversed scoring). The response alternatives ranged from 1 (disagree) to 5 (agree), and a high score represents a more centralised decision-making process. In previous research, the scale represented with adequate reliability, as indicated by a Cronbach alpha-coefficient of 0,70 (Mellor et al.).

The *Work/life imbalance* scale (Netemeyer et al., 1996) measured to what extent working life affects life outside of work. This scale is represented by the following items: “The demands in my work have a negative effect on my private life.”; “My work is so time-consuming that I have difficulty finding time for other activities.”; “I do not have time to do things around the house

due to demands in my work.” and “Demands in my work often lead to a change of plans for family/leisure time”. The response alternatives ranged from 1 (disagree) to 5 (agree) and a high score reflects a negative effect of work on life outside work. In the work of Netemeyer et al., the scale represented with an average reliability, ranging between 0,59 and 0,60 (Cronbach’s coefficient alpha).

The Life/work imbalance scale measures the extent to which life outside of work affects working life. Items representing this scale are: “Demands in my private life have a negative effect on my work.”; “My leisure activities are so time-consuming that I have difficulties finding time for work.”; “I do not have time to do what needs to be done at work due to demands in my private life.” and “Demands in my private life often makes me have to change plans I have at work”. The response alternatives range from 1 (disagree) to 5 (agree), and a high score reflects a negative effect of life outside work on the carrying out of work tasks. In previous research (Netemeyer et al., 1996) a Cronbach alpha coefficient of 0,86 for the life/work imbalance scale was obtained.

The *General Health Questionnaire* (Goldberg, 1979) describes the general health of the individual. A typical item for this scale is represented by: “Have you during the past twelve months suffered from heart or chest problems?” A number of typical health experiences are then listed, to which the participant responds. The response alternatives range from 0 (never) to 3 (always), and a high score reflects a greater degree of general health complaints. In the research of Goldberg, the items represented as an adequately reliable measure of general health.

Statistical analysis

In order to perform the statistical analysis, the SPSS version 15.0 for Windows programme was used (SPSS, 2007). Cronbach alpha-coefficients (Clark & Watson, 1995) were used to measure the reliability of the instruments. Descriptive statistics, means, standard deviations, skewness and kurtosis and inferential statistics, were used to study the data. A cut-off of 0,30 (medium effect) (Cohen, 1988) was set for the practical significance of the correlation coefficients.

In this article, the main and interactive effects of work/life balance were tested using a hierarchical multiple regression analysis. Firstly, controlling the multiple regression analysis demographic characteristics, and then secondly, entering job autonomy and centralisation and thirdly entering work/life imbalance variables. Interaction terms of job autonomy and centralisation with both the work/life and life/work imbalance variables were entered in the fourth step to test for the hypothesized moderating effect of work/life imbalance on the relation between autonomy and centralisation and employee health. Predictor variables were centered. This resulted in setting the means of these variables to zero while maintaining the standard deviations central (see Aitken and West, 1991).

Where biographical variables are found to be significant predictors in the regression, analysis of variance (ANOVA) will be employed. The ANOVA tells us whether the model, overall, results in a significantly good degree of prediction of the outcome variable, providing details of the model parameters and the significance of these values, representing the variance in the outcome associated with a variance in the predictor.

RESULTS

The descriptive statistics for the different measuring instruments are given in Table 2 below.

Table 2

Descriptive Statistics of the Measuring Instruments

Item	Mean	SD	Skewness	Kurtosis	α
Job autonomy	14,67	3,43	-0,61	0,12	0,71
Centralisation	9,50	3,19	0,02	-0,67	0,70
Work/life imbalance	11,57	3,66	0,11	-0,46	0,73
Life/work imbalance	7,83	3,58	1,18 ⁺	1,22 ⁺	0,76
General health	23,34	5,93	0,14	-0,58	0,85

*High skewness and/or kurtosis

Table 2 shows that all scales presented with acceptable Cronbach alpha-coefficients varying from 0,70 to 0,85. All coefficients are equal to or higher than the guideline of $\alpha \geq 0,70$ (Nunnally & Bernstein, 1994). It is evident from Table 2 that most of the scales of the measuring instruments have relatively normal distributions, with the exception of life/work imbalance which represented with high positive skewness and kurtosis (i.e. values ≥ 1).

Table 3 gives the results of correlations between the variables. For life/work imbalance, Spearman coefficients were computed, due to the scales' high skewness and kurtosis. For the rest, Pearson correlation coefficients were employed.

Table 3

Correlation Coefficients between Job Autonomy, Centralisation, Work/life imbalance, Life/work imbalance and General Health

Description	1	2	3	4
1 Job autonomy				
2 Centralisation	-0,37 ^{***}			
3 Work/life imbalance	-0,01	-0,04		
4 Life/work imbalance	0,06	-0,08	0,30 ^{***}	
5 General health	-0,20 ^{**}	0,07	0,21 ^{**}	0,35 ^{***}

^{**} Correlation is statistically significant at the $p \leq 0.01$ level

^{*} Correlation is statistically significant at the $p \leq 0.05$ level

⁺ $r \geq 0.30$ practically significant (Medium effect)

Table 3 shows the correlations between job autonomy, centralisation, work/life and life/work imbalance and general health. It can be seen that job autonomy and centralisation are statistically significantly negatively related (practically significant, medium effect). Job autonomy also shows a statistically significant negative correlation with general health. Work/life and life/work imbalance are statistically significantly (practically significant, medium effect) positively correlated. Work/life imbalance also shows a statistically significant positive correlation with general health. Life/work imbalance shows a statistically significant (practically significant, medium effect) positive correlation with general health.

Table 4 gives the results of a multiple regression analysis with general health as dependent variable.

Table 4

Multiple Regression Analysis with General Health as Dependent Variable

Model		Unstandardised Coefficients		Standardised Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		B	SE	Beta						
1	(Constant)	31,89	2,31		13,81	0,00*	6,92	0,31	0,10	0,10
	Qualification	-1,14	0,27	-0,29	-4,24	0,00*				
	Age	-0,03	0,04	-0,05	-0,79	0,43				
	Gender	-0,94	0,88	-0,07	-1,07	0,29				
2	(Constant)	38,09	3,41		11,19	0,00*	7,84	0,42	0,17	0,07
	Qualification	-1,23	0,26	-0,32	-4,75	0,00*				
	Age	-0,02	0,04	-0,04	-0,58	0,56				
	Gender	-0,66	0,85	-0,05	-0,77	0,44				
	Centralisation	0,04	0,14	0,02	0,31	0,76				
	Job autonomy	-0,47	0,13	-0,27	-3,67	0,00*				
	3	(Constant)	31,39	3,50		8,96				
Qualification	-1,09	0,25	-0,28	-4,39	0,00*					
Age	-0,01	0,04	-0,02	-0,37	0,71					
Gender	-1,14	0,81	-0,09	-1,41	0,16					
Centralisation	0,07	0,13	0,04	0,53	0,60					
Job autonomy	-0,46	0,12	-0,26	-3,82	0,00*					
Work/life imbalance	0,23	0,11	0,14	2,12	0,04*					
Life/work imbalance	0,42	0,11	0,25	3,65	0,00*					
4	(Constant)	31,88	3,50		9,11	0,00*	6,87	0,54	0,29	0,02
	Qualification	-1,09	0,25	-0,28	-4,34	0,00*				
	Age	-0,02	0,04	-0,04	-0,55	0,58				
	Gender	-1,16	0,81	-0,09	-1,44	0,15				
	Centralisation	0,05	0,13	0,03	0,42	0,68				
	Job autonomy	-0,46	0,12	-0,26	-3,85	0,00*				
	Work/life imbalance	0,22	0,11	0,14	2,11	0,04*				
	Life/work imbalance	0,43	0,12	0,25	3,74	0,00*				
	Centralisation x Work/life imbalance	0,07	0,04	0,14	1,86	0,07				
	Job autonomy x Life/work imbalance	-0,02	0,03	-0,04	-0,53	0,60				
	Job autonomy x Work/life imbalance	-0,01	0,04	-0,02	-0,27	0,79				

Centralisation x Life/work imbalance	-0,05	0,04	-0,09	-1,20	0,23
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Table 4 summarises the regression analysis with job autonomy, centralisation and work/life and life/work imbalance as predictors of general health. Firstly, the regression analysis, where age, gender and qualification were entered, only qualification made a statistically significant contribution to general health. These biographical variables predicted 10% of the variance in health. When job autonomy and centralisation were entered in the second step of the regression analysis, these two dimensions together with biographical variables explained 17% of the total variance in general health. However, it was still only qualification and job autonomy that were statistically significant. Adding the work/life and life/work imbalance variables to the regression proved to explain an additional 10% of the variance, with both imbalance variables, job autonomy and qualification, proving to be statistically significant predictors of general health. Entering the interaction terms of job autonomy, centralisation and work/life and life/work imbalance in the fourth and final step, explained a further 2% of the variance in general health and none of the interacted conditions reached statistical significance in predicting general health.

In order to clarify the relationship between the level of qualification and general health, a one-way ANOVA was performed. It was seen that a statistically significant inconsistency exists between employees with only a high school qualification (i.e. matric or grade 12 level of schooling) (*Mean* = 27,01) and those with a postgraduate level (*Mean* = 21,42) of education. Employees with the highest level of education attained better health. (The scale is negatively scored, thus a lower score reflects *better* health.)

DISCUSSION

The aim of this study was to conceptualise the variables job autonomy and centralisation, work/life and life/work imbalance and general employee health, as well as the relationship between these variables in a HEI from the literature. Further investigation was aimed at determining whether general health of the HEI's employees can be predicted by job autonomy, centralisation and work/life and life/work imbalance, while the hypothesized moderating effect

of the latter variables between job characteristics and general health of the staff of a transforming HEI in South Africa was also investigated.

The results indicate that the measuring instruments used in this study are reliable in terms of their use. This is encouraging, as most of these measures have been taken from the international literature and combined in the survey employed here. Their reliability in the South African context presents a unique contribution, due to limited research in South Africa using these scales.

The results indicated that job autonomy and centralisation are significantly negatively related. Job autonomy refers to a stronger sense of employee independence from co-workers, and exercising their own initiatives during the execution of tasks with exercising their own decision concerning their work pace, and having the independence in the workplace to use their own judgement. Centralisation refers to the degree to which power and decision-making are shared by employees. The nature of these variables, one measuring individual autonomy at work while the other measures decision-making, explains their negative relation. The employee who prefers high job autonomy should also seek autonomy regarding decision-making. Conversely, employees who prefer collective decision-making are likely to be willing to satisfy some individual autonomy in order to have decisions with greater acceptance.

Job autonomy also related negatively to the measure of health, indicating that more job autonomy is related to better general health. Previous research done by Walsh et al., (1980) and Hackman and Oldham (1975) indicated that job autonomy is consistently the more important determinant of job satisfaction in the individual's self-attribution of success or failure, leading to the experience of satisfaction from the job. It is also apparent from the previous research that, having a greater degree of decision-making authority and the ability to make a more visible impact on the job, causes the job to be more meaningful, and together with the acquisition of knowledge, skills and abilities, leads to increased job satisfaction. In turn, job satisfaction relates positively to employee health (Geurts & Demerouti, 2003), and it is hypothesized that the observed relationships reflect this relation.

Work/life and life/work imbalance were both positively related to employee health, indicating that a greater experience of either form of imbalance should detract from employee health. Previous cross-sectional research put forward that both work/family and family/work conflict are related to a variety of health outcomes. The study done by Frone et al. (1997) indicated that work/family conflict undermines one's ability to really perform at work, leading to psychological distress and meagre physical health. Obviously, the domains of work and life are distinct, but related. Work/life imbalance and life/work imbalance relate positively to (poor) general health indicating that both work/life and life/work balance are essential to general health.

Finally, in predicting employees' general health in the HEI, it was seen that both imbalance variables, job autonomy and employees' level of qualification made significant contributions. It is seen that low experienced autonomy, elevated stages of work/life and life/work imbalance, and a lower level of education predict poor employee health. When an employee has the power and ability to apply initiative at work and is allowed decision latitude with regard to his/her work, it is perceived by the individual as positively influencing general health. The results also indicated that employees with a postgraduate level of education, compared to those employees with a high school qualification, attained better health. This proved to be an interesting result and may imply that postgraduate employees have a greater awareness of general health and its relationship to performance, productivity, efficiency, work success and work/life balance. Grandey and Cropanzano (1999) have made similar findings, indicating age, tenure, gender and salary to relate to work/family conflict and strain.

RECOMMENDATIONS

Considering the above findings, it is confirmed that transformation has a noteworthy impact on the organisation studied. This has been the case for HEIs since the commencement of a process of transformation in the tertiary education sector in 1994. This programme for the transformation of HEIs (Department of Education, 1997), with the challenges, vision and principles which includes institutional autonomy, has implied a high degree of self-regulation and administrative independence. Such autonomy is a condition for effective self-government, increasing decision-

making to be more participatory and accountable, which is the new role of institutional leaders in the unfolding transformation processes.

Job autonomy is perceived as positive within the broader framework of transformation at HEIs, and autonomy lies within the governance structure of HEIs. This has impacted the lives of employees at the HEIs, as it brought about a level of freedom, independence, and discretion to the employee in scheduling the work, determining the procedures to be used (Jacko, 2004, p. 3), and in the selection of goals and methods of work. The experience of autonomy in this organisation relates to health. The institutionalisation of autonomy requires elevated levels of commitment and experienced responsibility by all levels of staff at the HEIs.

HEIs should be aware of the need for work/life balance programmes that should be offered to employees at the HEIs to improve quality of life of their employees. Employees are becoming increasingly aware of and concerned with family/work conflict. Such programmes can lead to increased levels of motivation and commitment, whilst at the same time offering educational programmes to their staff to improve their qualifications. As indicated in this study, a relation exists between employees with a higher level of education and improved general health at the HEI. As such, employees with a lower level of education probably present the first level of intervention.

Health programmes should be implemented for employees and their families at the institution to create awareness of the benefits of healthy lifestyles. Organisations can improve employees' general knowledge, attitude, and behaviour towards health related work issues, and should develop awareness amongst employees about the brunt of job autonomy and work/life balance on general health. Programmes aimed at providing coping skills for work/life imbalance and life/work imbalance should be implemented. Employers should be concerned with family/work conflict in the lives of their employees, in terms of health care costs and productivity, and strive to offer workplace family support programmes to reduce the prevalence of family/work conflict (Frone et al., 1997; Frone & Yardley, 1996). Supporting the results of the research, it is recommended that employers should play an increasing role in creating awareness and understanding of their employees, regarding work/life imbalance, life/work imbalance, their

benefits and the management and control thereof, to influence and improve the employees' quality of life and health by means of support programmes and other initiatives.

REFERENCES:

- Aitken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage Publications.
- Armenakis, A. A., Harris, S. G., & Mossholder, K. W. (1993). Creating readiness for organizational change. *Human Relations, 46*, 681–703.
- Björvell, H., & Brodin, B. (1992). Hospital staff members are satisfied with their jobs. *Scandinavian Journal of Caring Sciences, 6*, 9–16.
- Cartwright, S., & Cooper, C. L. (2002). ASSET: An organizational stress screening tool: *The Management guide*. Manchester: RCL.
- Clark, L. A., & Watson, D. (1995). Construct validity: Basic issues in objective scale development. *Psychometric Assessment, 7*, 309–319.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Orlando, CA: Academic Press.
- Cummings, T. G., & Molloy, E. S. (1977). *Improving productivity and quality of work*. New York: Praeger.
- Department of Education. (1997, July). *A programme for the transformation of Higher education*. Pretoria.
- Drenth, P.J.D., Thierry, H., & de Wolff, C.J. (1998). Psychological aspects of workload. *Handbook of Work and Organizational psychology* (2nd ed.), 5–33. Psychology Press.
- Fried, Y., & Ferris, G. R. (1987). The validity of the job characteristics model: A review and meta-analysis. *Personnel Psychology, 40*, 287–322.
- Frone, M. R., Russell, M., & Barnes G. M. (1996). Work family conflict, gender and health-related outcomes. A study of employed parents in two community samples. *Journal of Occupational Health Psychology, 1*, 53–69.
- Frone, M. R., Russell, M., & Cooper, M. L. (1997). Relation of work-family conflict to health outcomes: A four-year longitudinal study of employed parents. *Journal of Occupational and Organizational Psychology, 70*, 325–335.
- Frone, M. R., & Yardley, J. (1996). Workplace family-supportive programmes. Predictors of employed parents importance ratings. *Journal of Occupational and Organizational Psychology, 69*, 551- 566.

- Ganster, D. C., & Schaubroeck, J. (1991). Work stress and employee health. *Journal of Management*, 17, 235–271.
- Geurts, S. A. E., & Demerouti, E. (2003). Work/Non-work interface: A review of theories and findings. In M. Schabracq, J. Winnubst, & C. L. Cooper (Eds.). *The handbook of work and health psychology* (2nd ed.), (pp. 279–312). Chichester, UK: Wiley.
- Goldberg, D. (1979). *Manual of the General Health Questionnaire*. London: NFER Nelson.
- Grandy, A. A., & Cropanzano, R. (1999). The conservation of resources model applied to work-family conflict and constrain. *Journal of Vocational Behavior*, 54, 350–370.
- Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. *Academy of Management Review*, 10(1), 76–88.
- Greenhaus, J. H., Callanan, G. A., & Godshalk, V. M. (2000). *Career management* (3rd ed.).
- Hackman, J. R., & Lawler, E. E. (1971). Employee reactions to job characteristics. *Journal of Applied Psychology*, 55, 259–286.
- Hackman, J. R., & Oldham, G. R. (1975). Development of the Job Diagnostic Survey. *Journal of Applied Psychology*, 60, 159–170.
- Hackman, J. R., & Oldham, G. R. (1980). *Work redesign*. Reading, MA: Addison-Wesley.
- Jacko, P. (2004). Enriching the job enrichment theory. *Research methods for the Social Scientist*. Madrid: Carlos III University.
- Jansen, J. D. (2004, August). *Accounting for Autonomy*. Presented at the 41st TB Davie Memorial Lecture. University of Cape Town.
- Karasek, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 24, 285–308.
- Karasek, R. A., & Theorell, T. (1990). *Healthy work, stress, productivity and the reconstruction of work/life*. New York: Basic Books.
- Lawler, E. E. (1992). *The ultimate advantage: Creating the high-involvement organization*. San Francisco: Jossey-Bass.
- Meijman, T. F., & Mulder, G. (1998). Psychological aspects of workload in Drenth, Thierry, & de Wolff. *Handbook of Work and Organizational psychology* (2nd ed.), 5–33. Psychology Press.

- Mellor, S., Mathieu, J. E., & Swim, J. K. (1994). Cross-level analysis of the influence of local union structure on women's and men's union commitment. *Journal of Applied Psychology, 79*, 203–210.
- Netemeyer, R. G., Boles, J. S., & Mc Murrian, R. (1996). Development and validation of work-family conflict and family-work conflict scales. *Journal of Applied Psychology, 81*, 400–410.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.
- Parker, S. K., Wall, T. D., & Jackson, P. R. (1997). "That is not my job": Developing flexible employee orientations. *Academy of Management Journal, 40*, 899–929.
- Peeters, M. C. W., Montgomery, A. J., Bakker, A. B., & Schaufeli, W. B. (2005). Balancing work and home: How job and home demands are related to burnout. *International Journal of Stress Management, 12*(1), 43–61.
- Roets, R. A., & Sewry, D. (2006, September). ICT: Irrelevant to transformation in higher education institutions. *Proceedings of the Conference on Information Technology in Tertiary Education, Pretoria, South Africa*.
- Shperling, Z., & Shirom, A. (2005). A field experiment assessing the impact of the focused diagnosis intervention on job autonomy. *The Journal of Applied Behavioral Science, 41*, 222–240.
- SPSS (2007). *SPSS 15.0 for Windows*. Chicago, IL: SPSS Incorporated.
- Sverke, M., & Sjöberg, A. (1994). Dual commitment to company and union in Sweden: An examination of predictors and taxonomic split methods. *Economic and Industrial Democracy, 15*, 531–564.
- Väänänen, A., Toppinen-Tanner, S., Kalimo, R., Mutanen, P., Vahtera, J., & Peiró, J. M. (2003). Job characteristics, physical and psychological symptoms, and social support as antecedents of sickness absence among men and women in the private industrial sector. *Social Science & Medicine, 57*, 807–824.
- Vahtera, J., Kivimäki, M., Pentti, J., & Theorell, T. (2000). Effect of change in the psychosocial work environment on sickness absence: A 7 year follow-up of initially healthy employees. *Journal of Epidemiological and Community Health, 54*, 484–493.
- Wall, T. D., Jackson, P. R., & David, K. (1992). Operator job design and robotics system performance: A serendipitous field study. *Journal of Applied Psychology, 77*, 353–362.

Walsh, J. T., Taber, T. D., & Beehr, T. A. (1980). An integrated model of perceived job characteristics. *Organizational Behavior and Human Performance*, 25, 252–267.

CHAPTER 4

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

This chapter encompasses conclusions regarding the literature review and the empirical study, by way of answering the objectives set out for both articles in Chapter 1. The limitations of the studies are highlighted and recommendations are made concerning the improvement of work/life balance and general health of tertiary education employees, and for future investigations into work/life balance and health in this context.

4.1 CONCLUSIONS

In this section, conclusions are drawn in terms of specific theoretical objectives set, and the empirical results obtained in research articles 1 (Chapter 2) and 2 (Chapter 3).

4.1.1 Conclusions in terms of specific objectives of Article 1

The general objective of the first article was to examine the function of the work stressor of role overload (qualitative and quantitative) in predicting work/life balance, and to determine whether social support moderates the effect of role overload on employee wellness (as presented by work/life balance), for a group of employees in a transforming Higher Education Institution (HEI) in South Africa.

The first specific objective was to conceptualise the variables of qualitative and quantitative role overload, social support from supervisor, co-workers and family, and work/life balance, and the relationship between these variables, from the literature.

Role overload can be distinguished as qualitative or quantitative role overload. Based on the literature, qualitative role overload is defined as employee overuse in terms of intricacy and quality of work output and productivity, stretching the employees' potential, capability and capacity, intellectual demands and exposing employees to unreasonable responsibility, with work

that is too complex and difficult or elements that are too demanding to the employee (Rahim, 1996). Sverke, Hellgren and Öhrming (1999) define qualitative role overload as the sense that work is too complex, difficult or demanding, stretching the employees' intellectual capability, or having work demands or pressures that are too complicated and difficult to accomplish. Quantitative role overload is defined as elevated volumes of recurring and tedious errands, working under pressure and having too much to do, working diligently and fast within a time constraint and not having sufficient or adequate time to do what is required (Bakker & Geurts, 2004; Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964; Pleck, Staines, & Lang, 1980). Beehr, Walsh and Taber (1976) define quantitative role overload as the response of having too much to do in too little time.

Social support from supervisors is defined as the offering of support to employees by means of guidance and assistance; coaching and mentoring; setting of realistic time frames and deadlines; work schedules; workplace resources; performance and progress feedback and sharing of information in the work environment (Greenhaus, Callanan, & Godshalk, 2000). Social support from the family is defined as consisting of informational support (giving information or advice to help solve a problem) and emotional support (displaying affection, love, concern, trust and/or empathy) (Greenhaus et al., 2000). Co-worker support is defined as an effective coping mechanism, sharing workload, job sharing, emotional support and assistance with adaptation to change in the workplace, overcoming obstacles and promoting employee career growth, and it is found useful in coping with life's uncertainties (Greenberger, Goldberg, Hamill, O'Neil, & Payne, 1989; House & Wells, 1978). Caplan, Cobb, French, Van Harrison and Pinneau (1975), define social support as the extent to which support from co-workers, supervisors, and family is available.

According to De Cieri, Holmes, Abbott and Pettit (2005, p. 90), work/life balance is defined as "the maintenance of a balance between responsibilities at work and at home". Netemeyer, Boles and McMurrian (1996) define work/life balance as the point at which working life influences and affects life away from or outside work, with demands at work having a debilitating or otherwise negative result on private life, and life/work balance as the extent to which personal life affects work, with demands in private life having a debilitating or negative effect on work. Work and

life have traditionally been considered separate domains. However, more recently the interdependence between both domains has increasingly been recognised (Greenhaus & Beutell, 1985; Netemeyer et al., 1996). Transformation has changed the nature of work requiring more employee commitment, longer hours and tight deadlines with greater employee self-direction, motivation and decision latitude (Greenhaus et al., 2000; Väänänen et al., 2003), affecting work/life balance.

Based on the mostly international literature, a strong relationship exists between role overload and work/life imbalance (Geurts, Rutte, & Peeters, 1999). Change in the work arena affects work/life balance, life/work balance and employee general health, which in turn affects relationships at work and home. Work and home represents the two most important domains in the life of a working individual and are interdependent (Montgomery, Panagopoulou, Peeters, & Schaufeli, 2005). A person's total life interrelates with work, family and oneself, and workload specific to the work situation is likely to be brought home (Montgomery, Peeters, Schaufeli, & Den Ouden, 2003). Research has shown the major consequence of social support related to the psychological welfare of workers (Caplan et al., 1975). When role stressors from work and family are perceived as irreconcilable, it is indicated as a stressor. The most cited cause of stress is the balancing of work and family lives, with constant and prolonged role overload in the workplace leading to employee health problems becoming a permanent source of tension, which can ultimately lead to employee burnout (Greenhaus et al., 2000).

The second specific objective was to investigate the relationships between qualitative and quantitative role overload, social support from supervisor, co-workers and family, and work/life balance in a group of tertiary education employees.

Qualitative and quantitative role overload were significantly related. Quantitative role overload also showed significant positive relations with work/life and life/work imbalance. Qualitative role overload showed significant relations with work/life and life/work imbalance. Work/life and life/work imbalance were significantly interrelated. Work/life imbalance also showed a significant negative relation to social support from co-workers. Social support from co-workers showed significant relations to social support from supervisor and social support from family.

Role overload, more specifically quantitative role overload, is indicated as a work stressor experienced by the group of tertiary education employees whereby they are experiencing heavier workloads, high volumes of workload and repetitive tasks, having too much to do in their work, and not having sufficient time to do what is expected of them in their job, which in turn affects their work/life- and life/work balance negatively. According to Ngo et al. (2005), employees experiencing quantitative role overload are also likely to experience qualitative role overload. They stated that qualitative role overload refers to stretching the capability of employees (i.e. work that is too complicated, difficult or demanding), and is also experienced as influencing work/life and life/work imbalance.

The third specific objective questioned whether work/life balance of tertiary education employees can be predicted by qualitative and quantitative role overload and social support from supervisors, co-workers and family.

It was seen that the work/life imbalance of tertiary education employees can be predicted by quantitative role overload. When a greater amount of work needs to be done, employees in the HEI are likely to experience greater work/life imbalance. Social support did not contribute to the final prediction of work/life imbalance. However, none of the variables proved to be significant predictors of life/work imbalance.

The fourth and final empirical objective for Article 1 referred to the hypothesized moderating effect of social support between work stress (i.e. role overload) and work/life balance variables (work/life and life/work imbalance).

When investigating whether social support from supervisors, co-workers and family moderates the relationship between quantitative and qualitative role overload on the one hand, and work/life balance on the other, none of the interaction terms reached a level of statistical significance. Thus, the moderating effect of social support is not supported by these findings.

4.1.2 Conclusions in terms of specific objectives in Article 2

The objectives of this research were to observe and investigate the effects of specific work stressors in predicting general health, and to determine whether work/life balance moderates the effect of the work stressors (as presented by job autonomy and centralisation) on employee wellness (as presented by general health), of a group of employees in a transforming HEI in South Africa.

The first objective related to conceptualising the variables job autonomy, centralisation, work/life balance and health from the literature.

In the present study, job autonomy was defined as the achievement of freedom in the workplace – referring to the extent to which the job presents employees with the independence and freedom to determine how to perform their tasks (Fried & Ferris, 1987; Hackman & Oldham, 1980), and seen as contributing to optimal employee experience, ability and functioning, by having the ability and willingness to redefine their work roles as well as taking personal responsibility for their work, whilst improving productivity and quality of life (Cummings & Molloy, 1977; Jansen, 2004; Roets & Sewry, 2006). Sverke and Sjöberg (1994), based on the work of Hackman and Oldham (1975) and Walsh, Taber, and Beehr (1980), defined autonomy as the independence and influence over how the work is carried out, having satisfactory responsibility for and influence over decisions regarding the job, making own decisions on how to arrange work and having the scope to take initiatives at work and proving personal ability.

Centralisation was defined as the degree to which power and decision-making are joined (Mellor, Mathieu, & Swim, 1994), or the degree to which employees are motivated or allowed to partake, or are restricted in decision-making (Scott et al., 2005). It includes encouraging employees to participate in decision-making, or speaking up when they disagree with a decision rather than relying on managerial decision-making and bureaucracy.

The impact of stress at work on a person's health is described by Goldberg (1979) as the general health of the individual. The general health of an employee can be physical or psychological in

nature (Kantor, Schomer, & Louw, 1997; Väänänen et al., 2003). Employee general health can be noted in time off, sick-leave and medical expenses (Armenakis, Harris, & Mossholder, 1993; Vahtera, Kivimäki, Pentti, & Theorell, 2000), and presents itself in many forms such as heart or chest illnesses and various other problems.

Previous research indicated that increased employee involvement in changes in the organisation should enhance job autonomy (Karasek & Theorell, 1990; Shperling & Shirom, 2005). Poor job autonomy and control and poor work/life balance in turn may affect employee health negatively (Ganster & Schaubroeck, 1991; Karasek & Theorell, 1990). Employees not being allowed the freedom of setting their own goals at their own pace at their place of work, may in turn affect organisational performance, affecting the motivation of the employees, and in the long term, the general health of an employee (Armenakis et al., 1993; Vahtera et al., 2000). Such employees may lose interest in their work, be under-utilised, no growth or skill or competency development will take place, which could all add value or benefit the organisation. All these are essential to employee psychological well-being (Shperling & Shirom, 2005), and may affect general employee health.

Work/life balance was defined under the first objective of Chapter 1, and is not repeated here. In terms of the relation between the variables, negative work/home interaction may have negative effects on health and well-being since it increases, for instance, psychosomatic symptoms and physical health complaints (Demerouti, Geurts, & Kompier, 2004; Geurts et al., 1999; Grandy & Cropanzano, 1999). Work/life imbalance is reported as relating to meagre physical health (Frone, Russell, & Cooper, 1997) and psychological stress-related symptoms (Allen, Herst, Bruck, & Sutton, 2000). A lack of freedom in making decisions can be manifested as a mental strain (Henry & Cassell, 1969), and job strain is subject to decision latitude (Karasek, 1979).

Work/life interfering with life away from the work environment occurs when too much time is spent at work (overtime) due to role overload or through employee over-commitment, thus causing an absence from the home and the family. In this instance, the mental and thought processes of the individual are constantly focused on work and not necessarily focussed on home and family responsibilities, irrespective of whether the individual is at home or at work (Geurts

et al., 1999; Pleck, 1977). Work/life balance can improve the balance between work and social life (Greenhaus et al., 2000). Role stress from work and family are perceived as irreconcilable, and are indicated as a stressor. A person's total life interrelates with work, family and oneself, and workload specific to work circumstances is likely to be brought home (Montgomery et al., 2003).

The second objective related to investigating the relationships between job autonomy, centralisation, work/life balance and health in a group of tertiary education employees.

The results of the research show correlations between job autonomy, centralisation, work/life and life/work imbalance and general health in a group of tertiary education employees in the South African context. It was seen that job autonomy and centralisation are significantly negatively related to employee general health. Work/life and life/work imbalance were significantly inter-related. Work/life imbalance also showed a relation to general health indicating that more imbalance leads to poorer health.

The third objective for Article 2 questioned whether health of tertiary education employees could be predicted by means of job autonomy, centralisation and the work/life and life/work imbalance variables.

It was noted that job autonomy, work/life and life/work imbalance and level of qualification are predictors of employee general health. The results also suggested that employees with an advanced level of education are more aware of and concerned with their health.

The fourth and final empirical objective related to the hypothesized moderating effect of work/life and life/work imbalance in predicting employees' general health.

When investigating whether work/life balance moderates the relationship between job autonomy and centralisation on the one hand, and health on the other, none of the interaction terms reached a level of statistical significance. Thus, the moderating effect of the experience of work/life balance is not supported.

4.2 LIMITATIONS

The use of a cross-sectional design is a limitation, and subsequently very little is known about the long-term effects of role overload on work/life imbalance of tertiary education employees in South Africa, or the experience of a lack of job autonomy on employee general health, since a cross-sectional design does not allow for drawing conclusions about causality.

The sample size was sufficient reaching results to draw conclusions; however, an increase in the number of participants could have delivered more significant results, in for example improving the reliability of the measure.

Due to the geographical spread and distances between the merged HEIs, all participants in the research process could not be dealt with at the same or main campus, but rather at various smaller satellite campuses. Each campus was dealt with separately when distributing and collecting the questionnaires. During the research visits at the merged HEI, its main and various satellite campuses, it was noticeable that formal and social differences exist at the various campuses. The distances between the merged HEIs brought about complex logistical arrangements, different campus cultures, practices and work environments reflecting the formal and social differences at the campuses. As such, investigations at specific campuses might yield campus-specific results.

The questionnaire provided to the participants, in the form of a book, was perceived by the respondents/participants as intimidating. It was perceived to be a lengthy and time-consuming questionnaire, thus resulting in questionnaires not being completed on the same day by participants, but rather completed over a number of days. This might have introduced additional variance in how participants responded.

A further limitation was the study of the variables at only one institution in South Africa. The inclusion of various institutions in the study would have contributed significantly to research in higher education institutions in South Africa. This would have allowed drawing comparisons

between higher education institutions, supporting conclusions about the process of transformation.

4.3 RECOMMENDATIONS

Recommendations for the organisation and for future research are to conduct a longitudinal study at the HEI with its merged institutions as well as other HEIs, and including a larger sample of participants.

4.3.1 Recommendations for the organisation in managing work/life and life/work imbalance of employees and employee general health

The institution should be aware of the overload experienced by employees during the process of transformation, and the impact of role overload on employees and on the sustainability of higher education institutions in South Africa. Institutions should focus on providing skills transfer and training to employees focussing on increased efficiency and productivity when dealing with work. Measurements to rate the success of intervention programmes should be conducted determining the contribution and success of formal employee skills development programmes. Monitoring employee performance through regular performance management reviews and providing constructive feedback to employees is also recommended. Employees should be allowed to focus on important job issues and be encouraged to participate in, and develop an understanding in the broader framework of the organisation and transformation.

Social support from supervisors and co-workers is important in the working life of employees, and the results confirmed the importance of co-workers at institutions and the role co-workers can play in managing work/life balance. Social support at work should be encouraged through the promotion of team programmes at the HEI with enhanced team-work encouraging employee- and team participation in task-related completion and decision-making (Hiltrop, 1996). Establishing work/life balance programmes with active employee participation in such programmes to the benefit of the institution and its staff is recommended. Participation in these programmes may ultimately contribute to increased productivity and motivation of employees -

especially by those who are in need of greater work and life satisfaction with the ultimate aim to improve their quality of life.

Becoming increasingly aware of and concerned with family/work conflict, and increasing levels of education directed at improving general knowledge, attitude and behaviour towards health-related work issues, creating a consciousness of the benefits of healthy lifestyles to both the employees and the institution is also indicated. Considering greater autonomy for employees may also aid in the management of health.

4.3.2 Recommendations for future research

Future studies should develop more quantitative role overload items to enhance the reliability of the measure. The combination of the work stressors, job autonomy and centralisation in the same research also posed a challenge, seeing that job autonomy is experienced as a positive variable related to the employee's own job/work, while centralisation rather relates to the contribution to the department and/or institution. Both variables referred to decision-making, with the differentiation between job versus department or institution. The reliability of the centralisation measure also needs attention in future research.

It was also seen that life/work imbalance was experienced by the participants as not interfering with work, and that participants experienced work and life as two related domains, considering the correlations. However, none of the variables studied predicted life/work imbalance. In future, the positive spillover of work/life and life/work-balance could also be investigated, since this study only considered the negative effects.

Measuring social support from supervisors posed its own challenge as supervisors may sometimes be experienced as the cause of role overload in the workplace, contributing to employees experiencing work/life imbalance. Thus, supervisors may be experienced as the source of demands contributing to role overload. The variable social support from family in the questionnaire referred to "someone outside of work" and not specifically social support from a family member. This item may also need to be reworked.

REFERENCES:

- Allen, T. D., Herst, D. E., Bruck, C. S., & Sutton, M. (2000). Consequences associated with work-to family conflict: A review and agenda for future research. *Journal of Occupational Health Psychology, 5*, 278–308.
- Armenakis, A. A., Harris, S. G., & Mossholder, K. W. (1993). Creating readiness for organizational change. *Human Relations, 46*, 681–703.
- Bakker, A. B., & Geurts, S. A. E. (2004). Toward a dual-process model of work-home interference. *Work and Occupations, 31*, 345–366.
- Beehr, T. A., Walsh, J. T., & Taber, T. D. (1976). Relationship of stress to individually and organizationally valued states: Higher order needs as a moderator. *Journal of Applied Psychology, 61*, 41–47.
- Caplan, R. D., Cobb, S., French, J. R. P. (Jr.), Van Harrison, R., & Pinneau, S. R. (Jr.) (1975). *Job demands and worker health*. Michigan: Survey Research Center, Institute for Social Research, The University of Michigan.
- Cummings, T. G., & Molloy, E. S. (1977). *Improving productivity and quality of work*. New York: Praeger.
- Department of Education. (1997, July). *A programme for the transformation of Higher education*. Pretoria.
- De Cieri, H., Holmes, B., Abbott, J., & Pettit, T. (2005). Achievements and challenges for work/life balance strategies in Australian organizations. *The International Journal of Human Resource Management, 16*(1), 90–103.
- Demerouti, E., Geurts, S. A. E., & Kompier, M. (2004). Positive and negative work-home interaction: Prevalence and correlates. *Equal Opportunities International, 23*(1/2), 6–35.
- Fried, Y., & Ferris, G. R. (1987). The validity of the job characteristics model: A review and meta-analysis. *Personnel Psychology, 40*, 287–322.
- Frone, M. R., Russell, M., & Cooper, M. L. (1997). Relation of work-family conflict to health outcomes: A four-year longitudinal study of employed parents. *Journal of Occupational and Organizational Psychology, 70*, 325–335.
- Ganster, D. C., & Schaubroeck, J. (1991). Work stress and employee health. *Journal of Management, 17*, 235–271.

- Geurts, S., Rutte, C., & Peeters, M. (1999). Antecedents and consequences of work-home interference among medical residents. *Social Science and Medicine*, 48, 1135–1148.
- Goldberg, D. (1979). *Manual of the General Health Questionnaire*. London: NFER Nelson.
- Grandy, A. A., & Cropanzano, R. (1999). The conservation of resources model applied to work-family conflict and constrain. *Journal of Vocational Behavior*, 54, 350–370.
- Greenberger, E., Goldberg, W. A., Hamill, S., O’Neil, R., & Payne, C. K. (1989). Contributions of a supportive work environment to parents’ well being and orientation to work. *American Journal of Community Psychology*, 17, 755–783.
- Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. *Academy of Management Review*, 10, 76–88.
- Greenhaus, J. H., Callanan, G. A., & Godshalk, V. M. (2000). *Career management* (3rd ed.).
- Hackman, J. R., & Oldham, G. R. (1975). Development of the job diagnostic survey. *Journal of Applied Psychology*, 60, 159–170.
- Hackman, J. R., & Oldham, G. R. (1980). *Work redesign*. Reading, MA: Addison-Wesley.
- Henry, J., & Cassell, J. (1969). Psychological factors in essential hypertension, recent epidemiological and animal experimental evidence. *American Journal of Epidemiology*, 90, 171–200.
- Hiltrop, J. (1996). The impact of Human Resource Management on organisational performance: Theory and research. *European Management Journal*, 14, 628–637.
- House, J. S., & Wells, J. A. (1978). Occupational stress, social support and health. In A. McLean, G. Black, & M. Colligan (Eds.), *Reducing occupational stress: Proceedings of a conference* (HEW [NIOSH] Publication No. 78–140, pp. 8–29). Washington, DC: U.S. Department of Health, Education & Welfare.
- Jackson, S. E., & Ruderman, M. N. (1995). *Diversity in Work Teams: Research Paradigms for a Changing Workplace*. Washington, DC: American Psychological Association.
- Jansen, J. D. (2004, August). *Accounting for Autonomy*. Presented at the 41st TB Davie Memorial Lecture. University of Cape Town.
- Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. (1964). *Organizational stress: Studies in role conflict and ambiguity*. New York: Wiley.
- Kantor, L., Schomer, H., & Louw, J. (1997). Lifestyle changes following a stress management programme: an evaluation. *South African Journal of Psychology*, 27(1), 16–21.

- Karasek, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 24, 285–308.
- Karasek, R. A., & Theorell, T. (1990). *Healthy work, stress, productivity and the reconstruction of work/life*. New York: Basic Books.
- Mellor, S., Mathieu, J. E., & Swim, J. K. (1994). Cross-level analysis of the influence of local union structure on women's and men's union commitment. *Journal of Applied Psychology*, 79, 203–210.
- Montgomery, A. J., Panagopoulou, E. P. Peeters, M. C. W., & Schaufeli W. B. (2005). The meaning of work and home. *Community, Work and Family*, 8(2), 141–161.
- Montgomery, A. J., Peeters, M. C. W., Schaufeli, W. B., & Den Ouden, M. (2003). Work-home interference among newspaper managers: Its relationship with burnout and engagement. *Anxiety, Stress, and Coping*, 16, 195–211.
- Netemeyer, R. G., Boles, J. S., & McMurrian, R. (1996). Development and validation of work-family conflict and family-work conflict scales. *Journal of Applied Psychology*, 81, 400–410.
- Ngo, H., Foley, S., & Loi, R. 2005. Work role stressors and turnover intention: A study of professional clergy in Hong Kong. *International Journal of Human Resource Management*, 16(11), 2133-2146.
- Pleck, J. H. (1977). The work-family role system. *Social Problems*, 24, 417–427.
- Pleck, J. H., Staines, G. L., & Lang, L. (1980). Conflicts between work and family life. *Monthly Labor Review*, 103, 29–32.
- Rahim, M. (1996). A structural equations model of stress, locus of control, social support, psychiatric symptoms, and propensity to leave a job. *Journal of Social Psychology*, 136(1), 69–84.
- Roets, R. A., & Sewry, D. (2006, September). ICT: Irrelevant to transformation in Higher Educational Institutions. *Proceedings of the Conference on Information Technology in Tertiary Education*, Pretoria, South Africa.
- Scott, J., Tallia, A., Crosson, J. C., Orzano, A. J., Stroebel, C., DiCicco-Bloom, et al. (2005). Social network analysis as an analytic tool for interaction patterns in primary care practices. *American Academy of Family Physicians*, 3(5), 443–448. Available online at: www.aafp.org/afp.

- Shperling, Z., & Shirom, A. (2005). A field experiment assessing the impact of the focused diagnosis intervention on job autonomy. *The Journal of Applied Behavioral Science*, 41, 222–240.
- Sverke, M., Hellgren, J., & Öhrming, J. (1999). Organizational restructuring and health care work: A quasi-experimental study. In P. M. le Blanc, M. C. W. Peeters, A. Bussing, & W. B. Schaufeli (Eds.), *Organizational psychology and health care: European contributions* (pp. 15–32). Munchen: Rainer Hampp Verlag.
- Sverke, M., & Sjöberg, A. (1994). Dual commitment to company and union in Sweden: An examination of predictors and taxonomic split methods. *Economic and Industrial Democracy*, 15, 531–564.
- Väänänen, A., Toppinen-Tanner, S., Kalimo, R., Mutanen, P., Vahtera, J., & Peiró, J. M. (2003). Job characteristics, physical and psychological symptoms, and social support as antecedents of sickness absence among men and women in the private industrial sector. *Social Science & Medicine*, 57, 807–824.
- Vahtera, J., Kivimäki, M., Pentti, J., & Theorell, T. (2000). Effect of change in the psychosocial work environment on sickness absence: A 7 year follow-up of initially healthy employees. *Journal of Epidemiological and Community Health*, 54, 484–493.
- Walsh, J. T., Taber, T. D., & Beehr, T. A. (1980). An integrated model of perceived job characteristics. *Organizational Behavior and Human Performance*, 25, 252–267.