

**STRESS IN A COLLEGE WORKPLACE AND ITS RELATIONSHIP WITH  
CERTAIN CORRELATES AND PREDICTIVE VARIABLES**

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(Psychology) in the Faculty of Arts at Stellenbosch University**

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## **ABSTRACT**

Educational reform in South Africa has been a major part of the country's reconstruction and development projects since the 1994 democratic elections. The previous racially based education had to be replaced by an education system that emphasized human dignity, equality and social justice. Unfortunately this transformation had to take place with limited funding and resources. In a study of educators, 94% of teachers reported that teaching was more stressful now than in previous years. Technical and Vocational Education and Training (TVET) Colleges (previously FET Colleges) in South Africa have been transformed intensively, according to a Western Cape Education Study (WCES). Lecturers have been re-trained to accommodate the new curriculum and there has been a shift to outcomes based teaching and a specific assessment and moderation regime. Excessive overload caused by long syllabuses and assessment requirements is a problem, as well as administration overload associated with assessments.

The aim of the study was to identify levels of stress overload and to investigate its relationship with specific correlates and predictive variables among lecturers. A convenience sample of 145 lecturers was recruited from a public TVET college in Gauteng. Data collection was done with self-administered questionnaires. The results of the multiple linear regression analysis indicated that organizational constraints, interpersonal conflict at work, and distress tolerance were significant predictors of stress overload (PV). Organizational constraints, quantitative workload and distress tolerance were significant predictors of stress overload (EL) and organizational constraints, distress tolerance, gender and quantitative workload were significant predictors of stress overload (TS). It is recommended that future research use this study as a basis for comparison as very little college stress-related research is available and it may also be helpful in the development of interventions to alleviate stress overload among college lecturers.

**Keywords:**

Stress, college lecturers, workload, organizational constraints

## OPSOMMING

Opvoedkundige transformasie in Suid-Afrika was na die 1994 demokratiese verkiesing 'n prioriteit in die land se rekonstruksie en ontwikkeling. Die vorige ras gebasseerde onderwysstelsel moes vervang word met 'n onderwysstelsel wat menswaardigheid, gelykheid en reg laat geskied. Ongelukkig moes die transformasie plaasvind met beperkte fondse en bronne. In 'n opvoeder studie het 94% van die onderwysers gerapporteer dat onderwys nou meer stresvol is as in vorige jare. Volgens 'n Wes-Kaap Onderwys Departement Studie (WKODS), is voortgesette Onderwys en Ontwikkeling (VOO) kolleges in Suid-Afrika intensief getransformeer. Personeel moes opgelei word om die nuwe kurrikulum te akkommodeer en daar was 'n beweging na uitkoms gebasseerde onderwys en 'n spesifieke assesserings en moderasie proses. Oorlading as gevolg van lang sillabusse en assesseringsvereistes is 'n probleem, tesame met administratiewe oorlading geassosieer met assesserings.

Die doel van die studie was om vlakke van stres oorlading te identifiseer en ook om ondersoek in te stel na die verhouding wat dit het tot spesifieke korrelate en voorspellende veranderlikes by lektore. 'n Gerieflikheidsteekproef van 145 lektore in Gauteng is gewerf. Data invordering is gedoen deur self-geadministreerde vraelyste. Die resultate van die liniêre meervoudige regressie analiese toon dat organisatoriese beperking, interpersoonlike konflik by die werk en benoudheid verdraagsaamheid beduidende voorspellers van stres oorlading (Persoonlike kwesbaarheid) was. Organisatoriese beperkinge, kwalitatiewe werkslading en benoudheid verdraagsaamheid was beduidende voorspellers van stress oorlading (Gebeurtenisvrag). Wat die totaalstelling aanbetref was organisatoriese beperkinge, benoudheid verdraagsaamheid, geslag en kwantitatiewe werkslading beduidende voorspellers van stres. Dit word aanbeveel dat toekomstige navorsing die huidige studie as 'n basis van vergelyking kan gebruik omdat daar min navorsing oor stres onder kollege lektore gedoen is.

Dit kan ook behulpsaam wees in die ontwikkeling van intervensies om stres oorlading in kollege lektore te verminder.

Trefwoorde:

Stres, kollege lektore, werkslading, organisatoriese beperkings

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Opinions expressed and conclusions arrived at are those of the author and are not necessarily attributed to the university.

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## CHAPTER 1

### INTRODUCTION AND MOTIVATION

“Man should not try to avoid stress any more than he would avoid food, love or exercise”.

Hans Selye, (n.d.), in BrainyQuote.com

#### 1.1 INTRODUCTION

A shortage of teachers has a negative effect on the services rendered to students at educational institutions in South Africa. South African studies show that more than half of the schools in South Africa rely on temporary teachers, indicating a shortage of teachers due to various factors. (Monama, 2012). One such factor is the high level of stress among teaching staff. According to Pelzer et al. (2005), 55% of South African educators intend to leave the education profession, with teaching related stress as one of the main reasons. Childs and Stoeber (2012) emphasized that both stress and burnout in a workplace have negative impacts on all parties concerned; namely, the individual, the organization and the clients or students.

The main factors that contribute to teacher stress and teachers leaving the profession are workload, problems in the classroom, organizational constraints (such as lack of material and facilities) and interpersonal conflict (Moore, 2002; Mrozek, 2004). No published stress research was found despite an exhaustive search on lecturing staff in TVET colleges. Further research is necessary on higher education in South Africa, specifically colleges, to be able to provide a basis for comparison in this sector (Viljoen & Rothmann, 2009).

Educators in South Africa experience high levels of stress for various reasons. In an article in the Sowetan newspaper (Macupe, 2015, p.6), it was reported that teachers in a Johannesburg school feared for their safety after the principal was severely assaulted and had received death threats from one of his colleagues. In this article, an educational psychologist, Professor

Kobus Maree from the University of Pretoria, was quoted as saying that research has found that teachers in general are frustrated, highly stressed and work under a lot of pressure. He also mentioned that high stress levels could trigger violence among teachers. In April 2015, a separate incident was investigated in which a KwaZulu Natal teacher was hospitalized after the school principal stabbed him several times for coming to work late. The SA Council of Educators (SACE) reported in their 2013/2014 annual report that there had been a sharp increase in the assault of teachers among one another, and that 146 cases of unprofessional conduct had been reported (Macupe, 2015, p.6).

The aim of the current study was to identify the levels of stress overload and to investigate its relationship with certain correlates and predictive variables among teaching staff at a local TVET College in Gauteng, South Africa.

## **1.2 BACKGROUND AND CONTEXT OF THE PRESENT STUDY**

According to Milstein and Golaszewski (as cited in Travers & Cooper, 1996), the end result of teacher stress is that many talented men and women with high expectations of achievement are dispirited and disillusioned. Some leave the profession while those who remain are plagued by a multitude of physical, emotional and behavioural stress related manifestations, which explains what happens if educator stress becomes too much. The current study investigated the predictors of stress overload as determined by work related stressors, cognitive variables and demographic variables.

In the current study, work related stressors referred to factors such as workload, interpersonal conflict at work, organizational constraints and student and teaching related demands. The cognitive variables were concern over mistakes (an aspect of perfectionism) and distress tolerance. The demographic characteristics were age, gender, highest level of education and teaching experience. These variables are discussed in detail further on in the thesis. The coping strategies of lecturers in stressful situations were also investigated.

### 1.3 RATIONALE FOR THE PRESENT STUDY

The researcher wanted to distinguish between the potential theoretical-academic contribution (relevancy) and the social contribution (relevancy) in the present study. The theoretical/academic contribution lies in theory building. The Lazarus and Folkman Transactional Theory (Lazarus & Folkman, 1984, as discussed in section 2.2.1.2) was expanded by contributions from cognitive-behaviour therapy models (Beck & Clark, 1997; Clark & Beck, 2010; Ellis, 1962, 1980; Ellis & Dryden, 1997; Grieger & Boyd, 1980; Walen, DiGiusseppe & Dryden, 1992).

A fairly new addition to stress research is the cognitive predictor, distress tolerance. It has mostly been researched in the context of substance dependency, eating disorders and post-traumatic stress disorders (Anestis, Selby, Fink, & Joiner, 2007; Daughters et al., 2005; Marshall-Berenz, Vujanovic, Bonn-Miller, Bernstein, & Zvolensky, 2010). Both cognitive predictors (concern over mistakes and distress tolerance) were evaluated to test their prediction value regarding stress overload within the field of stress and coping.

It is important at this stage to mention the second cognitive predictor; namely, perfectionism, as the researcher also wanted to test the prediction value regarding stress overload and perfectionism within the field of stress. Perfectionism has been found to be a personality variable that underlies many psychological difficulties. Two types of perfectionism exist. The first type that causes emotional distress is called maladjusted perfectionism. The second type of perfectionism is benign and does not lead to emotional distress (Bieling, Israeli, & Antony, 2004). There are six subscales to the perfectionism scale of which concern over mistakes has a significant relationship with maladaptation. The other subscales are overall perfectionism measure, personal standards, parental expectations, parental criticism, doubts about actions and organization (Frost, Marten, Lahart, & Rosenblate, 1990). As mentioned

above, the focus of the present study was on negative/maladjusted stress, and that is the reason for only concern over mistakes being investigated.

The Stress Response Scale used in this study can contribute to future stress literature studies (Stress Overload Scale or SOS) (Amirkhan, 2012) as it is a relatively new scale that was developed by Amirkhan. The scale was completely empirically created through a sequenced series of factor analytical and psychometric studies that all used community samples matched to United States Census demographic proportions. It has two sub-scales (personality vulnerability and event load), as well as a total score.

In summary, the social or practical contribution of the study results may have application value for preventative as well as treatment programmes of stress in the field of education. The lack of stress research regarding lecturers in the college system necessitates a study on stress in this regard. The teaching environment (as seen in chapter 2) has definite stress factors, and many studies have been done on teaching stress in schools and universities, but not in colleges. This study can serve as a basis for future college lecturer stress studies, and can have strong comparison value. According to Cartwright and Cooper (2002), many organizations believe that there is nothing to be done about stress at work. Up to 53% of respondents in an industrial survey believed that there is stress in the workplace but that very little can be done to change it. The present study can highlight for the employer the existence of stress and also the possibility of making the necessary changes to eradicate stress in the college workplace.

#### **1.4 OUTLINE OF THE THESIS**

After the brief introduction above, chapter 2 provides the literature review on stress in teaching environments. The link between teacher shortages globally and teacher stress is highlighted in this chapter, together with the stress research that has been done.

Chapter 2 also provides the background of the South African Education system. It also indicates where the colleges fit into this system, what courses are being offered and which college (with its different campuses) were used in the study.

The different theoretical models of stress and stress related concepts form part of the conceptual framework in this chapter. Explanations and definitions regarding the occupational stressors, cognitive variables (concern over mistakes and distress tolerance), as well as the coping strategies are given.

Chapter 3 provides a detailed description of the aims (primary and secondary) and the hypotheses of this study. Objectives 1-7 are explained, followed by the four hypotheses that underlie the study.

Chapter 4 focuses on the methodology and procedures used in this study. Discussions in this chapter include the research design and the demographical information of the participants.

The measuring instruments used are described in detail, with the alpha values of both previous studies and the current study. The developers of each scale are also mentioned.

Finally, the data collection method, data analysis and the ethical consideration of the present study are discussed.

The results are reported in detail in chapter 5, and in chapter 6 the results and limitations of the study and recommendations for future studies are provided.

## **1.5 CONCLUSION**

Chapter 1 provided an introduction to the study, with the background and the rationale of the present study and also gave the outline of the thesis. The purpose of chapter 2 is to outline the literature review, which serves to support the current study.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 INTRODUCTION

Teacher shortages are internationally seen as a problem. Flynt and Morton (2009), voicing their concerns in their study of the teacher shortages in America, stated that teacher shortages clearly had a negative impact on the quality of education that students received. The intention to leave the teaching profession is universally linked to stress in the workplace. A news24 article (City Press, 2013) reported that Eastern Cape school children returned to school for the second term with huge teacher shortages. Yet another newspaper article (Rademeyer, 2013) mentioned that the South African educational system loses around 15 000 teachers each year, while only 8 200 new teachers are instated, creating a shortage of 7 000 teachers. Annette Lovemore (DA spokesperson) was worried about the fact that two thirds of the educators were older than 40 years, which means that the largest number of current educators would retire in the next 10 to 15 years. According to Chris Klopper, some school subjects had too many teachers, while shortages existed in other scarce subjects (Beeld, 2013).

##### 2.1.1 Stress Defined

It is important to investigate how stress researchers from the earliest times have defined stress and how this can be linked to the current study. One of the earliest stress researchers, Selye (1956), defined stress as a response of the body that is non-specific to any demand which is placed upon it. However, Lazarus (1966) stated that the impact of stressful events was to a certain degree determined by the person's perceptions of the stressfulness of the events. Lazarus and Folkman further (1984, p. 19) defined stress as "a relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her

resources and endangering his or her well-being". In a different view, McGrath, as cited in Nayak (2008), defined stress as an alleged imbalance between demand and response capacity under circumstances in which failure to meet demand has significant consequences.

However, according to Singer (2014), not all forms of stress have a negative effect on the human psyche. Positive stress (eustress) motivates and improves performance, is short-lived, is seen as within one's coping abilities and might even feel exciting. Negative stress (distress) results from having one's well-being threatened and is related to maladjustment, can be short or long term and is seen as being outside one's coping abilities. If a person feels that he or she cannot cope, this leads to anxiety. If the anxiety becomes too much, it may decrease performance and may lead to mental and physical problems. In this study, the focus was on distress (negative stress).

Cartwright and Cooper (2002) distinguished between optimal stressful demands (positive stress) and excessive stressful demands (negative stress). Optimal pressure can stimulate one to action and enhance performance, but excessive pressure can impact negatively on performance. The cost of stress for the individual as well as for the organization and the economy is high. With regard to the individual, stress can result in depressive moods, body pains, chest pains, high blood pressure, headaches, and many other ailments. For the organization, the manifestation of stress can be seen in high absenteeism, poor quality of work and low morale. It is of the utmost importance to prevent stress as far as possible for all involved.

In connection with optimal pressure, Lehloo (2012) stated that positive stress happens when a stressor leads to an improvement in a person's overall performance and productivity.

Positive stress can then lead to several benefits; namely, increased creativity (more effective and new methods of task completion); higher productivity (completing more tasks at work

and having more activities in your personal life); improved self-esteem (an overall feeling of happiness); and better health (positive stress can improve your immune system and it's less likely that a person will become ill).

Another kind of stress, occupational stress, is defined as an ongoing stress that is related to the workplace and the teaching profession is known to be one of the most stressful places in the workforce (Kaur, 2011). According to Gold & Roth (2003), overwhelming evidence indicates that teaching is extremely stressful, and that an alarming number of teachers leave early in their careers. Also mentioned is the existence of early stages of burnout among teachers.

The teaching profession was identified in a report in 2000 (The Scale of Occupational Stress) as one of the most stressful professions. The report found that 41.5% teachers reported themselves as "highly stressed", with 58.5% in a "low stress category", and 36% feeling the effects of stress all or most of the time (Kaur, 2011).

In his research, Butt (2005) recorded that strong negative feelings in teachers were related to work stress. Specifically, teachers experienced feelings of anger towards others as a result of their stressful work environment. Regarding the impact of stress on job dissatisfaction and early retirement, Van Dick and Wagner (2001) reported that stress was the main contributing factor while Emsley et al. (2009) pointed out that excessive amounts of stress could result in psychiatric disorders that could lead to absenteeism and early retirement from the teaching profession.

In yet another study, the following reasons were found to be contributors to teacher stress: fatigue and burnout; unclear expectations; long hours in the classroom; long hours preparing lessons; dealing with social issues; new teaching approaches and curricular; increased demands from administrative duties; campus policies; changes in administrative demands or



leadership; work overload; and handling inequities and inequalities (King, 2002). Further contributing factors were student attendance, attention problems, discipline and lack of motivation. Wilson (as cited in Aslam, 2013) also found that poor student behaviour, a lack of good relations with colleagues, lack of proper working environment and work overload were significant causes of stress in educator staff.

A 2002 teacher survey determined that the factors most frequently related to teacher stress were organizational, student, administrative and teacher-related factors. They contributed to 83.1% of the responses regarding teaching stressors in this survey (Butt, 2005).

Literature studies locally and abroad have proved that there is a definite existence of stress in the teaching environment. In England, teachers experienced their profession as stressful, with 58.5% reporting a “low stress category followed by 41.5% being “highly stressed” and 36% feeling the effects of stress all or most of the time (Kaur, 2011). In their study, Van Dick and Wagner (2001) found that stress was the main contributing factor in regard to job dissatisfaction and early retirement in England. In a teacher study of 21358 respondents, up to 20% reported some psychological distress and 9% suffered from severe distress (Louden, as cited in Paulse, 2005 the subject matter, and not being able to explain the subject matter well (Halim, et al., 2006). Furthermore, after a survey in England on the existence of teachers’ stress, Mrozek (2004.) revealed that between 20% and 33% of educators reported teaching to be either very or extremely stressful, and that 30% of new teachers left the profession before their fifth year.

In a U.S. nationwide teacher study with 1201 teachers, the factors named as the top five sources of teacher stress were a high workload; teaching needy students without enough support; little time to relax; unmotivated students and ongoing accountability (Richards, 2012). Difficult teaching topics, especially in subjects like science was cited as a cause for

stress with Malaysian science teachers. Reasons for the stress, among others, were too little preparation time and often a lack of understanding of the work.

Chaplain (2008), in a study of 268 full time trainee teachers in South Africa, investigated, among other things, job satisfaction and reported that more than half of the sample regarded teaching as a very or extremely stressful profession. The research identified the following problems for teachers: poor working conditions; workload increase; lack of learner discipline; an increase in violence against teachers and the disappearance of teacher authority. Quan-Baffour & Arko-achemfuor (2013) revealed that frustration also occurred as teachers in South Africa often remained in the same post level position for their entire teaching career. Thus, the lack of job satisfaction and limited opportunities might lead to teachers either underperforming or leaving the teaching profession in large numbers.

Emsley, Emsley and Seedat (2009), in another South African study, made it clear that teachers experienced their jobs as stressful. Workload and relationships with staff members and changes in the educational system were also mentioned as stress contributing factors. In a Durban study, teachers cited workload as the most stressful, followed by learner discipline and then by curriculum changes. Also named as stress factors in this school were overcrowded classrooms and school security (Arokium, 2010). Further supporting evidence on teacher stress was found in a study done by Raju and Rani (2012), which indicated that 50% of educators faced stress in their lives owing to workplace stress.

Educators at tertiary levels were also subject to stress. In research conducted on 200 college degree teachers (100 male and 100 female) at Kerala State in South India regarding work stressors, it was clear that the majority of the teachers experienced stress in their work (Sindhu, 2014). Similarly, Jagadeesh (2013) noted that among college educators, the stress factors were found to be inadequate salary, resources and facilities, problems with superiors

and peers and long working hours. In another stress survey of 1000 staff members in universities and colleges in England, Wales and Northern Ireland, Smith (2007) indicated that work-related stress was greatly linked to demands concerning meeting changing targets and deadlines; longer working hours; workload that kept on increasing and regular changes in timetables or courses. In this survey, more than 80% of educators mentioned that their workload had increased over the past three years, and had consequently increased their stress levels. Regarding the specific factors that contributed to the increase in workload, 88% named increased administrative work, while 46% found that more students per lecturer contributed to an increase in workload. Longer hours also contributed to stress, with 40% of the staff working an average of 46 hours or more per week, and 19% working 51 or more hours. Complaints were registered regarding sleep patterns, exhaustion and anxiety caused by stress, with 15% of educators taking leave because of work-related stress.

A Zimbabwean study conducted among student teachers revealed that the main stressors were difficult learners, heavy workload, and shortage of teaching and learning aids (Mapfumo, Chitsiko & Chireshe, 2012). Results from a study by Barkhuizen and Rothmann (2008) on the occupational stress of academic staff in South African higher education institutions, showed that academic staff experienced high levels of job stress, especially in regard to pay and benefits, overload and work-life balance.

## **2.2 SOUTH AFRICAN EDUCATION SYSTEM**

A brief discussion follows on the specifics of the South African education system, specifically applicable to colleges.

### **2.2.1 Three Main Streams of the South African Education System**

The first stream is called the General Education stream (first nine years of school education).

The second stream is the Further Education and Training stream, the Technical and

Vocational Education and Training (TVET) Colleges, which comprise of vocational and occupational education and training that is offered at the colleges and includes the last three years of general school education. The last stream is Higher Education (Universities and Universities of Technology – TVET colleges became part of Higher Education as from April 2015). TVET Colleges cater for students who want to pursue a vocational career path (TVET colleges, n.d.).

### **2.2.2 TVET Colleges Offer a Variety of Courses or Programmes**

These courses have been developed to supply the skills needed by employers. The courses vary from short courses, which could be a few hours to formal diploma courses of three years. The range of courses is wide and some colleges may offer up to 300 different courses which are referred to as “post-school”. This implies that this education takes place after leaving school, even if the student has only completed grade 9. The age restriction for students who want to study at the colleges is 16 years or older. The following are examples of the types of programmes offered at the TVET colleges.

- The National Certificate (Vocational) – NC(V) programmes are a three year (one year per level) programme with full certificates on Levels 2, 3 and 4. Level 4 is equivalent to the National Senior Certificate (matric). The admission requirements for this programme are Grade 9 and college requirements as set per programme.
- The Nated/Report 191 programme consists of 18 months theoretical studies at colleges and 18 months practical work in the relevant workplace. Engineering studies range from N1-N6, while Business and Utility Studies range from N4-N6. The Engineering studies take one year to complete N1-N3, and one year to complete N4-N6. The Business and Utility Studies take 18 months to complete the theory and 18 months to

do workplace application. The admission requirement for N1 is grade 9 and for N4 it is grade 12 (TVET Colleges, n.d.)

- Other programmes offered are: The learnership and skills programmes, which are based on a group of National Qualifications Framework (NQF) registered unit standards, offered under the patronage of the Skills Education Training Authorities in South Africa (SETAs) and they are quality assured by the SETA Education and Training Quality Assurance Body (SETA ETQAs). Skills programmes can eventually build up to form a full qualification. Adult basic education and training programmes (ABET or AET) are also offered at colleges (FET, 2014)

The TVET curriculum will be reviewed in the near future by both Basic Education and Higher Education and Training departments (Monama, 2014) as part of the changes brought about by the TVET colleges being regarded as a solution to the skills problem in South Africa. Twelve new campuses were opened in 2014. A White Paper on Education and Training on “Building an expanded, effective and integrated post-school system” was approved by Cabinet in November 2013. A census held in 2011 showed that 3.2 million young people between the ages of 15 and 24 years were not in school or employed. Higher Education and Training Minister, Blade Nzimande, said the department wanted to increase enrolments at TVETs to one million by 2016 and 2.5 million by 2030 (Monama, 2014). From this we can see that colleges are going to play a major role in education in the future of South Africa. The target student group are responsible senior adolescents as well as adults who are serious about their studies enabling them to acquire skills that are marketable in the workplace. There are many colleges nationally, but this study was done at a TVET college that is made up of four campuses. Research relating to stress in Basic Education as well as Higher Education was reviewed, as there are elements of both in the college system.

A Western Cape Education Study (WCES) on colleges conducted by Papier (FET Institute, 2009) mentioned that TVET colleges in South Africa had been transformed intensively in 2007. Teaching staff were re-trained to accommodate the new curriculum in 2006. There was a shift to outcomes based teaching and a specific assessment and moderation regime in 2007. Serious introspection into colleges was recommended by this report. Some of the aspects that lecturers complained about were poor learner literacy; poor student attendance especially on Mondays and Fridays; discipline problems with younger learners; textbooks arriving late; and a poor learning culture.

Before an attempt was made to scrutinize stress and stress related research, a few models of stress were reviewed first. A theoretical framework relevant for the current study was discussed in more detail in the conceptual framework later in the chapter.

### **2.3 DEMOGRAPHIC CHARACTERISTICS**

Demographic variables include characteristics such as age, gender, race, educational level, marital status and teaching experience. Raveeswaran, Raveendran and Ananthasayanan (2011), conducting a study to determine whether teacher stress was associated with demographical factors, discovered significant differences in teacher occupational stress based on age, sex, experience and parenthood. The focus in this present study is on age, gender, highest level of education and teaching experience.

Literature studies on demographic variables have been carried out globally. In a study by Okeke and Dlamini (2013), stressors with teachers in Swaziland were discussed. A weak relationship was found between job stress and gender, marital status and qualifications. In a 2007 educator study in China, the greatest stress however was found with new teachers (fewer than six years) and teachers with between 16 and 20 years' service experience.

Veteran teachers (25 years and more experience), experienced the least stress (Pei & Guoli, 2007). Age was found to have a moderately significant relationship with job stress.

In regard to gender, a study done by Barkhuizen and Rothmann (2008) recorded no significant differences between male and female academics regarding the amount of occupational stress experienced. In a Canadian study, female teachers experienced more stress from workload and student behaviour than their male counterparts (Klassen, 2010).

Aftab and Khatoon (2012) concluded in their study of 608 teachers from 42 schools that male teachers had more job stress than females.

Bhagawan, as cited in Nayak (2008), researched 100 educators from 20 schools in Orissa, India. The sample consisted of 53 male and 47 female teachers. This study revealed that the higher the teaching experience, the lesser the burnout as perceived by the teachers. In the same study, gender differences were also investigated. It was found that male teachers experienced more stress than female teachers. Blix et al., as cited in Nayak (2008), recorded in their research on occupational stress among university teachers that the educators with fewer than 10 years' involvement in teaching experienced higher stress levels than those with more than 20 years' experience.

## **2.4 OCCUPATIONAL STRESS FACTORS**

Kyriacou (2001) named ten main sources of teacher stress. They included, to mention a few, role overload, poor learner behaviour, lack of resources, teaching students who lack motivation, time pressures, poor working conditions and dealings with colleagues.

Occupational workload, interpersonal conflict, organizational constraints, student and teaching related demands as occupational stress factors are discussed in the next section.

### 2.4.1 Workload

Workload refers to how much work is involved in a specific job. Quantitative workload indicates how often, fast, hard and/or how much a person has to work. This differs from qualitative workload which refers to the difficulty level of the job (Spector & Jex, 1998). With increasing demands in educational institutions come increasing workloads and resultant increasing stress to teachers globally. A heavy workload with time constraints thus often features as a stressor in educator studies (Schulze & Steyn, 2007). Excessive overload caused by long syllabuses and assessment requirements and administration overload associated with assessment prove to be problematic.

In post-apartheid South Africa, the teaching environment is constantly changing, resulting in more stress (Schulze & Steyn, 2007). Van Dick and Wagner (2001) mentioned in their study on stress and strain in teaching that a large number of studies showed the extent to which educators were exposed to heavy workloads and the resultant stress and strain. A university lecturer study on workload found that the quantity, rather than the academic nature of the work was stressful. Thorsen (1996) commented that the long hours that were spent at work and tasks with time constraints caused significant stress among lecturers. An average of 9.7 hours was reported during evenings and 3 hours 15 minutes over weekends. Non-teaching tasks (filing, photocopying, etc.) were named as the most significant problem regarding excessive workload while the most popular reasons for excessive workload were monitoring, assessing, recording, reporting and accountability (Butt, 2005). Results from a study by Barkhuizen and Rothmann (2008) on the occupational stress of academic staff in South African educational institutions showed that academic staff experienced high levels of job stress, specifically with regard to pay and benefits, work overload and work-life balance.



Bowers (2006), as reported in a Skillsoft<sup>1</sup> study, named workload as one of the top ten workplace stressors and irritations.

Globally, Van Dick and Wagner (2001) found in their research on stress and strain experienced by German teachers that educators were exposed to heavy workloads, which in turn resulted in stress and strain. In a study among student teachers in Zimbabwe, the main stressors were difficult learners, heavy workload, and a shortage of teaching and learning aids (Mapfumo, Chitsiko, & Chireshe, 2012). An interesting workload challenge was carried out in the United Kingdom (October-November 2014) where teachers across the country stood a chance to tell the government what they thought should be done to improve their working lives in teaching. In the results, 56% of educators in the sample mentioned that recording, monitoring and analysis of data was the most unnecessary and unproductive task that had to be done by them, while 54% reported that excessive detail and the frequency of marking were unnecessary (Hodge, 2015).

The 2013 Teachers' Workload Diary Survey in England (commissioned by the Department for Education (DfE)), showed that a teacher's time consisted of the following: 1/3 of the time was spent teaching and 1/3 spent on planning, preparation and marking of scripts. The remaining time was spent on paperwork, management and working with pupils or parents. The average secondary teacher spent 12 hours per week working in the evening and weekends. Most of this time was spent marking and planning. The complaints were about excessive workload related to huge amounts of time spent on inputting/analysis/reporting of data and detailed lesson planning (DfE, 2014).

Further afield, moderate to severe workload problems were identified in New Zealand secondary schools. Manageability of workload related more to stress than to the number of

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<sup>1</sup>an online learning provider worldwide

actual hours worked. The factors that had an impact on teachers' perceptions of workload differed from one school to the other. They included support for and management of student behaviour, adequacy of resources and levels of personal commitment to the teaching profession and students (Ingvarson, Kleinhenz, Beavis, Barwick, , Carthy, & Wilkinson, 2005). A comparative study of Scottish and Australian teacher stress indicated that both groups of teachers thought that role overload was a strong source of occupational stress (Pithers & Soden, 1998).

#### **2.4.2 Interpersonal Conflict**

Conflict can happen through many factors. Personal factors include individual differences caused by different values and beliefs; threats to status; lack of trust; showing no regard for others; lack of consideration; coming late for work; untidiness, and noise (Elmagri, & Eaton, 2011). Second, organizational factors can play a major role in conflict at work. These can include limitations of resources; unfair treatment; and uncertainty of one's role in the job. Some more organizational factors are organizational change; communication breakdown and environmental stress, which include resource problems; downsizing and high degrees of uncertainty (Elmagri, & Eaton, 2011). Interpersonal conflict is related to problems of getting along with people at work, for example, getting into arguments and spreading malicious rumours (Spector & Jex, 1998). In a Durban study, teachers indicated that they preferred not to confront their colleagues in a conflict situation. This could lead to less future conflict (Arokium, 2010).

Conflict is viewed by some as negative and has to be avoided at all costs but the reality is that a conflict-free workplace has never existed. In every company where people have to live and work together, conflict is an integral part of the workplace in the form of tensions, aggressions, negative attitudes and frustrations. Conflict, however, can have positive

outcomes, lead to personal growth and be used to an individual's best advantage (Bankovskaya, 2012).

A survey done by the Society for the Human Resource Management (Mintz, 2013) that has members in 160 countries (SHRM) ascertained that almost 60 per cent of survey respondents had seen violent incidents in their workplace over the past three years, with "personality conflicts" as the main cause. The results of the survey revealed troubling conflict problems in the workplace:

- 53 % of workers have lost time at work over worries about a previous or potential confrontation with a colleague.
- 28 % have lost work time in their attempts to avoid confrontations.
- 37 % are less committed to their employer because of a hostile workplace altercation.
- 22 % say they're putting less effort into their work because of conflicts at work. (Mintz, 2013)

Research proves that conflict problems occur in schools throughout the world. Major causes of stress in six secondary schools in the Lejweleputswa district, one of five districts of Free State, South Africa, (according to deputy principals) were shortages of resources, poor communication and gossip and taking care of absent teachers' learners (Mphatsoe & Motseke, 2014).

An Islandic research on reasons for conflicts in organizations revealed that personality conflicts and goal differences were reasons for conflict (Bankovskaya, 2012). In a Kenyan school study, conflict management methods used by secondary school head teachers showed that the causes included administrative incompetence of head teachers, poor discipline of students, teachers or administrators, poor academic performance and inadequate resources (Lagat, 2013). However, another Kenyan study of teachers and principals found that their

work relationship conflict had the lowest influence of all types of conflicts (task conflict, structural conflict and goal conflict) on the performance of teachers (Mwangi, 2014).

A Malaysian study on the causes of conflict and effective methods to solve conflict management in Thailand, indicated that there were mainly four types of interpersonal conflict in secondary schools in Yala. These included principal and teacher, teacher and teacher, teacher and student and teacher and students' parent conflict (Salleh & Adulpakdee, 2012).

In their research, Eres and Atanasoska (2011) found that stress related to poor colleague relations was a source of teachers' stress and that conflict with students took place when students were disruptive. Canadian teachers handled job stress caused by student behaviour significantly better if there was a belief that they could maintain student discipline. Teachers' efficacy in handling discipline therefore may lower the stress experienced by student behaviour (Klassen, 2010).

However, teachers are expected to interact effectively with students, parents, colleagues and managers. Agreeableness and the presence of social support influence a teacher's response to conflict. A study done on interpersonal conflict at work by Ilies, Johnson, Judge & Keeney (2010) showed that conflict was more strongly associated with negative affect for agreeable employees, and also for those employees with lower levels of social support at work. The results of this study therefore suggest that personality (agreeableness) and context (social support) are significant moderators for the affective implications of interpersonal conflict at work.

### **2.4.3 Organizational Constraints**

Organizational constraints (stressors) are situations or things that hinder task performance at work, for example, faulty equipment or incomplete information (Spector & Jex, 1998).

Organizational stressors can come not only from factors that are inherent to the specific job, but also from factors such as the structure and climate of the workplace (management style, communication and company politics). In their research, Clarke and Cooper, as cited in Biron, Ivers, Brun and Cooper (2006), found that organizational stressors from the structure and climate of the workplace can have more impact on a person than the actual job stress itself. Stress can be caused by any event that a person sees as a threat to his or her coping strategies.

Bakker, Hakanen, Emerouti, and Zanthopoulou (2007) reflected in their study that support from supervisors, innovativeness, information, appreciation and the environment at the workplace were all important workplace resources for teachers. Each one of these was able to shield the teacher from the negative blow of student misbehaviour on work engagement. High job stress was found to be associated with low social support at work in a study done by Griffith, Steptoe, and Cropley (1999). Furthermore, a comparative study on organizational constraints between China and the United States by Liu, Nauta, Li and Fan (2010) recorded significant correlations between organizational constraints and job strain in both countries.

In a South African study, Modisaotsile (2012) reported that the quality of education in South African public schools was below standard. Classrooms were overcrowded with the teacher-student ratio being 1:32. She also mentioned a shortage of resources despite large budgetary commitments by government. A 2013 City Press article mentioned that a March 2013 student poll with 4000 South African pupils, aged between 13 and 24, showed that a shortage of textbooks and overcrowded classrooms were experienced as significant problems in the teaching environment.

Similarly, in a recent Zambian study, textbook shortages were named as a problem by teachers. Teachers felt that they desperately needed more books, and the promise of

receiving them in the future was not good. Some teachers developed positive strategies to solve this problem, but others developed negative strategies to cope with the shortage of text books (Lee & Zuilkowski, 2015).

#### **2.4.4 Student and Teaching Related Demands**

Kyriacou (2001) named ten main sources of teacher stress. They included, to mention a few, role overload, poor learner behaviour, lack of resources, teaching students who lack motivation, time pressures, poor working conditions and dealings with colleagues.

Teaching duties are all the professional tasks done by teachers during their activities concerned with the teaching of students using a syllabus. Teaching duties include classroom management and discipline, student performance, preparation of lectures and assessments. In this regard, a 2007 educator study on the influence of teacher stress on students reported that a lack of effort significantly predicted teacher stress. The reason for this could be that educators did not feel in control of their students. Educators generally based their worth of self-efficiency on how well their students performed. If a student put in little effort, this could likely decrease the educator's self-efficiency, which could be a cause of teacher stress (Geving, 2007).

Malaysian teachers felt that the principal should take charge of students that misbehaved, so that the teacher's focus could be on teaching and learning (Halim, et al., 2006). In a 2008 educator study, the disruptive behaviour of students, as well as perceived work stress were significant predictors of distress (Chaplain, 2008).

In a Pakistan study, classrooms where disruptive behaviour existed had less teaching time and students achieved lower marks in tests. It proved to be extremely time-consuming for the teacher to sort out the disruptive behaviour and was linked to higher educator stress and even

burnout. Classroom discipline has therefore been ranked as one of the most serious problems that stand in the way of educational objectives (Ghazi, Shahzada, Tariq & Khan, 2013).

Many other studies have also shown that students that are disruptive are a great predictor of strain amongst teachers (Boyle, Borg, Falzon, & Baglioni, 1995; Evers, Tomic, & Brouwers, 2004; Kinnunen & Salo, 1994). In their longitudinal study of 362 teachers, Burke, Greenglass, and Schwarzer (1996) found that confrontation with disruptive students was an important predictor of stress and burnout.

Unmotivated students in the classroom were also named in a teacher study as an important concern for educational leaders and management. The problem that arose was that the teachers were sometimes not motivated themselves, and could therefore not motivate the students (De Jesus & Conboy, 2001). In a Western Cape Education Study (WCES) poor learner performance was researched. The national certification pass rate for 2007 was 10% while the Western Cape pass rate achieved 20% for 2007 and 23% for 2008 (FET Institute, 2009).

In addition to the above problems, a strong link was found between student attendance and outcomes in a study that was conducted by the Western Australian Auditor General in 2009. Students that attended poorly had lower academic performance, and also other negative academic and social outcomes (Western Australian Auditor General, 2009). In a 2013 Queensland government report on learner attendance, poor attendance was named as representing a loss of educational opportunity and was costly to the community. Student absenteeism categories were named as follows: authorized (illness, funeral); unauthorized (shopping, visiting friends, etc.); and unexplained absenteeism (no information provided for the student's absenteeism). Staff related problems were named as one of the possible reasons

for attendance problems. In this regard, staff morale has been strongly correlated with student attendance.

Teaching students with disabilities presents further difficulties. Some educators worried about how to go about communicating with a disabled student, if they would be able to teach the student effectively and also the impact of the disabled student on the teaching time and on the rest of the class (Fichten, Goodrick, Amsel & Libman, 1996). In the same way, a Hong Kong study on working with challenging students reported that teachers who worked with challenging students had high stress levels, very negative beliefs and this had very high impacts on them. An increase in negative beliefs in teachers resulted in the teacher being more susceptible and vulnerable to students who had challenging behaviours, which in turn resulted in increased teacher stress and ultimately led to negative impacts on teachers (Pang, 2012).

As has been mentioned before, a major source of stress for teachers is workload. The Telegraph reported on the unacceptable workload of teachers in the United Kingdom (Courtney, 2014). In this article, Courtney revealed that surveys in the UK had proved that increased working time of teachers was spent on paperwork because of the system of accountability. The National Union of Teachers (NUT), which represents teachers in England, Wales, the Channel Islands and the Isle of Man, did a survey in September, 2014 and found that 90 % of teachers had thought about leaving the teaching profession during the past two years because of the heavy workload.

According to an article in the Telegraph on July 2014, heavy workloads had negative effects on teachers' families and personal lives. Many teachers worked 60-hour weeks and this could not be sustainable. Teacher morale was reported to be low, with two out of five



teachers leaving the profession within their first five years of teaching. Experienced teachers also left as they said they did not recognise their profession any more (Blower, 2014).

In the South African Education system, staff performance appraisals take place in teaching, and can be the cause of stress to educators. The Council for Quality Assurance in General and Further Education and Training (referred to as Umalusi) mentioned in their 2010 report that poor learner performance was a serious issue that needed to be addressed (FET Institute, 2009).

## **2.5 COGNITIVE VARIABLES**

### **2.5.1 Concern over Mistakes (an Aspect of Perfectionism)**

Perfectionism is a personality trait and reflects a striving towards flawlessness. Perfectionists usually have very high standards of performance, are very critical of themselves and the way in which others perceive their performance (Frost, Marten, Lahart, & Rosenblate, 1990).

Perfectionism has been linked to higher than usual levels of stress (Gould, Udry, Tuffey, & Loehr, 1996). People with high socially prescribed perfection (they believe that others demand perfection of them) behave in ways that are in contrast to their efforts to be perfect (Mushquash & Sherry, 2012). In a study with 195 school teachers over a three-month period, perfectionism predicted longitudinal increases in exhaustion and pessimism (Childs & Stoeber, 2012).

In the present study, an aspect of perfectionism was studied; namely, concern over mistakes (Frost et al., 1990). This conduct can be conceptualized and understood within the broad field of the cognitive-behaviour therapy theory, specifically within Beck and Clark's cognitive model of anxiety (Beck & Clark, 1997; Clark & Beck, 2010) and the Rational Emotive Behavior Therapy (REBT) (Ellis, 1962, 1980; Ellis & Dryden, 1997; Grieger & Boyd, 1980; Walen et al., 1992).

It is important to note the two major dimensions of perfectionism; namely, striving for perfectionism and perfectionistic concerns (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993). High personal standards and striving for perfectionism are seen as healthy and have a positive outcome. In contrast to this, perfectionistic concern is the unhealthy and neurotic form of perfectionism (maladaptive), for example, a concern over mistakes or fear of failure, the pressure to be perfect, and doubt about one's actions (Stoeber & Otto, 2006). In this regard, a study with 281 women showed that "maladaptive evaluation concerns" was determined by, among others, high loadings of concern over mistakes (Frost et al, 1993). Personal standards, concern over mistakes and doubts about actions were three subscales of the perfectionism scale included in a study with 1022 paired and unpaired female twins from the Mid-Atlantic twin registry.

Concern over mistakes was found to be the core feature of perfectionism with doubts over actions and personal standards serving as indicators of concern over mistakes (Tozzi et al., 2004). When testing the relationship between mathematics performance and concern over mistakes perfectionism at the Islamic Azad university with 200 students (125 female and 175 male), the results were as follows: Performance in mathematics became lower when perfectionism was great, so that an increase in perfectionism in the subscale of concern over mistakes was linked to weak mathematics performance (Soleymani & Rekabdor, 2010).

In a study by Stoeber and Rennert (2008) with 118 secondary teachers in the United Kingdom, it was found that striving for perfection and pressure from fellow colleagues to be perfect did not contribute to stress in teachers. However, a negative reaction to imperfection by the perfectionist him/herself was seen as one of the factors contributing to stress and burnout. Perfectionism is only a source of stress and distress if the perfectionist is overly concerned about mistakes. Perfectionists, who are overly concerned about mistakes, a lack of personal accomplishment and negativity about their job, can become careless about the

people they should care for and this can lead to physical and emotional burnout. In a similar study done by Bieling et al. (2004), the most problematic aspects of perfectionism that produced stress were named as a concern over mistakes and doubts about doing the job correctly and not as much because of high goals for oneself and others or being organized. Perfection does not have to be the cause of stress and distress. It can also be associated with processes that are adaptive, as long as the perfectionist is not overly concerned about making mistakes. However, when perfectionists are overly concerned about mistakes, they may experience increased stress and ultimately burnout (Stoeber & Rennert, 2008).

### **2.5.2 Distress Tolerance**

The actual or perceived ability to endure emotional stress is called distress tolerance and a number of studies have reported that people with post-traumatic stress disorder struggle with low distress tolerance. Distress tolerance is seen as an important ability (Tull, 2012). *Low* distress tolerance is a cognitive construct indicating that negative emotions are not tolerated well. The individual therefore tends to avoid them or tries to discover ways to find immediate relief from them. If persons cannot handle their emotions, they focus all their attention on these emotions, and therefore their performance in their jobs or elsewhere will be negatively impacted (Azizi, 2010).

According to Ushijima, Mizuki and Yamada (1985), the transition of stress into distress however depends on different factors. The duration and intensity of the stressor is important in this regard. These factors predict whether the symptoms will be physical or behavioural. In a study done by Maier and Watkins (2005), experiments with rats to test distress tolerance showed that rats that are exposed to unavoidable shock developed clear signs of distress, whereas rats that could end the shock exposure did not develop distress, even if the shock duration and intensity were the same as those with the unavoidable shock.

As seen in concern over mistakes, low distress tolerance can also be conceptualized and understood within Beck and Clark's cognitive model of anxiety (Beck & Clark, 1997; Clark & Beck, 2010) and REBT (Ellis, 1962; 1980; Ellis & Dryden, 1997; Grieger & Boyd, 1980). Schloss and Haaga (2011) mentioned in their study that low frustration tolerance has been implied in REBT for a long time as a vulnerable factor regarding psychological distress. This literature is further discussed below.

### **2.5.3 The Relationship between Cognitive Variables and Stress/Distress**

In a Spanish study among teachers (Bermejo-Toro & Prieto-Ursua, 2006), a high level of distress was seen. A significant correlation was found in the Spanish study between irrational beliefs and teacher distress as well as with all the educator distress variables (role-related stress, burnout, psychopathological symptoms and depression).

In yet another educator study with 58 teachers from five secondary schools, high levels of teacher stress were a result of high self-reported irrational beliefs and low self-efficacy. If a teacher blames their lack of teacher skills on students' negative response to them (viewing a stressor in a negative way), and they link it to similar negative past events, then a negative stress reaction will probably be experienced by them. If rational thinking is however employed by the teacher in the same situation (remembering positive responses from other pupils), with a resulting positive outcome, then a positive stress reaction is more probable (Robertson & Dunsmuir, 2013). Similarly, De Jesus and Conboy (2001) mentioned the fact that extensive research in several studies showed a significant influence of irrational beliefs on the vulnerability of teachers to develop distress symptoms.

## **2.6 COPING STRATEGIES**

Desmond, Shevlin, and MacLachlan (2006) distinguished between three main coping styles; namely, problem solving, seeking social support and avoidance. Problem solving coping

involves a direct problem-orientated approach to actively manage stressors. It seems to be associated with reduced psychological distress, while avoidant coping is associated with increased distress (Desmond et al., 2006). Seeking-social-support coping takes place when a person turns to others for help, advice and support (Desmond et al., 2006). It is associated with both increased and decreased distress (Folkman, 2010).

Coping refers to the efforts to manage (master/tolerate/reduce/minimize) demands (stressors) from the environment as well as internally. A person's reaction depends on his/her interpretation of the demands placed on him/her. The impact that the stress will have is partly dependent on the person's capability to cope (Lazarus & Cohen, 1977). Appraisal takes place when a person becomes aware of a stressor and then analyses his/her own ability to deal with the stressor. If appraisal of the stressful event has been done, the next decision will be how to cope with or respond to the stressor.

Although it is of great importance to identify stress factors, it could be even more important to develop coping strategies to be able to assist the teacher in resolving professional problems (De Jesus & Conboy, 2001). In this regard, a study that was done with three universities (134 randomly chosen new and experienced faculty members) indicated that avoidant coping did not seem to be an effective strategy for reducing strain that was being experienced by faculty members, and that this type of coping increased the strain. Role overload and avoidant coping acted as significant predictors of strain (Lease, 1999).

According to Folkman and Lazarus (1980), people usually use both problem-focused and emotion-focused coping if they encounter stressful situations. The predominant use of one type of coping strategy above another will be determined partly by personal style and the type of appraisal of the stressful event that is present. According to them, people are variable in the type of coping strategy that they use. Problem-focused coping is however used more in

work-related contexts, or when the person feels that something can be done about the situation. Emotion-focused coping tends to be used more in a health context or in situations that have to be accepted, and the person feels that nothing can be done about that situation.

If a teacher's coping mechanisms are effective, his/her stress levels are controlled effectively.

With the correct coping measures, teacher distress can even become a positive type of stress or eustress (Gold & Roth, 2003). A United States study found that teachers who relied first on family and friend relationships were successful in their coping efforts (Richards, 2012).

Avoidance coping has typical "flight" tendencies through which a person tends to withdraw from the problem by using, for example, fantasies (Desmond et al., 2006).

Bhagat, Allie, and Ford (1991) found that problem-solving coping strategies were far more effective in moderating job stress and personal life stress than emotion-focused coping strategies. A significant increase in the use of problem-solving techniques, when a teacher was confronted with work-related stressful situations, was seen. When confronted with a stressful situation, demands can be made by the internal or external environment (stressors). These demands can upset balance, and thereby affect the physical and psychological well-being of a person. Action is required to restore the balance between a person's appraisals of demands and the ability to cope (Lazarus & Cohen, 1977).

It is very clear, then, that psychological distress can be caused by many factors, but coping styles are a great contributor to resolution. The coping style used is decided by a person's belief in the availability of necessary resources to resolve the stressor (Lazarus, 1966, 1991). Resources may include personal (e.g. coping skills, as well as other resources (e.g. social and financial). In a study done with Hong Kong teachers, it was found that teachers under stress might make use of avoidant coping, and this might lead to more psychological symptoms.

Not all coping strategies reduce distress and coping strategies such as avoidance can even worsen distress (Chan, 1998).

In a study by Sahu and Mishra, as cited in Nayak, (2008), the life stress and coping styles in teachers were explored. The study consisted of 120 male and 120 female educators. The coping style that was mostly used by males was the emotion coping style, together with the problem-focused coping style. The female educators used only the emotion-focused coping style. In an educator study conducted by Arokium (2010), results indicated that teachers who received social support from colleagues experienced stress as being less negative than those who did not receive social support from their colleagues.

Amirkhan (1990) developed a coping scale that makes it possible to identify coping dimensions that comprise the general denominators of human transactions with stress. This scale can be used on a variety of people and situations in contrast to the scales that are more descriptive, but are limited in the context they can be used in. In a study with 260 secondary school teachers in India, a significant relationship was found between coping strategies and teacher effectiveness (Kishan, 2013).

## **2.7 STRESS OVERLOAD**

Stress overload happens when there is the prevalence of excessive amounts of stress. The symptoms of stress overload can include panic attacks, anxiety and even depression (DiVita, 2011). In a study on teacher stress in secondary and elementary teachers in China, occupational stress was found to be significant and even affected the performance and health of teachers involved in the study, with only 7.5% reporting that they were not under stress (Pei & Guoli, 2007). In a 2006 Nigerian university lecturer study (eight universities were used), a significantly high level of stress was reported, with a mean of 75.8 against the

theoretical mean of 72. This stress was reported throughout federal or state universities, married or single, male or female lecturers (Ofoegbu & Nwadiani, 2006).

In a 2009 South African teacher study with 81 permanently medically disabled teachers it was reported that the majority of them named work related stress as a significant factor that had contributed to their psychiatric disorder. Patients in this study were relatively young at 44 and older (Emsley et al., 2009). A study with 239 Swaziland teachers found that they were moderately stressed by their work. Main stressors in this study were contractual problems and the nature of their work, while work relationships and their work environment were only mildly stressful (Okeke & Dlamini, 2013).

Stress theories all agree on the idea of overload. There is an interaction of two constructs; namely, demands and resources and these constructs must happen in a specific way; namely, high demands that meet low resources before stress and illness occur. According to Amirkhan (2012), stress overload takes place when demands overwhelm resources. He stated that two factors underlie overload; namely, personal vulnerability and event load. He also developed a scale for the testing of stress overload. Most stress measures consist of only one scale focusing on either the demands or the person, but not focusing on the interaction between these two variables. Amirkhan focused in his operational definition of stress on the overload component and less on the emotional component (symptoms such as depression, anxiety, etc.).

## **2.8 THEORETICAL MODELS ON STRESS AND STRESS RELATED CONCEPTS**

### **2.8.1 Introduction to stress models**

Different models have been developed to explain stress. The models that will be discussed are: the general adaptation syndrome model, the transactional model of stress and the cognitive model of anxiety. A brief overview of each model follows:

#### *2.8.1.1 The General Adaptation Syndrome*



Hans Selye (1976) developed a model called “The General adaptation syndrome”. The value of this model lies in the explanation that when an individual is in a stressful situation (perceived as threatening), this leads to a body response process which has a negative effect on the person, manifesting as psychological, physiological and behavioural problems. According to this model, the body will respond to a source of stress to be able to restore the body’s homeostasis.

The General Adaptation Syndrome is the body’s struggle to maintain balance in a stressful situation. Selye believed that the body has a limited supply of adaptive energy, which deals with stress. The body however will follow a series of steps to try to regain stability when under stress. The above syndrome has three phases; namely, the alarm stage, the resistance stage and the exhaustion stage. The alarm stage is also known as the fight or flight response, where there is a stressful situation, the body alarms you with a surge of hormonal changes, and you are instantly equipped with the energy to handle the situation. In the resistance stage, stress hormonal levels may return to normal but reduced defences and adaptive energy exists. If the stressful situation however persists, the body will remain in a state of arousal. When this process repeats itself over and over, problems will manifest, due to little or no recovery. From here, a person will go into the final stage called the exhaustion stage. In this stage stress has continued over a long period of time. The body cannot resist any more, as its adaptation energy supply is depleted. In this stage, the stress levels rise and do not lower again, which could lead to burnout or dysfunction (Selye, 1976).

#### *2.8.1.2 Transactional Model of stress*

Lazarus and Folkman (1984) indicate with their Transactional Model of Stress that there is a transaction (interaction) between a person and the environment. Stress is seen as a process between the person and his/her environment. Threat, coping and appraisal play a role in this

process. Appraisal or perception is seen as a stressor-strain mediator by Lazarus and Folkman. The type of appraisal will depend on both the situation and on personal factors. The individual appraises the stressor (primary appraisal) and then of his/her ability to cope (secondary appraisal). The secondary appraisal addresses what could be done about the situation. Coping methods are used to mediate primary and secondary appraisals. When both the primary and secondary appraisals are negative, that is, when the stressor is seen as harmful, and the individual feels he/she does not have the ability to cope with it, only then will he/she suffer stress (Cox et al., as cited in Mark & Smith, 2008). Theoretically, the appraisal component (a cognitive variable) could be expanded with constructs and processes described within the cognitive theory models, including the potential stress predictor (cognitive) variables of low Distress Tolerance and perfectionism (including Concern over Mistakes). The Lazarus and Folkman model (Lazarus & Folkman, 1984) can however be extended, enriched and refined with the contribution of the cognitive therapeutic models, as it gives a better account of potential prediction value of the mentioned cognitive variables.

### *2.8.1.3 Cognitive model of anxiety*

Both Beck and Clark's Cognitive Model of Anxiety (CMA) (Beck & Clark, 1997; Clark & Beck, 2010; Beck et al., 1985), and Ellis's Rational-Emotive-Behaviour Therapy (REBT) Model (Ellis, 1962, 1980; Ellis & Dryden, 1997; Grieger & Boyd, 1980; Walen et al., 1992) explain the role of low frustration tolerance (resembling *low* Distress Tolerance) as well as perfectionism (including Concern over Mistakes) in the development of emotional and behavioural disturbances. These two cognitive variables may theoretically affect the appraisal processes as described by Lazarus and Folkman (1984). The Cognitive Model of Anxiety and Rational-Emotive-Behaviour Therapy Model will be discussed in detail in the conceptual framework.

## 2.9 CONCEPTUAL FRAMEWORK

### 2.9.1 Introduction

A distinction will be made mainly between two theoretical models. Other models are also mentioned to further explain specific variables that will be used in the study.

The first model, Lazarus and Folkman's Transactional Model (1984), has predictive value and this will be the main theory. The second, the ecological systems model by Bronfenbrenner (1994), has organizational value for the study. The expansion of the Lazarus and Folkman model with information from more recent cognitive-behaviour therapy models has been communicated by Dr Charl Nortje (Personal Communication, May, 14, 2013). The REBT theory will provide a better understanding of Concern over Mistakes and Distress Tolerance. The CMA theory will also explain perfectionism while the Cognitive vulnerability model of anxiety (CVMA) theory will explain the construct of "Distress Tolerance".

#### 2.9.1.1 *The transactional model*

Lazarus and Folkman (1984) stated in their transactional model that stress is seen as a transaction between the stressor and a person, and stress is the result of an imbalance that is perceived to exist between demands and resources. The stressor is appraised by the individual, which is called primary appraisal. Secondary appraisal takes place when the individual appraises his/her ability to cope with the stressor. In later work, Park and Folkman (as cited in Mark & Smith, 2008) stated that the meanings that people give to things that happen can be influenced by existing beliefs. According to them, situational meaning happens when a person's beliefs and goals interact with the specifics of a particular transaction between the person and the environment. This transaction is defined by the processes of appraisal and coping. The appraisal construct of Lazarus and Folkman (1984),

together with the two cognitive variables involved in the present study (Concern over Mistakes and Distress Tolerance), can be explained (and also extended, enriched and refined) within the field of cognitive therapy theory; specifically Rational-Emotive-Behaviour-Therapy (REBT) theory (Ellis, 1962; 1980; Ellis & Dryden, 1997; Grieger & Boyd, 1980; Walen et al., 1992), as well as the Cognitive Model Of Anxiety (CMA) developed by A.T. Beck and colleagues (Beck & Clark, 1997; Beck et al., 1985; Clark & Beck, 2010). The Beck and Clark model (1997) originates from an earlier model of Beck (Beck et al., 1985).

#### *2.9.1.2 The ecological systems model*

The ecological systems model (Bronfenbrenner, 1994), explains the need to understand a person's development within their environment.

According to this model:

Two propositions define this model. The first proposition is that human development (especially in its early phases and to a large extent through the life course), takes place through progressively more complex reciprocal interaction between an active, evolving bio-psychological human organism and the persons, objects and symbols in its immediate environment. To be effective, the interaction must occur on a fairly regular basis over extended periods of time. Such forms of interaction in the immediate environment are referred to a proximal process (for example, parent-child and child-child activities (p. 38).

A second defining property (Bronfenbrenner, 1994) identifies the threefold source of these dynamic forces. It states that the form, power, content, and direction of the proximal processes effecting development vary systematically as a joint function of the characteristics of the developing person, the environment – both immediate and more remote – in which these processes are taking place, and the nature of the developmental outcomes under consideration (p.38).

Bronfenbrenner's initial focus was on the environment. The focus has since then changed to a focus on the proximal process as a function of person, context and time (Bronfenbrenner & Morris, 2006). Person characteristics comprise of demand, force, and resource. Demand characteristics include characteristics that invite or encourage increasingly more complex interactions (Bronfenbrenner & Morris, 2006; Tudge, Mokrova, Hatfield & Kanik, 2009). Examples are age, gender, skin color and physical appearance (Tudge et al., 2009). Force characteristics includes how an individual is predisposed towards action, meaning that a person would be either developmentally generative (curious) or developmentally disruptive (avoidant) (Bronfenbrenner & Morris, 2006). Resource characteristics include characteristics that relate to mental and emotional abilities for example, skills, acquired knowledge and intelligence, which are known as biopsychological assets in contrast to the biopsychological liabilities, which include genetic defects, brain damage and severe illness (Bronfenbrenner & Morris, 2006).

The current research concentrated on human-environment interaction at the microsystem level. This level evaluates if certain features of a teacher's immediate professional environment predicted levels of stress. Person characteristics (demand, resource and force) were investigated as predictors of stress levels among lecturers. The demographic variable of gender is seen as a demand characteristic as it acts as an immediate stimulus to another person, promoting or discouraging social reactions (Bronfenbrenner & Morris, 2006; Tudge et al., 2009)

### *2.9.1.3 REBT theory*

According to the REBT theory Concern over Mistakes (an aspect of perfectionism) and frustration intolerance (related to Distress Tolerance) form part of core irrational processes (beliefs) in several areas (Walen et al., 1992). For categorization of irrational beliefs, four

core irrational processes (demandingness, low frustration tolerance, worthlessness ratings and awfulizing tendency) and five content areas (affiliation, achievement, comfort, fairness and control) are used (Walen et al., 1992) and Concern over Mistakes may be explained by all four core irrational processes within the achievement-related content area. Distress Tolerance may be conceptualised as related to low frustration tolerance, especially within the comfort-related content area. Furthermore, Distress Tolerance may also be understood and described in the REBT theory by Grieger and Boyd (1980), as “an emotional problem about another emotional problem” (p. 57) and as “secondary symptoms of disturbance that overlay their primary symptoms; or to say it differently, they develop emotional problems about emotional problems” (p. 50), developing additional anxiety because of their anxious feelings.

#### 2.9.1.4 CMA model

Beck and Clark's CMA model (Beck & Clark, 1997; Clark & Beck, 2010). The CMA model (Beck et al., 1985) explains why anxiety sometimes persists in individuals confronted by activating situations (life threatening experiences or stressors) despite the absence of real danger. The model distinguishes between two phases (i.e., primal threat mode activation and secondary elaborate reappraisal), as well as the notion of vulnerability (including biological, personality and cognitive variables) which may play a causal role in the development of anxiety disorders. The first phase is characterised by a relatively automatic, preconscious, non-volitional and reflexive survival response, as well as the narrowing of attention on the potential threat, and biased cognitive processing. This may include cognitive errors such as “*catastrophising*” (mistakes or threats have disastrous consequences) (Clark & Beck, 2010, p. 47).

The first phase is followed by slower, more elaborative, conscious, and more effortful information processing, including a re-evaluation of the threat and of one's ability to cope; a

process that is primarily responsible for the persistence of the anxiety response. During this phase the individual may focus more consciously on personal weaknesses, and display thoughts and worries reflected by threat beliefs (schemas). Beliefs such as “If I make mistakes, it means I'm a failure” or “Feeling anxious is terrible and dangerous” may obviously play a role during both of these two anxiety phases. The latter belief is also reflective of one of the central tenets of the CMA model; namely, the existence of a self-perpetuating process, described by Clark and Beck (2012, p. 36) as follows: “Anxiety involves a vicious cycle in which heightened self-focused attention on the signs and symptoms of anxiety will itself contribute to an intensification of subjective distress”.

#### *2.9.1.5 CVMA model*

What have been described above about (proximal) cognitive factors playing a role in the persistence of anxiety, are reflected in three hypotheses about the roles and effects of “exaggerated threat appraisals”, “threat-biased cognitive errors”, and “negative interpretation of anxiety” (Clark & Beck, 2010, p. 55). The model also includes a hypothesis about cognitive vulnerability to develop anxiety disorder when certain “enduring threat-related beliefs” are activated (Clark & Beck, 2010, p. 116).

Clark and Beck formulated this in a model called the Cognitive Vulnerability Model of Anxiety (CVMA), which actually forms part of the CMA model, but they describe the main components of the CMA model as proximal cognitive structures and processes involved in the onset and persistence of anxiety (i.e., mediator variables accounting for the relationship between vulnerability, stress and disorder onset), and the distal cognitive variables of the CVMA model that are “predispositions for anxiety” (i.e., moderators that affect direction and/or strength of association between stress and symptom onset) (Clarke & Beck, 2010, p. 103).

What should be emphasised is that the cognitive variables under discussion (i.e., beliefs about mistakes, and beliefs about the tolerability of distress) may remain inactive as vulnerability factors (moderators) until triggered and then they play an active part in the two described processes accounting for the onset and persistence of anxiety in the CMA model.

Furthermore, the additional dysfunctional role of distress intolerance is described in terms of a vicious cycle (self-perpetuating process). This may also be viewed from a REBT perspective, as described in a previous paragraph.

## **2.10 SUMMARY**

Chapter 2 gave an overview of the literature on stress overload as well as all the variables that were investigated. The conceptual framework with the different models that will provide insight into aspects of the study, are also part of Chapter 2. Chapter 3 outlines the objectives and hypotheses that were formulated to provide answers to the questions that were asked in the present study.



## CHAPTER 3

### OBJECTIVES AND HYPOTHESES

#### 3.1 INTRODUCTION

The specific objectives and hypotheses of this study were:

##### 3.1.1 Objectives

The objectives of the study were:

1. To calculate the relevant descriptive statistics for the dependent variables across the different levels of independent variables
2. To investigate the internal consistency (Cronbach alpha) of all the scales and subscales that were used to measure the dependent variables
3. To investigate the relationship between stress overload (which includes personal vulnerability, event load and total score) and the demographic variables, stressors, cognitive variables and coping strategies
4. To investigate the correlations between the demographic variables, stressors, cognitive variables and coping strategies
5. To determine the range of coping strategies as reported by the sample. The norm scale of the CSI distinguishes between “low”, “average”, or “high” use of a specific coping strategy and each participant was classified according to these categories regarding each of the three coping strategies
6. To compare the levels of stress overload as recorded for the sample across the coping strategies (problem solving, seeking social support and avoidance)
7. To determine the amount of variance in stress overload that is accounted for by the linear prediction of the independent demographic variables, occupational stressors and cognitive variables

### **3.1.2 Hypotheses**

For the seventh objective, four specific hypotheses were tested:

Hypothesis 1: Stress overload (personal vulnerability) is strongly predicted by work-related stressors, followed by the cognitive variables and then by the demographic variables.

Hypothesis 2: Stress overload (event load) is strongly predicted by work-related stressors, followed by the cognitive variables and then by the demographic variables.

Hypothesis 3: Stress overload (total score) is strongly predicted by work-related stressors, followed by the cognitive variables and then by the demographic variables.

Hypothesis 4: In terms of the two cognitive variables, distress tolerance is a stronger predictor of stress overload than concern over mistakes.

## **CHAPTER 4**

### **METHODOLOGY**

#### **4.1 INTRODUCTION**

This chapter outlines the research design, data collection, identification of participants, measuring instruments that were used, the research procedure, data analysis and ethical considerations of the study.

#### **4.2 RESEARCH DESIGN**

The quantitative method was based on a cross-sectional single measurement design. Bless, Higson-Smith, and Sithole (2013) distinguished between different types of research and their classification was used to describe the research design of the present study. The research was quantitative (relying on measurement to compare and analyse different variables), and basic (to increase an understanding of a particular aspect of society and to collect information that may challenge existing theories and allow new ones to be developed). It was also primary research (to answer particular research questions), exploratory (where very little is known about the research topic, for example, regarding how the predictor variables compare), and mainly correlational (to increase understanding of the relationship between variables). The research is a step towards being of an explanatory nature (demonstrating that change in one variable causes change in another variable).

#### **4.3 PARTICIPANTS**

The sample method used was a non-random, purposive sample in which lecturing staff were chosen as participants from the college structure but administration staff and management staff were excluded from the study. Lecturers were approached in a special meeting (with permission of the campus heads), and participation was voluntary. Participants were aged

between 24 and 70 ( $M=47$ ,  $SD= 11.12$ ). The reason for the inclusion of older participants (above 65), which is the retirement age, was the lack of skilled trainers in the practical workshops as most potential workshop lecturers choose to work in the private sector.

Lecturers at the college were of mixed race, gender, level of education and age. A total of 145 lecturers participated in the study with 114 staff members at Campus 1, 159 at Campus 2 and 80 at Campus 3. The demographic characteristics of this study are displayed in Table 4.1. The age is displayed in five year intervals, as gathered from the statistical analysis.

Table 4.1

*Demographic Characteristics of Participants Lecturing at a TVET College (N=145)*

Characteristic	n	%
<b>Age</b>		
20-25	2	1
25-30	10	7
30-35	15	10
35-40	21	14
40-45	18	12
45-50	20	14
50-55	19	13
55-60	22	15
60-65+	18	12
<b>Gender</b>		
Male	97	67
Female	48	33
<b>Education</b>		
Matric Certificate	4	3
Diploma/Certificate	77	53
First degree	30	21
Honours degree	27	19
Advanced degree	7	5

Table 4.1 *continued*

Characteristic	n	%
<b>Teaching experience</b>		
0-5 years	38	26
5-10 years	48	33
10-15 years	22	15
15-20 years	18	12
20-25 years	11	8
25-30 years	5	4
30-35 years	3	2

Table 4.1 indicates that most of the participants were male (67%), most had received diploma training (53%), and 66% of the participants were over the age of 40. Few participants (14%) had more than 20 years' teaching experience.

#### **4.4 MEASURING INSTRUMENTS**

A discussion of the different questionnaires and scales that were used follows.

##### **4.4.1 Demographic Questionnaire (see Appendix B)**

A demographic questionnaire was designed to collect the following information: age, date of birth, gender, highest level of education, and teaching experience. All mentioned demographic variables were used in the study.

##### **4.4.2 Quantitative Workload Inventory (QWI) (see Appendix C)**

The Quantitative Workload Inventory (QWI) was developed by Spector and Jex (1998) and consists of five items. The QWI measures the perceived amount of work

(quantity) and not the qualitative work (difficulty of work). This scale was not adapted. Choices for responses vary from 1 (*less than once per month or never*) to 5 (*several times per day*). Respondents have to indicate in this test how often each statement occurs. A high level of workload is represented by high scores (possible range between 5 and 25). An alpha value of .82 was reported for the QWI scale across 15 studies (Spector & Jex, 1998). In the present study, an alpha value of .81 was reported. The convergent validity was moderate, reflected by significant inter-relationships with measures of anxiety, physical job stress and frustration (Spector & Jex, 1998). In a study by Idris (2011) with 357 public university academics, internal reliability values of .88 and .87 were reported.

#### **4.4.3 Interpersonal Conflict at Work Scale (ICAWS) (see Appendix D)**

The Interpersonal Conflict at Work Scale (ICAWS) by Spector and Jex (1998) measures how well people get along with others at work and consists of four items. The range in response of options varies from 1 (*never*) to 5 (*very often*). A high score means that the person experiences frequent conflict with other people. Spector and Jex (1998) reported an alpha coefficient of .74 in their study. For the present study, the coefficient was .79. Convergent validity was demonstrated by significant relationships between the scale and variables such as anxiety, depression, frustration and job stress levels. In a study by Spector and Jex (1998), a meta-analysis involving 3868 participants with 19 samples from 18 studies demonstrated a coefficient alpha reliability of .78.

#### **4.4.4 Organizational Constraints Scale (OCS) (see Appendix E)**

The Organizational Constraints Scale (OCS) developed by Spector and Jex (1998), consists of 11 items. One item is allocated to each of the areas of organizational

constraints (e.g. poor equipment, problems with the supervisor, inadequate training). This scale was not adapted. The individual has to indicate to what extent (reflected by frequencies) a specific item (constraint) can make a job seem difficult or impossible to do. Responding options vary from 1 (*less than once per month or never*) to 5 (*several times per day*). High scores represent high levels of constraints (possible range of scores from 11 to 55). Internal consistency is irrelevant because the items do not measure a unitary variable (Spector & Jex, 1998). The scale items are related to measures of job satisfaction, job performance, intention to quit, frustration experienced and job stress demonstrating convergent validity of moderate level (Spector & Jex, 1998). In a study by Fox, Spector, and Miles (2001) with 292 employees at a variety of organizations in Southern and Central Florida (including academic organizations) the coefficient alpha reliability was .85 and for the present study it was .88.

#### **4.4.5 Student and Teaching Related Demands (STRD) (see Appendix F)**

The Student and Teaching Related Demands Scale (STRDS) examines the frequency ratings of teachers' experience of their students and teaching related responsibilities as being demanding or stressful. This is reflected by the instruction, *How often do you find the following demanding or stressful?*

The scales were constructed by adapting items from two scales; namely, the Classroom Appraisal of Resources and Demands Scale or CARD (Lambert, McCarthy, & Fisher, 2008), and the Teachers' Sense of Efficacy Scales, (Tschannen-Moran & Woolfolk Hoy, 2001). The STRDS consists of two subscales and a total score. The two scales (five items each) were developed by Dr Charl Nortje, based on using some items from CARD and other items from the Teachers' Sense of Efficacy

Scales. Items from CARD were used to test the student related demands and items from the Teachers' Sense of Efficacy Scale were used to test the teacher related demands. For the present study, the above scales measured demands related to contact with students (S), teaching demands (excluding student contact) (T) and a total score (TS). The correlation between the two scales as well as Cronbach alpha values provided preliminary information regarding the validity and internal stabilities of the scale. The alpha value for the current study was .84. A decision to use a total score and/or the two subscale scores was based on the strength of the correlation between the two scales and on consultation with a statistician. Measurement was on a 5-point Likert-type scale (Spector & Jex, 1998), ranging from 1 (*never*) to 5 (*very often*).

#### **4.4.6 Concern over Mistakes Scale (CMS) (see Appendix G)**

The Multi-Dimensional Perfectionism Scale (MPS) is a 35 item questionnaire and was developed by Frost et al. (1990). The subscales of the MPS include the following: concern over mistakes, personal standards, parent expectations, parental criticism, doubting of actions and organization subscales. The only subscale that was used in the current study is the Concern over Mistakes Scale (CMS) and consists of nine items. It was the only subscale used as it deals with maladaptive perfectionism. This scale was not adapted for the proposed study and in the CMS, some of the items were work related and others not. It measures the strength of the tendency of a person to think that mistakes are equivalent to failure, and a tendency exists to believe that a person will lose the respect of others following failure. Items 9, 10, 13, 14, 18, 21, 23, 25, and 34 were used. Permission was granted to use this scale (see Appendix K). An example of an item: *If I fail at work, I am a failure as a person*. A 5- point Likert-type scale was used ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In a study with teachers



(Stoeber et al., 2008), all subscales displayed high internal reliabilities (Cronbach alphas = .92-.96). The MPS correlated significantly with other measures of perfectionism (Frost et al., 1990). In a study with 167 Queens University students, the subscale's coefficient's alpha ranged between .71 and .93 (Blackler, 2011). For the current study, the alpha value was .77.

#### **4.4.7 Distress Tolerance Scale (DTS) (see Appendix H)**

The Distress Tolerance Scale (DTS) was developed by Simons and Gaher (2005) as a self-report questionnaire that consists of 15 items with an alpha coefficient of .98 (Simons & Gaher, 2005). It examines the degree to which individuals experience negative emotions as being intolerable (e.g. *I cannot handle being upset*). The Distress Tolerance Scale has mostly been used in the context of substance dependency, eating disorders and post-traumatic stress disorders (Anestis et al., 2007; Daughters et al., 2005; Marshall-Berenz et al., 2010). A 5-point Likert-type rating scale was used, ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). Lower scores indicate a tendency to experience distress of a psychological nature as being unacceptable or intolerable (Anestis et al., 2007). In the study of Anestis et al., the coefficient alpha was .91. The alpha value for the current study was .76.

#### **4.4.8 Coping Strategy Indicator (CSI) (see Appendix I)**

The Coping Strategy Indicator (CSI) was developed by Amirkhan (1990). It was empirically derived and has three subscales with 11 items each. This scale was adapted for the work environment by adding the phrase "at work" in the introductory sentence and also the word "colleague" in some of the items. In the present study, the scale was called the Adapted Coping Strategy Indicator (A-CSI). The instructions for this scale include: *Try to think of a problem you have*

*encountered at your work in the last six months or so.* The individual has to write down the problem. This is followed by the instruction: *Keeping that stressful event in mind, indicate to what extent you ...*, followed by an item, for example, *let your feelings out to a friend.* The first subscale is referred to as problem solving (item example: *Brainstormed all possible solutions before deciding what to do*). The second subscale is seeking social support, which measures human contact (item example, *confided your fears and worries to a friend, relative or colleague*). The last subscale is avoidance, which measures escapism from the problem (both physical and psychological), with the following item example: *avoid being with people.* The A-CSI uses a 3-point scale ranging between 3 (*a lot*) and 1 (*not at all*). In a study (Amirkhan, 1990) in which 500 questionnaires were distributed throughout a Californian community, Cronbach's alphas indicated high internal reliability for all CSI scales (.89 for problem solving, .92 for seeking support and .83 for avoidance). The construct validity was consistently higher than other coping indices (Amirkhan, 1990). For the current study, the alpha values were as follows: Problem Solving (.79), Seeking Social Support (.88), and Avoidance (.72).

#### **4.4.9 Stress Overload Scale (SOS) (see Appendix J)**

The Stress Overload Scale (SOS) was developed by Amirkhan (2012) and consists of 30 items. This scale was designed to measure stress overload. This is a state that occurs when demands overwhelm resources (Amirkhan, 2012). This test was therefore developed to identify persons who are most at risk of stress related pathology. This scale was adapted to measure *stress overload* at work (teaching situation) and was called the Adapted Stress Overload Scale (A-SOS). The SOS measures stress overload, which results when demands overwhelm resources. It

measures subjective feelings and thoughts over the previous week, with the individual having to indicate how he or she felt. The instructions in the original SOS were as follows: *In the past week, have you felt ...*, which is followed by, for example, *calm* (a filler item), *overextended* (an event load item), and *inadequate* (a personality vulnerability item). To adapt the SOS, the phrase “at work” was added to the introductory sentence as well as to the items themselves. There are two subscales; namely, personal vulnerability and event load, and a total score. The SOS uses a 5-point Likert type response scale anchored 0 (*not at all*) and 4 (*a lot*). In a study with 433 community residents (Amirkhan, 2012), the internal consistency was excellent (Cronbach’s alpha > .94 for all the subscales and the total score). The construct validity was acceptable, reflected by significant correlations with measures of stress and illness. Good criterion validity was established based on the scale’s ability to predict illness after stress (Amirkhan, 2012). For the current study, the internal consistency was also excellent (event load = >.92, personal vulnerability >.89 and total score >.89).

#### **4.5 DATA COLLECTION**

Data was gathered during February/March 2014, with a preceding small pilot study in which five lecturers were handed a pack of questionnaires. The feedback from the pilot study was incorporated into the questionnaire and the required number of questionnaire packs was made. The only feedback was the time it took each of the five participants to complete the questionnaire (it took closer to 30 than 45 minutes). The questionnaires were distributed at Campus 1 to 114 lecturing staff members, at Campus 2 to 159 lecturing staff members and at Campus 3 to 80 lecturing staff members. The questionnaires were self-administered in paper format and were in English. All test subjects participating in the study were proficient in English

(teaching language was English). Not all the participants' home language was English (some was Afrikaans and others various African languages).

#### **4.6 DATA ANALYSIS**

Statistica 12 software was used to analyse the obtained data. Statistics were calculated by Professor Kidd (Centre for statistical consultation at the University of Stellenbosch) and the following methods were used:

- Relevant descriptive statistics (means and standard deviations)
- Cronbach's alpha coefficients for all the scales (to determine reliability)
- Pearson's correlation coefficients (to investigate the relationships between variables)
- One-way analysis of variance (ANOVA) to compare the average levels of stress overload across the different coping strategies.
- A series of multiple regression analyses to test the specific hypotheses about the prediction of stress overload

#### **4.7 ETHICAL CONSIDERATIONS**

Permission to use or adapt the scales had been obtained (see Appendix J). A consent form was completed by participants (see Appendix K) and a copy was given to all participants for their own records. Approval for this study was obtained from the Research Ethics Committee: Human Research (Humaniora) of Stellenbosch University (see Appendix L). Written permission had been obtained (see Appendix M) from the College. All participants in this study were informed of the nature and purpose of this study and were requested to complete the informed consent form. Participants were informed that they had the right to terminate participation at any point in time. Anonymity was assured regarding

their responses and the contact numbers of public hospitals in the area close to the college, together with the numbers of psychologists were included if any participant had psychological distress during or after completion of the questionnaires. The completed questionnaires and consent forms were stored in a locked facility (a room on the campus with an alarm, armed response, security gate and locked cupboard). Access to the venue is strictly controlled and the keys to the cupboard are kept by the researcher and all electronic research working papers are password-protected. After the successful completion of the research, records will be kept in a safe place for five years, after which all records will be destroyed.

#### **4.8 SUMMARY**

Chapter 4 explained the methodology that was used regarding the research design, participants that were used, measuring instruments, different scales, data collection, data analysis and the ethical considerations of the study. The results of the data analysis are presented in chapter 5.

## CHAPTER 5

### RESULTS

#### 5.1 INTRODUCTION

This chapter presents the results of the study. The results are reported according to the different objectives and hypotheses. The main aim of the study was to identify levels of stress overload among lecturers at a college and to investigate the relationships of certain correlates and predictive variables.

The research objectives for the study were as follows and are presented in the same order:

- To calculate the relevant descriptive statistics for the dependent variables across the levels of independent variables
- To investigate the internal consistency of all the scales
- To investigate the relationship between stress overload and the demographic variables, stressors, cognitive variables and coping strategies
- To investigate the correlations between the demographic variables, stress, cognitive variables and coping strategies
- To determine the range of coping strategies reported by the participants and their levels of stress overload across the coping strategies (problem solving, seeking social support and avoidance)
- To compare the levels of stress overload as recorded for the sample across the coping strategies (problem solving, seeking social support and avoidance)
- To determine the amount of variance in stress overload that is accounted for by the linear prediction of the independent demographic variables, occupational stressors and cognitive variables.

## 5.2 DESCRIPTIVE STATISTICS

With regard to the first objective, the demographic statistics of the sample were calculated and are displayed in Table 4.1 (see chapter 4) and the means and standard deviations for the occupational stressors, cognitive variables and coping strategies and stress overload are presented in Table 5.1.

Table 5.1

*Means and Standard Deviations of Occupational Stressors, Cognitive Variables, Coping Strategies and Stress Overload (N = 145)*

Measures	M	SD
<b>Occupational Stressors</b>		
QWI	17.06	4.90
ICAWS	7.88	2.94
OCS	24.73	9.47
STRDS	30.48	9.55
<b>Cognitive Variables</b>		
CMS	19.43	6.76
DTS	2.96	0.89
<b>Coping Strategies</b>		
A-CSI (PS)	28.46	3.75
A-CSI (SSS)	22.98	5.08
A-CSI (A)	19.12	4.03
<b>Stress Overload</b>		
A-SOS (PV)	27.84	10.99
A-SOS (EL)	34.42	12.65
A-SOS (T)	62.26	22.47

*Note:* QWI = Quantitative Workload Inventory; ICAWS = Interpersonal Conflict at Work Scale; OCS = Organizational Constraints Scale; STRDS = Student and Teaching Demands Scale; CMS = *Concern over Mistakes* Scale; DTS = Distress Tolerance Scale; A-CSI (PS) = Adapted Coping Strategy Indicator (Problem Solving) A-CSI (SSS) = Adapted Coping Strategy Indicator (Seeking Social Support; ); A-CSI (A) = Adapted Coping Strategy Indicator (Avoidance); A-SOS (PV) = Adapted Stress Overload Scale (Personal Vulnerability); A-SOS (EL) = Adapted Stress Overload Scale (Event Load); A-SOS (T) = Adapted Stress Overload Scale (Total).

The means and standard deviations of stress overload scores (PV, EL & TS) of participants within the different coping strategies that they used (PS, SSS & A) and the level of coping (low, medium or high), are displayed in Table 5.2.

Table 5.2

*Means and Standard Deviations of Adapted Stress Overload Subscale Scores (PV, EL & TS) within Different Coping Strategies (PS, SSS & A) Used and the Levels of Coping (Low, Medium, High) (N = 145)*

	Adapted Stress Overload Scale					
	A-SOS (PV)		A-SOS (EL)		A-SOS (TS)	
Adapted Coping Strategy Indicator	M	SD	M	SD	M	SD
<b>Problem Solving</b>						
Low	40.00	21.28	40.67	25.00	80.67	45.96
Medium	28.60	10.73	35.10	12.62	63.70	22.14
High	25.83	10.40	32.88	11.99	58.71	21.22
<b>Seeking Social Support</b>						
Low	29.79	13.86	34.26	12.86	64.05	25.68
Medium	26.95	10.64	35.35	12.09	61.30	21.69
High	29.55	10.05	34.75	14.67	64.31	23.42
<b>Avoidance</b>						
Low	21.00	9.93	27.26	11.35	48.26	20.29
Medium	27.78	10.35	34.58	12.37	62.35	21.46
High	38.38	10.28	43.54	11.30	81.92	20.30

*Note:* A-CSI (PS) = Adapted Coping Strategy Indicator (Problem Solving); A-CSI (SSS) = Adapted Coping Strategy Indicator (Seeking Social Support); A-CSI (A) = Adapted Coping Strategy Indicator (Avoidance); A-SOS (PV) = Adapted Stress Overload Scale (Personal Vulnerability); A-SOS (EL) = Adapted Stress Overload Scale (Event Load); A-SOS (TS) = Adapted Stress Overload Scale (Total).



The means and standard deviations for the A-CSI problem solving subscale with regard to different levels of coping (low, medium and high) and the A-SOS subscales, EL, PV and TS are presented in Table 5.3.

Table 5.3

*Means and Standard Deviations for the Adapted Coping Strategy Indicator (Problem Solving) – with Regard to Different Levels of Coping (Low, Medium and High) and A-SOS EL, PV and TS (N=145)*

A-SOS	Adapted Coping Strategy Indicator (PS)			
	Level of coping	N	M	SD
<b>Personal Vulnerability</b>	Low	3	40.00	21.28
	Med	90	28.60	10.73
	High	52	25.83	10.40
<b>Event Load</b>	Low	3	-	-
	Med	90	35.10	12.62
	High	52	32.88	11.99
<b>Total Score</b>	Low	3	-	-
	Med	90	63.70	22.14
	High	52	58.71	21.21

*Note:* A-CSI – PS = Adapted Coping Strategy Indicator – Problem Solving; EL = Event Load; PV = Personal Vulnerability; TS = Total Score; A-SOS = Adapted Stress Overload Scale.

According to Table 5.3 participants who used medium levels of problem solving coping style's mean scores were higher than those who made use of the high levels of coping. The scores for the "low" usage were so low that no further analysis was done regarding "low" usage.

The means and standard deviations for the A-CSI seeking social support subscale and Adapted Stress Overload scores are reported in Table 5.4

Table 5.4

*Means and Standard Deviations for the Adapted Coping Strategy Indicator (Seeking Social Support) – with Regard to Different Levels of Coping (Low, Medium and High) and A-SOS EL, PV and TS. (N = 145)*

A-SOS	Adapted Coping Strategy Indicator (SSS)			
	Level of coping	N	M	SD
<b>Personal Vulnerability</b>	Low	19	29.78	13.86
	Med	97	29.94	10.63
	High	29	29.55	10.04
<b>Event Load</b>	Low	19	34.26	12.86
	Med	97	34.35	12.09
	High	29	34.75	14.67
<b>Total Score</b>	Low	19	64.05	25.68
	Med	97	61.29	21.69
	High	29	64.31	23.42

*Note:* A-CSI – SSS = Adapted Coping Strategy Indicator – Seeking Social Support; A-SOS= Adapted Stress Overload Scale; EL=Event Load; PV=Personal Vulnerability; TS=Total Score; A-SOS = Adapted Stress Overload Scale.

According to Table 5.4 participants using SSS coping style's average stress overload (EL) on all levels of coping (low, medium, and high) revealed higher scores when compared with the average stress overload (PV) on all levels (low, medium, and high).

The means and standard deviations for the A-CSI avoidance subscale are presented in Table 5.5.

Table 5.5

*Means and Standard Deviations for the Adapted Coping Strategy Indicator (Avoidance) – with Regard to Different Levels of Coping (Low, Medium and High) and A-SOS EL, PV and TS (N = 145)*

A-SOS	Adapted Coping Strategy Indicator (A)			
	Level of coping	N	M	SD
<b>Personal Vulnerability</b>	Low	19	21.00	9.93
	Med	113	27.77	10.35
	High	13	38.38	10.27
<b>Event Load</b>	Low	19	27.26	11.35
	Med	113	34.57	12.36
	High	13	43.53	11.29
<b>Total Score</b>	Low	19	48.26	20.29
	Med	113	62.35	21.46
	High	13	81.92	20.29

*Note:* A-CSI – A = Adapted Coping Strategy Indicator - Avoidance; A-SOS= Adapted Stress Overload Scale; EL = Event Load; PV = Personal Vulnerability; TS = Total Score.

Lecturers using the A-CSI (A) coping strategy SOS (EL) revealed higher scores than those of SOS (PV) as can be seen in Table 5.5.

### 5.3 INTERNAL CONSISTENCIES OF THE MEASURING SCALES

Cronbach Alphas were calculated to provide the internal consistencies for scales and subscales measuring the dependent variables (objective 2). These values are presented in

Table 5.6.

Table 5.6

*Cronbach's Alpha Coefficients of the Measuring Scales Used in the Current Study*

Scales	Cronbach's Alpha ( $\alpha$ )
<b>QWI</b>	.81
<b>ICAWS</b>	.79
<b>OCS</b>	.88
<b>STRDS</b>	.84
<b>CMS</b>	.77
<b>DTS</b>	.76
<b>A-CSI (PS)</b>	.79
<b>A-CSI (SSS)</b>	.88
<b>A-CSI (A)</b>	.72

*Note:* QWI = Quantitative Workload Inventory; ICAWS = Interpersonal Conflict at Work Scale; OCS = Organizational Constraints Scale; STRDS = Student and Teaching Demands Scale; CMS = *Concern over Mistakes* Scale; DTS = Distress Tolerance Scale; A-CSI (PS) = Adapted Coping Strategy Indicator (Problem Solving); A-CSI (SSS) = Adapted Coping Strategy Indicator (Seeking Social Support); A-CSI (A) = Adapted Coping Strategy Indicator (Avoidance).

It is clear from Table 5.6 that all  $\alpha$  coefficients exhibited acceptable levels of internal consistency ( $\geq 0.7$ ) for all measures (Foster & Parker, 1995). As a result of this, all measures were included in the further analyses.

#### 5.4 THE RELATIONSHIP BETWEEN THE VARIABLES

Analysis of variance (ANOVA) was calculated to investigate the gender differences and is presented hereafter. The results of the ANOVAS for A(SOS) PV, EL and TS regarding gender are presented in Table 5.7.

Table 5.7

*Results of Analyses of Variance on A-SOS (PV, EL & TS) for Gender Differences*

A-SOS	M	SD	df	F
<b>Event Load</b>				
Male	32.30	12.20		
Female	38.69	12.59	1, 143	8.59**
<b>Personal Vulnerability</b>				
Male	27.08	10.41		
Female	29.38	12.03	1, 143	1.40
<b>Total</b>				
Male	62.26	21.34		
Female	68.06	23.77	1, 143	4.91*

*Note:* A-SOS (PV) = Adapted Stress Overload Scale (Personal Vulnerability), A-SOS (EL) = Adapted Stress Overload Scale (Event Load), A-SOS (TS) = Adapted Stress Overload Scale (Total Score).

\* =  $p < .05$ , \*\* =  $p < .01$

According to Table 5.7, female lecturers showed significantly higher scores on stress overload scores on the A-SOS subscales (EL & TS) than their male colleagues. Pearson correlations were calculated to investigate the relationship between stress overload (PV, EL & TS) and the demographic variables, work related stressors, cognitive variables and coping strategies. These results are presented in the next section.

#### **5.4.1 Correlations between A-SOS (EL, PV & T) and Work Related Stressors (QWL, ICAWS, OCS & STRDS)**

The correlations between stress overload subscale scores and work related stressors are presented in Table 5.8.

Table 5.8

*Results of Pearson Correlations between Adapted Stress Overload Scores (EL, PV & T) and Work Related Stressors (N = 145)*

Work-related stressors	A-SOS subscales	r
<b>QWI</b>	Event Load	.50**
	Personal Vulnerability	.38**
	Total	.46**
<b>ICAWS</b>	Event Load	.50**
	Personal Vulnerability	.62**
	Total	.58**
<b>OCS</b>	Event Load	.57**
	Personal Vulnerability	.66**
	Total	.65**
<b>STRDS</b>	Event Load	.52**
	Personal Vulnerability	.40**
	Total	.49**

*Note:* ICAW = Interpersonal Conflict at Work Scale; OCS = Organizational Constraints Scale; QWI = Quantitative Workload Inventory; STRDS = Students and Teaching Demands Scale. A-SOS = Adapted Stress Overload Scale; A-SOS = Adapted Stress Overload Scale; \*\* =  $p < .01$

According to Table 5.8, all the correlations between A-SOS subscales and work related stressors were positive and significant.

#### 5.4.2 Correlations between A-SOS (EL, PV and TS) and the Cognitive Variables (CMS and DTS)

The correlations between stress overload and the cognitive variables are presented in Table 5.9.

Table 5.9

*Results of Pearson Correlations between Adapted Stress Overload Scores and Cognitive Variables (N=145)*

Cognitive Variables	A-SOS Subscales	r
<b>CMS</b>	Event Load	.31**
	Personal Vulnerability	.34**
	Total	.34**
<b>DTS Total</b>	Event Load	-.35**
	Personal Vulnerability	-.45**
	Total	-.42**

*Note:* CMS = Concern over Mistakes; DTS = Distress Tolerance Scale; A-SOS = Adapted Stress Overload Scale; \*\* =  $p < .01$

According to Table 5.9, positive significant correlations were found between the CMS and stress overload subscales. Negative significant correlations were found between the DTS total score and stress overload subscales.

#### 5.4.3 Correlations between Adapted Stress-Overload Scores and the Demographic Variables

The correlations between stress overload scores and the demographic variables (age, education and teaching experience) are presented in Table 5.10.

Table 5.10

*Pearson Correlations between Adapted Stress Overload Scores and Demographic Variables**(N = 145)*

Demographic Variables	A-SOS Subscales	<i>r</i>
<b>Age</b>	Event Load	.06
	Personal Vulnerability	.10
	Total Score	.08
<b>Education</b>	Event Load	.22**
	Personal Vulnerability	.14
	Total Score	.20*
<b>Teaching Experience</b>	Event Load	.18*
	Personal Vulnerability	.19*
	Total Score	.19*

*Note:* A-SOS = Adapted Stress Overload Scale.

\* =  $p < .05$ , \*\* =  $p < .01$

According to Table 5.10, positive significant correlations were found between A-SOS EL and TS, and education. Significant correlations were also found between teaching experience and all the stress overload subscales.

## 5.5 THE RANGE OF COPING STRATEGIES

The fifth objective of this study was to determine the range of coping strategies that was reported by the sample, distinguishing between low, medium and high use of a specific coping strategy. The frequency distribution of the different types of coping strategies can be seen in Table 5.11.



Table 5.11

*Frequency Distribution of the Different Types of Coping Strategies used During Stress Overload (TS). (N = 145)*

Type of coping strategy	n	%
<b>Problem Solving Coping</b>		
Low	3	2
Medium	90	62
High	52	36
<b>Seeking Social Support</b>		
Low	19	13
Medium	97	67
High	29	20
<b>Avoidance</b>		
Low	19	13
Medium	113	78
High	13	9

*Note:* TS = Total Score.

According to Table 5.11, most of the participants used medium levels of problem solving coping.

## **5.6 COMPARISON OF LEVELS OF STRESS OVERLOAD ACROSS THREE TYPES OF COPING STRATEGIES**

The results of the analysis of variance for the levels of stress overload and the different coping strategies (problem solving, seeking social support and avoidance) are displayed in Table 5.12.

Table 5.12

*Results of Analysis of Variance of Adapted Stress Overload Subscale Scores and Adapted Coping Strategy Indicator Subscales*

<b>Problem</b>	Mean(sd)			df	F	p
	Low	Medium	High			
<b>Solving</b>						
EL	-	35.10(12.62)	32.88(11.99)	1, 140	1.05	.31
PV	-	28.60(10.73)	25.83(10.40)	1, 140	2.25	.14
TS	-	63.70(22.14)	58.71(21.22)	1, 140	1.72	.19
<b>Seeking Social Support</b>						
EL	34.26(12.86)	34.35(12.09)	34.76(14.67)	2, 142	.13	.99
PV	29.79(13.86)	26.95(10.64)	29.55(10.05)	2, 142	.97	.38
TS	64.05(25.68)	61.30(21.69)	64.31(23.42)	2, 142	.27	.77
<b>Avoidance</b>						
EL	27.26(11.35)	34.58(12.37)	43.54(11.30)	2, 142	6.96	.01**
PV	21.00(9.94)	27.78(10.35)	38.38(10.28)	2, 142	11.02	.01**
TS	48.26(20.29)	62.35(21.46)	81.92(20.30)	2, 142	9.72	.01**

*Note:* A-CSI (PS) = Adapted Coping Strategy Indicator (Problem Solving); A-CSI (SSS) = Adapted Coping Strategy Indicator (Seeking Social Support); A-CSI (A) = Adapted Coping Strategy Indicator (Avoidance); \*\*p<.01.

According to Table 5.12, the avoidance coping strategy (EL, PV and TS) were significant predictors at  $p < .01$ .

## **5.7 THE PREDICTION OF STRESS OVERLOAD BY THREE GROUPS OF VARIABLES**

Multiple regression analyses were conducted to examine the specific hypotheses about the prediction of stress overload and the three groups of variables — demographic variables, work related stressors and cognitive variables. Homoscedasticity and linearity were confirmed for all the regression analyses. This was done by inspecting the scatter plots of the standardized residual values against the standardized predicted values. The histograms of the standardized residuals as well as the normal probability plots were studied for all the regression analyses. The outcome of this was that errors were distributed normally with no substantial deviations. The scatter plots were mostly linear with very few outliers (homoscedasticity and linearity were confirmed for all the regression analyses) (Statistics Solutions, 2013).

### **5.7.1 Multiple Regression Analysis A-SOS (PV)**

The results of the multiple linear regression for the three groups of dependent variables predicting stress overload (PV) are displayed in Table 5.13.

Table 5.13

*Multiple Regression Analysis of Dependent Variables Predicting Adapted Stress Overload:**Personal Vulnerability (N = 145)*

	Standardized Beta	Std. Err. Of b	Beta	t	p
<b>Demographical</b>					
<b>Variables</b>					
Age	.06	.06	0.06	0.94	.35
Gender	.11	.06	2.50	1.86	.65
Education	-.00	.06	-.08	-0.11	.91
Teaching Years	.01	.06	0.01	0.13	.90
<b>Work Related</b>					
<b>Stressors</b>					
QWI	.06	.07	0.14	0.95	.34
ICAWS	.32	.07	1.19	4.83	.00**
OCS	.37	.07	0.43	5.56	.00**
STRDS (T)	.05	.07	06	0.71	.48
<b>Cognitive</b>					
<b>Variables</b>					
CMS	.04	.06	.07	0.74	.46
DTS (T)	-.24	.06	-2.92	-4.03	.00**

*Note:* A-SOS (PV) = Adapted Stress Overload Scale (Personal Vulnerability); QWI = Quantitative Workload Inventory; ICAWS = Interpersonal Conflict at Work Scale; OCS = Organizational Constraint Scale; STRDS (T) = Student and Teaching demands Scale (Total); CMS = *Concern over Mistakes* Scale; DTS (T) = Distress Tolerance Scale; \*\*= $p < .01$

A-SOS (PV):  $R^2 = .60$ ,  $F(10,134) = 22.64$ ,  $p < .0$ .

It is clear from Table 5.13 that interpersonal conflict at work, organizational constraint and distress tolerance scores contributed significantly to the prediction value towards stress overload (PV), whereas the demographic variables were not significant predictors of stress overload (PV).

The results of the multiple regression model indicated that the dependent variables for A-SOS (PV) explained 60% of the variance. Most of the variables had positive regression weights. The hypothesis formulated in this study indicated that SOS (PV) is strongly predicted by work related stressors, followed by the cognitive variables and then by the demographic variables.

### 5.7.2 Multiple Regression Analysis - A-SOS (EL)

The results of the multiple regression analysis for the three groups of dependent variables predicting stress overload (EL) are displayed in table 5.14.

Table 5.14

*Summary of the Multiple Regression Analysis for the Dependent Variables Predicting Adapted Stress Overload: Event Load (N = 145).*

	Standardized Beta	Std. Err. Of b	Beta	t	p
Age	.04	.07	.04	.53	.59
Gender	.21	.06	.49	3.28	.00**
Education	.02	.07	.27	.31	.76
Teaching Years	.00	.07	.00	.00	1.00
QWI	.24	.07	.61	3.29	.00**
ICAWS	.13	.07	.56	1.82	.07
OCS	.29	.07	.38	3.93	.00**
STRDS (T)	.15	.07	.20	2.05	.04
CMS	.08	.06	.16	1.32	.19
DTS (T)	-.18	.06	-2.63	-2.94	.00**

*Note:* QWI = Quantitative Workload Inventory; ICAWS = Interpersonal Conflict at Work Scale; OCS = Organizational Constraint Scale; STRDS (T) = Student and Teaching demands Scale (Total); CMS = *Concern over Mistakes* Scale; DTS (T) = Distress Tolerance Scale; \*\* =  $p < .01$

A-SOS (EL):  $R^2 = .54$ ,  $f(10,134) = 17.82$ ,  $p = < .00$

It is clear from Table 5.14 that gender, quantitative workload, organizational constraint and distress tolerance scores contributed significantly to the prediction stress overload (EL) and revealed that demographic variables were not significant predictors of stress overload (EL). The results of the multiple regression analysis indicated that the variables for A-SOS (EL) explained 54% of the variance. Most of the variables had positive regression weights. Three of the dependent variables that contributed significantly to the variance in SOS (EL) had significant standardized beta values.

### 5.7.3 Multiple Regression Analysis - A-SOS (TS)

The results of the multiple regression analysis for the dependent variables predicting stress overload (TS) are presented in Table 5.15.

Table 5.15

*Regression Summary for Dependent Variables: A-SOS (TS) (N = 145)*

	<i>Standardized Beta</i>	<i>Std. Err. Of b</i>	<i>Beta</i>	<i>t</i>	<i>P</i>
Age	.05	.06	.10	.79	.43
Gender	.17	.06	8.01	2.93	.00**
Education	.01	.06	.18	.13	.90
Teaching Years	.00	.07	.01	.07	.95
QWI	.16	.07	.75	2.49	.00**
ICAWS	.23	.07	1.75	3.51	.00**
OCS	.34	.07	.82	5.16	.00**
STRDS (T)	.11	.07	.26	1.61	.11
CMS	.07	.06	.23	1.17	.24
DTS (T)	-.22	.06	-5.55	-3.80	.00**

*Note:* QWI = Quantitative workload Inventory; ICAWS = Interpersonal Conflict at Work Scale; OCS = Organizational Constraint Scale; STRDS (T) = Student and Teaching demands Scale (Total); CMS = *Concern over Mistakes* Scale; DTS (T) = Distress Tolerance Scale; \*\* =  $p < .01$

A-SOS (EL) =  $R^2 = .61$ ,  $F(10,134) = 23.64$ ,  $p = <.0$

It is clear from Table 5.15 that gender, quantitative workload, interpersonal conflict at work, organizational constraint and distress tolerance scores contributed significantly to the prediction of stress overload total score (TS).

The results of the multiple regression model A-SOS (TS) indicated that the variables explained 61% of the variance.

## CHAPTER 6

### DISCUSSION AND CONCLUSION

#### 6.1 INTRODUCTION

The main aim of this study was to identify the levels of stress overload and investigate its relationship with certain correlates and predictive variables among teaching staff at a college in Gauteng, South Africa. The demographic variables were measured with a demographic questionnaire that was designed by the researcher. The Quantitative Workload Inventory developed by Spector and Jex (1998) measured the workload, while the Interpersonal Conflict at Work Scale (Spector and Jex (1998) measured the interpersonal conflict among lecturers.

Another Spector and Jex scale (1998), the Organizational Constraint Scale, measured organizational constraints at the college. Student and teaching related demands were measured by an instrument that was developed by Dr Charl Nortje (a combination of CARD and Teachers' Sense of Efficacy Scales). Concern over mistakes was measured by the Multi-Dimensional Perfectionism Scale (Frost et al., 1990) and distress tolerance was measured by making use of the Distress Tolerance Scale (Simons & Gaher, 2005). The Coping Strategy Indicator (Amirkhan, 1990) measured coping and finally stress overload was measured by the Stress Overload Scale (Amirkhan, 2012). The results of the quantitative analysis are discussed in this chapter, followed by the limitations of and recommendations for the study. The results of this study confirmed hypotheses 1, 2 and 4 and partly confirmed hypothesis 3 as set out in chapter 3 (H1-4). The results are also consistent with existing literature that has found that work related stressors contribute to teachers' stress (Ncube & Tshabalala, 2013).



## 6.2 DISCUSSION

### 6.2.1 Levels of the Dependent Variables

#### 6.2.1.1 *Average level of work related stressors*

Workload was measured by the Quantitative Workload Inventory (QWI) (Spector & Jex, 1998). The reported scores were between 5 and 25, which also represent the minimum and maximum scores that were accommodated by the QWI. The present sample reported a high level of workload with a mean score of 17.06 out of a possible score of 25. In a Spector and Jex study (1998), which included the teaching profession, mean scores of 16.5 were reported, making workload in this study above the average of the norm. Supportive evidence was also found in other studies regarding high levels of workload in teaching (Chaplain, 2008; Courtney, 2014).

Regarding Interpersonal conflict at work (ICAWS), the sample reported an average score of 7.88 out of a possible score of 20. The minimum and maximum reported values were between 4 and 17. The Interpersonal Conflict at Works Scale (Spector & Jex, 1998) accommodates scores ranging from 4 to 20, with the norm reported at 7.1 (Spector & Jex, 1998). The scores of the current study were higher than this reported norm. Supportive evidence of interpersonal conflict in the teaching environment was reported in other educator studies as well (Bankovskaya, 2012; Salleh & Adulpakdee, 2012; Viljoen & Rothmann, 2009).

An average score of 24.73 out of a possible 55 was reported for organizational constraints (OCS). The Organizational Constraints Scale (Spector & Jex, 1998) accommodates scores ranging from 11 to 55, with the norm reported at 21.3. The scores of the current study ranged from 11 to 50. The scores of organizational constraints in the current study were higher than the norm of Spector and Jex (Spector & Jex, 1998). Evidence of occupational constraints in

educators was found in many local and international studies (Griffith, Steptoe & Cropley, 1999; Liu, Nauta, Li & Fan, 2010; Modisaotsile, 2012).

The student and teaching related demands accommodated scores of between 5 and 55. This test was compiled by Dr Charl Nortje (2014) and is a combined scale of CARD and the Teachers' Sense of Efficacy Scale, using certain aspects of each scale. The mean of this study is 30.48 out of a possible 55, which indicates that the student and teaching related demands are above average. Numerous studies have found that student and teaching related demands are problematic (Chaplain, 2008; Ghazi, Shahzada, Tariq & Khan, 2013; Halim, et al., 2006)

#### *6.2.1.2 Average level of the cognitive variables*

Concern over mistakes reflects negative reactions to mistakes, a tendency to interpret mistakes as equivalent to failure (Frost, 1990). A mean score of 19.4 out of a possible 45 was reported for this cognitive variable. Minimum and maximum scores reported in the current study were 9 and 38. This is in agreement with a study done with secondary school teachers (Stoeber & Rennert, 2008) which found that striving for perfection did not contribute significantly to stress in teachers.

The second variable mentioned here, distress tolerance, may be defined as “the capacity to experience and withstand negative emotional states” (Simons & Gaher, 2005, p.83).

Minimum and maximum scores reported were between 1 and 5 and the mean score of the present study was 2.96 out of 5. As previously mentioned, distress tolerance studies have mainly focused on substance abuse but the researcher, despite an exhaustive search, could not find related studies on educators.

### 6.2.1.3 *Average level of coping strategies*

The coping strategies were measured by the Coping Strategy Indicator (CSI) (Simons & Gaher, 1998). According to the norms set by Amirkhan (1990), the mean scores for problem solving (PS) are  $M=28.15$ ,  $SD = 4.09$ , and for seeking social support (SSS) they are  $M = 25.66$ ,  $SD = 5.00$ . Avoidance is:  $M = 21.07$ ,  $SD = 3.78$ . Amirkhan's criteria indicate that a mean of 26 is known as an average use of a specific coping style, and anything above a mean of 31 indicates a high probability of usage for that particular coping style (Amirkhan, 1990). In the current study, PS had a mean score of 28.46, which reflects an above average reliance on this coping style. SSS scores were lower at 22.98, which would make this the second highest coping style that was used. The avoidance coping style had the lowest scores at 19.12, implying a low reliance of participants on this coping style (Amirkhan, 1990). However, supporting evidence for problem solving coping as the preferred coping style used by educators was found in several studies (Bhagat, Allie & Ford, 1991; Folkman & Lazarus, 1980).

### 6.2.1.4 *Average level of stress overload*

Most previous studies have focused mainly on occupational stress factors that cause educator stress (Hodge, 2015; Okeke & Dlamini, 2013). The Stress Overload Scale (SOS) offers the possibility of categorical as well as continuous scoring. This happens through splitting the personal vulnerability and event load scales into high vs low, resulting in four categories. These four categories separate those who are most at risk for stress overload (high-high group) from the others. For this study, a high score indicates a high risk of stress overload in a specific category (PV, EL, T). The SOS (EL) had a mean score of 34.42 ( $SD=12.65$ ) out of a possible score of 60 and SOS (PV) a mean score of 27.84. Scores reported by the scales

were between 12 and 60, also representing the minimum and maximum scores accommodated by the SOS.

### **6.3 INTERNAL CONSISTENCIES**

The  $\alpha$  coefficient exhibited acceptable levels in terms of the internal consistency (for all measures). As a result all measures were included in the further analyses.

### **6.4 RELATIONSHIPS**

#### **6.4.1 Relationship between Work Related Stressors and Stress Overload (PV, EL and TS)**

Work related stressors were workload, interpersonal conflict at work and occupational constraints.

##### *6.4.1.1 Workload*

In the current study, workload was found to be positively and significantly correlated with stress overload (EL, PV and TS). This confirmed the results of international and local studies regarding the significance of workload and stress experienced by educators (Barkhuizen & Rothmann, 2008; Bowers, 2006; Butt, 2005; Schulze & Steyn, 2007; Van Dick and Wagner, 2001).

In a Hong Kong teacher study (Hui, 1996), heavy workload was seen to be one of the major stressors among 415 teachers. Similarly, in England and Wales, a study with 246 teachers reported that workload and marking were the reasons that were most frequently given for teachers leaving the profession (Barmby, 2007). In a U.S. study, 70% of the participants mentioned that their workload was very difficult to manage during the semester (Whiteley, 2012). Workload has also been linked directly to high levels of stress overload among South African teachers resulting in a negative impact on teaching (Matoti, 2010).

#### 6.4.1.2 *Interpersonal conflict*

As far as relationships between work related stressors and stress overload are concerned, interpersonal conflict at work showed positive and significant correlations with stress overload (PV, EL and TS0) and is reflected in worldwide studies. Internationally, a study on interpersonal conflict at work with 779 teachers in the U.S. showed that 65% felt that they were targets of workplace bullying quite often or even extremely often. A high percentage of teachers (81.5%) felt bullied by their supervisors, followed by 67.6% that felt bullied by their co-workers and 62.4% that felt bullied by students (Fox & Stallworth, 2010). In the present study, interpersonal conflict at work was measured as a single construct. The present finding is in line with the existing literature regarding interpersonal conflict at work as a predictor of stress overload.

Locally, Swaziland secondary school teachers, however, named aspects that relate to work relationships as causing the least stress to them. These include “my beliefs conflict with those of my school” and “my relationship with my colleagues” (Okeke & Dlamini, 2013). In yet another local study that was done at the University of Technology, interpersonal relationships between colleagues and managers were strained at times and this contributed to stress in the workplace. Limited opportunities to communicate face to face to coordinate activities that were supposed to be shared were cited as the main reason for the problematic interpersonal relationships at times at a university of technology workplace. Problems caused by interpersonal conflict were in general seen as having negative outcomes (Viljoen & Rothmann, 2009).

#### 6.4.1.3 *Organizational constraint*

In a local educator study with Cape Town teachers (teachers declared medically disabled owing to psychiatric disorders), it was reported that 81% of the teachers cited work related stress as a major factor in their medical disability (Emsley et al., 2009).

Furthermore, organizational constraint showed positive and significant correlations with stress overload (EL, PV and TS). Internationally, 50% of 2285 Texas teachers (Special ed.), “strongly agreed” that there was a shortage of school supplies, materials and resources and this prevented them from doing their job efficiently. Almost half (40%) of educators “agreed” that there was a shortage of supplies, materials and resources (Kaufhold et al., 2006). Locally, educators that were enrolled for B(ED) in and around Bloemfontein found that a lack of resources contributed to unacceptable working conditions (Matoti, 2010).

Another reason that showed positive and significant correlations with stress overload was student and teaching related demands. This is in agreement with international studies that noted positive and significant correlations between stressful student situations and stress in educators (Chaplain, 2008; Courtney, 2014; Halim, et al., 2006). Geving (2007) reported that there was a positive and significant correlation between the majority of stressful student behaviour items and teacher stress. In another international study, the behaviour problems of students were found to be one of two main factors that predicted stress in teachers (Boyle et al., 1995). Hui (1996) also documented that unmotivated or less able students contributed to teacher stress. Locally, unmotivated students were a significant cause of stress among academics in the faculty of science in a higher educational institution (Mammen, 2006). In a Free State secondary school study with 368 randomly selected teachers from 36 township schools, learners’ performance was the top stressor to teachers, naming learners’

unwillingness to do schoolwork and evading of classes as some of the mentioned causes of teacher stress (Motseke, 2013).

#### **6.4.2 Relationship between Cognitive Variables and Stress Overload (PV, EL and TS)**

Concern over mistakes showed positive, significant relationships with stress overload (PV, EL and TS). Internationally, Stoeber and Rennert (2008) proved that striving for perfection and the perceived pressure from colleagues did not add to stress and burnout in educators. Striving for perfection is seen as a healthy form of perfectionism with positive outcomes (do not add to stress). In contrast to this, perfectionistic concern is the unhealthy form of perfectionism, of which, concern over mistakes is one aspect (Stoeber & Otto, 2006). Perfectionistic concerns add to emotional distress (Bieling, Israeli, & Anthony, 2004). The current study reported that lecturers that were overly concerned over mistakes experienced more stress than those who were not. The possibility however exists that it is not only non-perfectionistic lecturers that experienced less stress. Perfectionistic lecturers that are not overly concerned over mistakes, could also have experienced less stress than those who were overly concerned about mistakes. Supportive evidence for the current study can be found in a recent meta-analysis (43 previous studies were analysed). In this study, the relationship between burnout and perfectionism was clear, with concern over mistakes named as one of the aspects of “perfectionistic concerns”. The lead researcher, Andrew Hill, reported that perfectionistic concerns contributed significantly to stress and burnout in the workplace (ScienceDaily, 2015).

Distress tolerance in the present study was negatively and significantly correlated with stress overload (PV, EL and TS). This suggests that low distress tolerance is associated with an increase in stress overload. High scores represent higher tolerance for emotional distress. In the same regard, the Rational Emotive Behaviour Therapy (REBT) reported that low

frustration tolerance was a vulnerable factor regarding stress (Ellis, 1962, 1980; Ellis & Dryden, 1997; Grieger & Boyd, 1980; Walen et al., 1992).

Internationally, the relationship between distress tolerance and post-traumatic stress was investigated within a trauma group. The DTS total score was significantly negatively correlated with each of the criterion variables (Vujanovic et al., 2011), which supports the negative correlation in the present study. No literature was found after an exhaustive study on distress tolerance and teacher stress in South Africa. As mentioned above, the Distress Tolerance Scale is mostly used in substance abuse investigations.

#### **6.4.3 Relationship between Demographic Variables and Stress Overload (PV, EL and TS)**

In the current study, gender was positively associated with stress overload, where the group with higher numerical numbers measured higher on stress overload. Gender was significant in A-SOS (EL and TS), as reported in table 5.15. Female lecturers in the current study experienced significantly higher EL and TS stress overload scores than their male colleagues. An Irish study done by Darmondy and Smyth and compiled by the ESRI reported that female teachers were feeling very or fairly stressed compared with male teachers (ESRI, 2011). This confirms the results of the current study in which the stress overload (TS) in female lecturers was higher than that of their male counterparts.

In an international study carried out by Jeyaraj and Ramamoorthy (2013), women reported higher levels of psychological stress than men. In a university teaching staff study (Bashir, Khan, Qureshi, Qureshi, & Khan, 2013) it was recorded that male and female academic educators showed a difference in their perceived levels of stress. Female teachers reported higher means scores on student and job related difficulties and on their perceptions of stress (resulting from class related difficulties).



Locally, a Western Cape educator study (Paulse 2005) reported that male teachers experienced significantly lower stress levels than their female counterparts. In the same study, differences between different age groups and different teaching experiences in relation to stress were also noted. In contrast with the results of the current study, another local study reported no significant differences in stress factors concerning gender (Putter, 2003).

Regarding the relationship between age, education and teaching experience, the findings were as follows: The demographic variables of education (EL and TS) and teaching experience (PV, EL and TS) were positively and significantly correlated with stress overload but age and education (PV) did not report significant correlations with the stress overload subscales.

Although, in a Swaziland secondary school teacher study, the demographic variables of qualifications were not significant predictors of stress, age had a moderately significant relationship with work related stress levels (Okeke & Dlamini, 2013). Internationally, in a study done by Hanif, Tariq and Nadeem (2011), age and job experience were seen as one of the five top predictors of teacher stress and performance.

## **6.5 RANGE OF COPING STRATEGIES**

Each coping style (problem solving, seeking social support and avoidance) was divided into three levels of coping; namely, “low”, “medium” and “high”. This indicates the amount of reliance of the participant on each specific coping strategy. In all three coping styles (problem solving, seeking social support and avoidance), a medium level of coping was used most, respectively 62%, 67% and 78%. For both problem solving and seeking social support, a high level of coping was used. The second highest were 36% and 20% respectively. In the case of the avoidance style, the low level of coping was second highest (13%). For problem solving, the low level use of the coping strategy was very insignificant (2%), followed by seeking social support and avoidance (both 13%). A possible explanation for the “medium”

level that was used most frequently (across all the coping styles) might be because of the fact that lecturers were indecisive between either “high” and “medium” or “medium” and “low” usage.

The post-hoc analysis of the different levels of usage for the three coping strategies was as follows: Regarding the coping strategy seeking social support A-SOS (EL, PV, TS), all levels were used equally, accepting the null hypothesis. Medium and high use of the problem solving coping strategies was reported. A very small percentage of participants made use of the low problem solving coping strategy. There was no difference between the use of medium and high levels of problem solving coping strategies, therefore accepting the null hypothesis. The avoidance strategy for A-SOS (PV, EL, and TS) differed significantly in the three levels of usage. The results of the F test for the avoidance strategy indicated  $p < .01$ , making A-SOS (PV, EL and TS) significant predictors, therefore rejecting the null hypothesis.

Internationally, a study with substitute teachers showed that equal use was made of both problem and avoidance-centred coping strategies (problem-centred coping strategies showed only a slight advantage over avoidance-centred coping) (Vorell, 2012). Locally, a study with South African teachers by Willers (2009) indicated an above average use of all three of the coping styles.

## **6.6 OBJECTIVE 7**

Objective 7 tested four different hypotheses. Hypotheses 1 to 3 predicted that stress overload (PV, EL and TS) would be strongly predicted by work related stressors, followed by the cognitive variables and then by the demographic variables. Hypothesis 4 predicted that of the two cognitive variables, distress tolerance would be a stronger predictor than concern over mistakes.

The results of this study supported the first two hypotheses, with workload being the strongest predictor of stress overload. Work-related stressors have been reported as a major contributing stress factor in education in other related studies (Raju & Rani, 2012; Sindhu, 2014).

As far as gender is concerned, the results of the current study are in agreement with research that reports gender as a less significant predictor of stress (Klassen, 2010; Okeke & Dlamini, 2013). Hypothesis 3 was partially supported by the results as the demographic variable of gender proved to be a stronger predictor of stress overload than quantitative workload. In a related study by Hanif, Tariq, & Nadeem (2011), the demographic variable of gender was one of the top five predictors of teacher job performance and stress.

Hypothesis 4 was also supported by the results, as distress tolerance was a stronger predictor of stress overload than concern over mistakes.

The regression model explained the amount of variance for SOS-PV, EL and TS as follows: A-SOS TS explained 61% of the variance with A-SOS PV indicating 60% and EL 54%. The predictor variables that contributed most to the variance in SOS (PV) were occupational constraints, interpersonal conflict at work and distress tolerance. Occupational constraints are mentioned as a source of stress overload in several studies (Lee & Zuilkowski, 2015; Modisaotsile, 2012). For SOS (EL) the highest predictors of stress overload were occupational constraints, quantitative workload, followed by distress tolerance. Several educator studies support workload as a major stressor (Schulze & Steyn, 2007; Thorsen, 1996; Van Dick & Wagner). For SOS (TS), the greatest predictors of stress overload were occupational constraints, distress tolerance, gender, and quantitative workload

## 6.7 SUMMARY AND IMPLICATIONS

The aim of the study was to identify levels of stress overload and to investigate its relationship with specific correlates and predictive variables among lecturers. Self-report questionnaires were used so that the focus in the present study could be on participants' views of factors that cause occupational stress in the college teaching workplace.

Bronfenbrenners' ecological model of human development (Bronfenbrenner, 1994) added organizational value to this study. Within the framework of this model, certain stress factors that are part of the microsystemic work environment (together with some of the cognitive and demographic characteristics) were significant predictors of stress overload in lecturers. The analysis of variance regarding gender differences and stress overload reported that female lecturers experienced a higher average stress overload on all the A-SOS subscales.

This is in contradiction with other teacher studies (Aftab & Khatoon, 2012; Bhagawan, as cited in Nyak, 2008) that reported that male teachers experienced more job stress than females.

Further significant predictors of stress overload (PV) were interpersonal conflict at work, organizational constraints and distress tolerance. Quantitative workload, organizational constraints and distress tolerance significantly predicted stress overload (EL) while gender, quantitative workload, interpersonal conflict at work, organizational constraints and distress tolerance were significant predictors of stress overload (TS).

Organizational constraints were reported widely as a problem in the workplace, and more specifically in education (Lee & Zuilkowski, 2015; Modisaotsile, 2012). Workload as a stressor in education has been researched intensively, with many results supporting the findings of this study (Barkhuizen & Rothmann, 2008; Thorsen, 1996; Schulze & Steyn, 2007). Supportive evidence regarding interpersonal conflict at work as a predictor of stress

was also found in other research studies (Eres & Atanasoska, 2011; Mwangi, 2014). Distress tolerance was reported in studies as having a link to stress overload (Bermejo-Toro & Prieto-Ursua, 2006; Robertson & Dunsmuir, 2013).

Stress overload correlated significantly with all the work related stressors (workload, interpersonal conflict at work, occupational constraints and student and teaching related demands), as well as with the cognitive variables of concern over mistakes and distress tolerance for all stress overload subscales. Liu, Nauta, Li and Fan (2010) reported significant correlations between organizational constraints and job strain in their comparative study of China and the U.S.. Regarding the demographic variables, significant correlations were found between stress overload and education (EL and TS) and teaching experience (PV, EL and TS). Other studies also noted significant correlations between demographic variables and stress (Raveeswaran, Raveendran & Ananthasayanan, 2011; Bhagawan, as cited in Nyak, 2008).

On average, the levels of stress overload regarding work related factors among the present sample of South African college lecturers was high, especially in the event load category. A high average level of workload was reported, followed by high average levels of student and teaching related demands. King (2002) recorded long hours of teaching, preparation of lessons, poor student attendance and lack of discipline as a few of the many causes of teacher stress. In addition, teacher surveys by Butt (2005) and Smith (2007) revealed that teacher stress owing to, among other factors, student, administrative, teacher related factors as well as longer working hours were causes of stress overload. Regarding the cognitive variables, distress tolerance in this study proved to be a stronger predictor of stress than concern over mistakes.

The coping strategy that was most frequently applied by the participants was problem solving coping, with seeking social support second and avoidance coping the last. While Lazarus and Folkman (1980) believed that problem solving coping was used more in work related contexts, Bhagat, Allie and Ford (1991) considered that problem-solving coping strategies were more effective in moderating job stress than emotion-focused coping strategies. They agreed with Lazarus and Folkman, however, that a significant increase in problem-solving coping was reported if a teacher was confronted with work related stressful situations. The findings of the current study seem to confirm the value of the framework of stress and coping in the research context of teaching.

The implication for this college specifically was that organizational constraints and workload could be managed optimally to prevent stress overload in lecturers. The workplace stressors investigated in this study could be replicated in a future study in TVET colleges on a national scale. This could be done to help formulate interventions to lessen workplace-stress in TVET colleges.

## **6.8 LIMITATIONS**

The sample size was limited owing to time and distance constraints. One of the limitations of the current study was that a standard regression analysis was done because of the limited sample. With more participants, a structural equation model (SEM) could have been used, which would have resulted in a stronger and more refined analysis. The study could have been limited to fewer measuring instruments, resulting in a shorter questionnaire and focusing more on specific aspects that caused stress overload. The informed consent forms and questionnaires were made available only in English, which may not have been some of the participants' language of choice.

## **6.9 RECOMMENDATIONS**

It is recommended that the findings of the present study regarding stress overload among college lecturers at a Gauteng college be used as the basis for a national study, in full or only partially, with more participants, at other TVET colleges, focusing on the stressors related to workplace related stress. Results from future studies regarding workplace stressors could aid in the development of interventions to address workload, interpersonal conflict at work, organizational constraint and student and teaching related demands.

## **6.10 CONCLUSION**

High levels of stress overload have been linked to teachers' intentions to leave the profession (Moore, 2002; Mrozek, 2004; Pelzer, et al., 2005). The public education system is already characterized by a shortage of educators (Monana, 2012). With the existing high workloads (Butt, 2005; Schulze & Steyn, 2007; Van Dick & Wagner, 2001), the workload could increase because of educators leaving the system. The present contribution to the literature regarding stress overload among South African lecturers could act as a basis for future research as not much literature was found after an exhaustive search of stress among college lecturers.

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## Appendix A1

### Permission to use and/or adapt scale: Quantitative Workload Inventory, Interpersonal Conflict at Work Scale and Organizational Constraints Scale

**Spector, Paul**<[pspector@usf.edu](mailto:pspector@usf.edu)>

Thu, Sep 12, 2013 at 8:28 PM

To: Lorraine Jonker<[lorrainejonk@gmail.com](mailto:lorrainejonk@gmail.com)>

Dear Lorraine:

You have my permission to use in your research any of my instruments I have provided on my website, including the stressors scales. You can find details about them in the Scales section of my website <http://shell.cas.usf.edu/~spector>. I allow free use for non-commercial research and teaching purposes in return for sharing of results. This includes student theses and dissertations, as well as other student and nonstudent research projects. Copies of the scale can be reproduced in a thesis or dissertation as long as the copyright notice is included as indicated on the website. Results can be shared by providing an e-copy of a published or unpublished research report (e.g., a dissertation). You also have permission to translate any of these scales into another language under the same conditions as above, plus providing me with a copy of the translation. Be sure to put a note on the scale giving credit to whoever did the translating, and the year, as well as the .

Thank you for your interest in my scales, and good luck with your research.

Best,

Paul Spector  
Department of Psychology  
PCD 4118  
University of South Florida  
Tampa, FL 33620  
813-974-0357

## Appendix A2

### Permission to use and/or adapt scale: Student and Teaching Related Demands Scales: Combined scales (CARD and Teachers' Sense of Efficacy Scale)

Richard Lambert<[rglamber@uncc.edu](mailto:rglamber@uncc.edu)>

Mon, Jun 3, 2013 at 4:33 PM

To: Lorraine Jonker<[lorrainejonk@gmail.com](mailto:lorrainejonk@gmail.com)>

Hi Lorraine - Here is the version of the CARD that you need. You are welcome to use it for research purposes. When it comes time to score your data I would also be happy to help you at that point. We only ask that you credit us properly in your citations. Take care, Rich

---

Richard G. Lambert, Ph.D., Ed.S.

Professor

280 College of Education Building

UNC Charlotte

Department of Educational Leadership

Charlotte, NC 28223-0001

Phone: 704-687-8867

Fax: 704-687-3493

To: [hoy.17@osu.edu](mailto:hoy.17@osu.edu)

Dear Prof Hoy

I want to use the above scale for research, and saw the letter of permission, thank you.

My question is: will I be able to adapt the scale for a college, by replacing the words school with college, and "children" with students?

Thanking you

Lorraine Jonker

Sat, May 25, 2013 at 9:36 PM

**Anita Hoy**

Anita Hoy<[anitahoy@mac.com](mailto:anitahoy@mac.com)>

To: Lorraine Jonker<[lorrainejonk@gmail.com](mailto:lorrainejonk@gmail.com)>

Yes, you can adapt the instrument for your research in college.

*Anita*

Anita Woolfolk Hoy

Professor Emerita

Educational Psychology & Philosophy

The Ohio State University

7687 Pebble Creek Circle

Unit 102

Naples, FL 34108

phone: [239-592-4859](tel:239-592-4859)

Cell: [415-640-2017](tel:415-640-2017)



### Appendix A3

#### Permission to use and/or adapt scale: Concern over Mistakes Scale

Randy Frost:rfrost@smith.edu>

Wed, May 15, 2013 at 2:02 PM

To: Lorraine Jonker<lorrainejonk@gmail.com>

Dear Lorraine,

You are free to use the scale for your research. I have attached a copy along with scoring information. Good luck on your project.

Sincerely,

Randy Frost

## Appendix A4

### Permission to use and/or adapt scale: Distress Tolerance Scale

Jeffrey S. Simons<[Jeffrey.Simons@usd.edu](mailto:Jeffrey.Simons@usd.edu)>

Thu, Apr 11, 2013 at 10:44 PM

To: Lorraine Jonker<[lorrainejonk@gmail.com](mailto:lorrainejonk@gmail.com)>

You are welcome to use it.

Jeffrey S. Simons, Ph.D.

Professor

Department of Psychology

The University of South Dakota

Vermillion, SD 57069

Phone: 605-677-5353

Fax: 605-677-3195

[jsimons@usd.edu](mailto:jsimons@usd.edu)

## Appendix A5

### Permission to use and/or adapt scale: Coping Strategy Indicator

James Amirkhan:james.amirkhan@csulb.edu>

Wed, May 15, 2013 at 9:26

PM

To: [lorrainejonk@gmail.com](mailto:lorrainejonk@gmail.com)

Dear Lorraine:

Thank you for your interest in the Coping Strategy Indicator. I have attached the four pages of the instrument, including its scoring scheme (page 4). You are welcome to use the CSI free of charge in your research, and I would be very interested to see any results you obtain with it. However, I do ask (1) that you use the instrument for research purposes only, and (2) that you do not publish the instrument in its entirety (including sample items in your write-up is fine). I have had some problems with people using the CSI for profit without my knowledge or consent.

I have also attached a short summary of the CSI. I can send you a copy of the original Journal of Personality and Social Psychology (1990) article, which describes the scale derivation, and in which the bulk of the normative data for the CSI is presented, and another reprint (Journal of Personality Assessment, 1994) that documents the criterion validity of the instrument, if you are interested.

Recently, I published a new stress measure that, like the CSI, was empirically derived. It has two sub-scales, which when crossed form a diagnostic grid for identifying persons most at risk for stress-related pathology. I thought this might also be of interest to you, so I am also attaching the SOS, its scoring rubric, and a short description.

Best of luck with your research!

Sincerely,

James H. Amirkhan, Ph.D.

Professor, Psychology

## Appendix A6

### Permission to use and/or adapt scale: Stress Overload Scale

James Amirkhan:james.amirkhan@csulb.edu>

Wed, May 15, 2013 at

9:26 PM

To: [lorrainejonk@gmail.com](mailto:lorrainejonk@gmail.com)

Dear Lorraine:

Thank you for your interest in the Coping Strategy Indicator. I have attached the four pages of the instrument, including its scoring scheme (page 4). You are welcome to use the CSI free of charge in your research, and I would be very interested to see any results you obtain with it. However, I do ask (1) that you use the instrument for research purposes only, and (2) that you do not publish the instrument in its entirety (including sample items in your write-up is fine). I have had some problems with people using the CSI for profit without my knowledge or consent.

I have also attached a short summary of the CSI. I can send you a copy of the original *Journal of Personality and Social Psychology* (1990) article, which describes the scale derivation, and in which the bulk of the normative data for the CSI is presented, and another reprint (*Journal of Personality Assessment*, 1994) that documents the criterion validity of the instrument, if you are interested.

Recently, I published a new stress measure that, like the CSI, was empirically derived. It has two sub-scales, which when crossed form a diagnostic grid for identifying persons most at risk for stress-related pathology. I thought this might also be of interest to you, so I am also attaching the SOS, its scoring rubric, and a short description.

Best of luck with your research!

Sincerely,

James H. Amirkhan, Ph.D.

Professor, Psychology

**Appendix B**  
**Demographic questionnaire**

Subject no.: \_\_\_\_\_

Date: \_\_\_\_\_

Please state:

Your age: \_\_\_\_\_

Date of Birth: \_\_\_\_/\_\_\_\_/\_\_\_\_

PLEASE ANSWER THE FOLLOWING WITH AN (X) IN THE APPROPRIATE BOX:

Gender:

Male

Female

Highest level of education:

Matric Certificate

Honors degree

Diploma/Certificate

Advanced degree

First degree

How long have you been teaching at the college? .....years ..... months

**Appendix C**  
**Quantative workload inventory (QWI)**

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

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

**HOW OFTEN**

**Statements:**

**1-5**

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

All scales are copyright Paul . Spector and Steve M. Jex, All rights reserved, 1997.

**Appendix D**  
**Interpersonal Conflict at Work Scale (ICAWS)**

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

<b>HOW</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>OFTEN:</b>	<b>Never</b>	<b>Rarely</b>	<b>Sometimes</b>	<b>Quite often</b>	<b>Very often</b>

**HOW OFTEN**

**Statements:**

**1-5**

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

All scales are copyright Paul . Spector and Steve M. Jex, All rights reserved, 1997.

**Appendix E**  
**Organizational constraints scale (OCS)**

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

<b>HOW OFTEN:</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
	<b>Less than once per month or never</b>	<b>Once or twice per month</b>	<b>Once or twice per week</b>	<b>Once or twice per day</b>	<b>Several times per day</b>

**HOW OFTEN**

**Statements:**

**1-5**

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

All scales are copyright Paul . Spector and Steve M. Jex, All rights reserved, 1997.



**Appendix F**

**Student and Teaching Related Demands Scale (STRDS)**

Indicate **how often** you find the following stressful or demanding in your work. Write the number (from 1 to 5) that best describes how frequently you find it stressful or demanding because of the particular demand. Your responses are **strictly confidential**.

<b>HOW OFTEN:</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
	<b>Less than once per month or never</b>	<b>Once or twice per month</b>	<b>Once or twice per week</b>	<b>Once or twice per day</b>	<b>Several times per day</b>

**FACTOR A:**

**STUDENT RELATED DEMANDS**

**HOW OFTEN**

**1-5**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

**Student demands:**

- Teaching students with learning disabilities
- Students that perform below standard
- Students that show low interest in college work?
- Students with poor attendance
- Students with problem behaviours

**FACTOR B:**

**Teaching related demands**

**TEACHING RELATED DEMANDS**

**HOW OFTEN**

**1-5**

1. \_\_\_\_\_

Preparing for lessons

2. \_\_\_\_\_

Presentation of lessons

3. \_\_\_\_\_

Evaluation and assessment of student work

4. \_\_\_\_\_

Paperwork requirements

5. \_\_\_\_\_

Teaching time allocated by the syllabus

## Appendix G

### Multidimensional perfectionism scale (Concern over Mistakes – CMS)

Please circle the number that best corresponds to your agreement with each statement below.

Use this rating system.

1. Strongly disagree
2. Mildly disagree
3. Agree and disagree equally
4. Mildly agree
5. Strongly agree

	ITEMS					
1.	If I fail at work, I am a failure as a person.	1	2	3	4	5
2.	I should be upset if I make a mistake.	1	2	3	4	5
3.	If someone does a task at work better than me, then I feel like I failed the whole task.	1	2	3	4	5
4.	If I fail partly, it is as bad as being a complete failure.	1	2	3	4	5
5.	I hate being less than the best at things	1	2	3	4	5
6.	People will probably think less of me if I make a mistake.	1	2	3	4	5
7.	If I do not do as well as other people, it means that I am an inferior human being.	1	2	3	4	5
8.	If I do well all the time, people will not respect me.	1	2	3	4	5
9.	The fewer mistakes I make, the more people will like me.	1	2	3	4	5

## Appendix H

### Distress Tolerance Scale (DTS)

Directions: Think of times that you feel distressed or upset. Select the item from the menu that best describes your beliefs about feeling distressed or upset.

1. **Stongly agree**
2. **Mildly agree**
3. **Agree and disagree equally**
4. **Mildly disagree**
5. **Strongly disagree**

	<b>ITEMS</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1.	Feeling distressed or upset is unbearable to me					
2.	When I feel distressed or upset, all I can think about is how bad I feel					
3.	I can't handle feeling distressed or upset					
4.	My feelings of distress are so intense that they completely take over					
5.	There's nothing worse than feeling distressed or upset					
6.	I can tolerate being distressed or upset as well as most people					
7.	My feelings of distress or being upset are not acceptable					
8.	I'll do anything to avoid feeling distressed or upset					
9.	Other people seem to be able to tolerate feeling distressed or upset better than I can					
10.	Being distressed or upset is always a major ordeal for me					
11.	I am ashamed of myself when I feel distressed or upset					
12.	My feelings of distress or being upset scare me					
13.	I'll do anything to stop feeling distressed or upset.					
14.	When I feel distressed or upset, I must do something about it immediately					
15.	When I feel distressed or upset, I cannot help but concentrate on how bad the distress actually feels.					

## Appendix I

### Adapted Coping Strategy Indicator (A-CSI)

**The full Scale cannot be included, as requested by the compiler of the scale.**

We are interested in how people cope with the problems and troubles in their lives.

Listed below are several possible ways of coping. We would like you to indicate to what extent you, yourself, used each of these coping methods. All of your responses will remain anonymous.

Try to think of one problem you have encountered **at your work** in the **last six months or so**. This should be a problem that was important to you, and that caused you to worry (anything that is related to your work, for example conflict with someone at work, or feeling overloaded with work, or struggling to solve a problem, but it should be one that was important to you).

Please describe this problem in a few words (remember, your answer will be kept anonymous):

---

With this problem in mind, indicate how you coped by checking the appropriate box for each coping behaviour listed on the following pages. Answer each and every question even though some may sound similar.

**Keeping that stressful event in mind, indicate to what extent you....**

	<b>ITEMS</b>	<b>A lot</b>	<b>A little</b>	<b>Not at all</b>
1.	Let your feelings out to a friend or colleague?			
2.	Rearranged things around you so that your problem had the best chance of being resolved?			

## Appendix J

### Adapted Stress Overload Scale (A-SOS)

The full Scale is not included, as requested by the compiler of the scale.

(A Measure of Day-to-Day-Feelings)

#### INSTRUCTIONS:

On the following pages, you will find 30 questions about your feelings **AT WORK AND RELATED TO WORK** during the past week. Please answer every question, even though some might sound similar. Each question names a particular feeling that is common to people as they go through their **WORKING DAY**. Each question also has answer boxes that look like this:

Not at				A Lot
-----------	--	--	--	----------

Please check the one box that shows how much you have felt that particular feeling **AT WORK in the last week**. For example, **you might check the last box, if you had the feeling at work a lot**. Or you might check the **second box if you felt that way at work just a little bit**. Or you could check off any of the other boxes.

In answering these questions, please be as honest as possible. Your answers will help us to better understand the emotions of everyday working life. Also, your answers will be kept confidential. You should not write your name anywhere on the questionnaire. Your answers will only be identified by the number at the top and the date you write below.

Remember, please consider only your feelings **in the past week and related to your work**.

#### IN THE PAST WEEK, (RELATED TO YOUR WORK) HAVE YOU FELT?

	ITEMS	(1)Not at all	(2)	(3)	(4)	(5)A lot
1.	....calm at work?					
2.	....strained at work?					

## Appendix K

### Participant information leaflet and consent form

TITLE OF THE RESEARCH PROJECT:

STRESS IN A COLLEGE WORKPLACE AND ITS RELATIONSHIP WITH CERTAIN  
CORRELATES AND PREDICTIVE VARIABLES

**REFERENCE NUMBER: 18100317**

**PRINCIPAL INVESTIGATOR: Lorraine Jonker**

**SUPERVISOR: Dr. Marieanna le Roux**

**ADDRESS: PO Box 40135, Moreleta Park, 0044**

**CONTACT NUMBER: 083 627 3874**

You are being invited to take part in a research project. Please take some time to read the information presented here, which will explain the details of this project. Please ask the researcher any questions about any part of this project that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research entails and how you could be involved. Also, your participation is **entirely voluntary** and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

This study has been approved by the **Research Ethics Committee: Human Research (Humaniora) of Stellenbosch University** and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, South African Guidelines for Good Clinical Practice. Ethical Guidelines for Research. The supervisor for this study is Dr. M. le Roux. The contribution of these results will be towards my thesis for the Masters degree in Psychology.

#### **What is the purpose of this study?**

The purpose of the study is to identify levels of stress overload and investigate its relationship with certain correlates and predictive variables among teaching staff at a Further Education and Training College public TVET College) in Gauteng, South Africa. The predictor variables to be compared include demographical, occupational stressors, and cognitive

variables. All this information relates in particular to people (like yourself) who are lecturing at a TVET College.

### **Why have you been invited to participate?**

- *You have been invited in your capacity as a lecturer employed at a TVET college (Campus 1-3).*
- **What will your responsibilities be?**
- *Your participation will entail completing eight questionnaires in paper form. It will take approximately 30-45 minutes of your time*  
***The questionnaire pack will consist of the following questions regarding:***  
***Your workload***, to help us with information regarding workload; a set of questions about your workload intensity will be asked
- ***Interpersonal conflict at work***, to help us with information regarding the ***interpersonal conflict*** at your workplace, a set of questions on your level of conflict will be asked.
- ***Organizational constraints***, to help us with information regarding constraints in your organization, a set of questions on your specific organizational constraints will be asked.
- ***Student and teaching responsibilities***, to help us with information on your student and teaching responsibilities, a set of questions will be asked about student and teaching responsibilities in your work.
- ***Cognitive variables:*** Concern over Mistakes (to establish the impact of Concern over Mistakes on stress) and Distress Tolerance (to establish the impact of the actual or perceived ability to endure stress). Questions will be asked to help us with the above-mentioned information.
- ***Coping strategies***, to help us with information regarding coping strategies that individuals tend to use in situations of stress, a set of questions will be asked to establish your coping strategies.
- ***Stress overload***, to help us with information of excessive stress, a set of questions will be asked to establish the prevalence of excessive amounts of stress.



### **Will you benefit from taking part in this research?**

- *The research findings could guide interventions to address high levels of stress present among lecturers. Either you or other lecturers in South Africa may benefit in future from these interventions.*

### **Are there any risks involved in your taking part in this research?**

- *There is a risk that you may experience slight psychological discomfort during or after answering the questions in the questionnaires. In such event, you may stop the completion of the questionnaire and contact the researcher.*

*The following are contact details of places/people who can also assist you in the event of psychological discomfort:*

#### **Public Health Facilities:**

*Steve Biko Academic Hospital: 012 354 1597*

*Pretoria West Hospital: 012 386 5111*

#### **Private practices:**

*The following are psychologists in private practice and it will be for your own account:*

*Chantelle Van Lelyveld, Clinical Psychologist, Centurion: 072 305 3370 AND*

*Sadie Fourie, Counselling Psychologist, Arcadia: 012 993 3478*

### **Who will have access to your completed questionnaires?**

*Your responses will be anonymous as your **name will not appear** on any of the questionnaires or on this consent form. Your identity will therefore remain anonymous in the event of the information being used in a thesis or publication. For the purpose of enquiries by the researcher, a number will be assigned to your name, which will be stored in a locked drawer. Furthermore, the completed questionnaires will be stored in a locked drawer and only the researcher and her supervisor will have access to these records. All information collected will be treated confidentially. The name-number combination will be destroyed immediately after the data has been analyzed. Some of the anonymous data will be shared with the original developers of the questionnaires, which are used in this study.*

**Will you be paid to take part in this study and are there any costs involved?**

*There will be no costs involved for you, if you do take part and no compensation for participation in the study will be given.*

**Is there anything else that you should know or do?**

- *You can contact Lorraine Jonker at tel. 083 627 3874 if you have any further queries or encounter any problems.  
You can also contact dr. M. le Roux at (021) 808 3444.*
- *You can contact the Research Ethics Committee: Human Research (Humaniora) of Stellenbosch University 021-808 9183 if you have any concerns or complaints that have not been adequately addressed by your study staff.*
- *If you have questions regarding your rights as a research subject, contact Ms Maléne Fouché [mfouch@sun.ac.za; 021-808 4622 at the Division for Research Development.*
- *You will receive a copy of this information and consent form for your own records.*

**Declaration by participant**

By signing below, I agree to take part in a research study entitled *STRESS IN A COLLEGE WORKPLACE AND ITS RELATIONSHIP WITH CERTAIN CORRELATES AND PREDICTIVE VARIABLES.*

I declare that:

- I have read or had read to me this information and consent form and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is **voluntary** and I have not been pressurised to take part.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.

- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to.

Signed at (*place*) ..... on (*date*) ..... 2014.

.....

**Signature of participant**

.....

**Signature of witness**

**Declaration by investigator**

I, Lorraine Cathrine Jonker, declare that:

- I explained the information in this document to Subject No .....
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did not use an interpreter.

Signed at (*place*) ..... on (*date*) ..... 2014.

.....

**Signature of investigator**

.....

**Signature of witness**

**Appendix L**  
**Letter of ethical clearance**



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**Approval Notice**  
**Amendment**

08-May-2014  
Jonker, Lorraine LC

**Proposal #: HS1011/2013**

**Title: STRESS IN A COLLEGE WORKPLACE AND ITS RELATIONSHIP WITH CERTAIN CORRELATES AND PREDICTIVE VARIABLES**

Dear Mrs Lorraine Jonker,

Your Amendment received on 09-Apr-2014, was reviewed by staff members of the REC office on 16-Apr-2014 and was approved.  
Sincerely,

Clarissa GRAHAM  
REC Coordinator  
Research Ethics Committee: Human Research (Humanities)

## Appendix M

### Institutional permission to conduct research

#### MEMORANDUM

**TO:** Campus Managers  
Heads of Schools  
Unit Managers

**From:** The Acting Deputy Principal: Academic

**Date:** 01 October 2013

**SUBJECT:** M Degree Lorraine Jonker

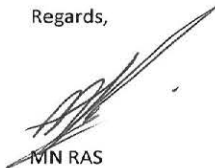
Permission is hereby granted that a study may be conducted at Centurion, Pretoria West and Atteridgeville Campuses during February and March 2014.

The completion of questionnaires by lecture will be voluntary.

The topic: Stress in a college workplace and its relationship with certain correlates and predictive variables.

The above mentioned study is under the supervision of the University of Stellenbosch.

Regards,



M N RAS