

**STUDY DEMANDS, STUDY RESOURCES AND WELL-BEING OF FIRST YEAR
STUDENTS IN SOUTH AFRICAN HIGHER EDUCATION INSTITUTIONS**

Kelebogile Revelation Felicity Mokgele, MBA

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Promoter: Prof. S. Rothmann

Vanderbijlpark

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NOTES

The reader is reminded of the following:

- The reference as well as the editorial style are as prescribed by the Publication Manual (6th edition) of the American Psychological Association (APA) were followed in this thesis.
- The thesis is submitted in the format of three research articles. The three manuscripts have been prepared for different journals, namely South African Journal of Higher Education (manuscript 1), South African Journal of Industrial Psychology (manuscript 2), and South African Journal of Psychology (manuscript 3). Therefore, different statistical methods and software were used for specific manuscripts. Manuscript 3 has been published in the South African Journal of Psychology (<http://sap.sagepub.com/>) in November 2014.

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*“The journey begins right here
In the middle of the road
Right beneath your feet*

*This is the place
There is no other place
There is no other time.”*

-David Whyte

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SUMMARY

Subject: Study demands, study resources and well-being of first year students in South African higher education institutions.

Key words: Study demands, study resources, first-year students, academic goals, burnout, engagement, higher education institutions, well-being, South Africa, Oldenburg Burnout Inventory.

The well-being of first-year students in higher education institutions needs particular attention as their level form the foundation for future graduates, and subsequent employees. It is an important focus area for research and intervention. First-year higher education institutions' student drop-out rate in South Africa is said to be alarmingly high and therefore a cause for concern. An overload of tasks and related time pressure associated with studies is often a reality for first-year students. The problem is compounded when such students are academically and socially unprepared to participate in higher education. The attraction to higher education institutions is that graduates enjoy a higher status in our society as they are seen to play a particularly important role in managing the knowledge-driven economy. The significance of this status relates to the extent of the application of knowledge to the economy, a status which provides competitiveness among nations. Students need to be physically healthy, psychologically well, engaged and satisfied with their lives for their well-being, and subsequently achieve their academic goals. If appropriate and timely, support and resources provided by higher education institutions can play a positive role in the first-year student transition into higher education and thereby minimise the possibilities of student burnout and ill health, whilst increasing the experience of engagement and satisfaction with life.

The study aimed to assess the relationship between demands, resources, burnout, engagement, health and satisfaction with life for first-year students at higher education institutions in South Africa and to test a model of well-being for these students. A cross-sectional survey design was used to gather data regarding the burnout, engagement, ill health, and life satisfaction experienced by students. A convenience sample ($N = 936$) of first-year students at three campuses of two higher education institutions participated in the study. The measuring instruments used were the Oldenburg Burnout Inventory, a biographical

questionnaire (including questions about available resources), Study Demands-Resources Questionnaire, Health Questionnaire, and Satisfaction with Life Scale.

The results of study 1 showed that the students obtained somewhat higher mean scores on engagement compared to burnout. Significant effects on burnout and engagement were made by influences that included whom the student lived with, the distance between home and university campus during studies, frequency of visits to home, employment status of parents, frequency of library use, and gender. No relationship was established for place of residence with burnout and engagement.

Study 2 showed that a measure of study demands and resources for students was sufficiently reliable and valid to be used for assessment. Results showed a statistically significant relationship between each observed variable and its respective construct. A positive relationship between study resources and satisfaction with life, as well as a negative relationship between study demands and satisfaction with life were found, which provides additional evidence for the construct validity of a measure of study demands and resources. Age was significantly related to study resources and satisfaction with life.

The results of study 3 showed that study demands and a lack of study resources (including the intrinsic nature of study tasks, relationships with lecturers and social support of peers) were positively associated with burnout. The availability of study resources was positively associated with psychological well-being and engagement. Burnout predicted psychological unwell-being symptoms, while engagement predicted satisfaction with life. Burnout partially mediated the relationship between a lack of study resources and psychological unwell-being, while engagement partially mediated the relationship between the availability of study resources and satisfaction with life.

Recommendations for interventions to promote the well-being of students were made.

CHAPTER 1

INTRODUCTION

This thesis deals with the relation between study demands and resources with the well-being (burnout, engagement, health and life satisfaction) of first-year students in higher education institutions in South Africa.

The problem statement is discussed in this chapter. The general and specific research objectives are set out, the research method explained and a division of chapters outlined.

1.1 PROBLEM STATEMENT

Student well-being is an important research theme for higher education planning and student retention. The investigation of burnout, engagement, health, and life satisfaction of first-year students in higher education institutions is bound to provide useful insight into student well-being. The particularly high drop-out rate in this category of students, compared to other year levels (Mkhabela, 2005; Department of Education, 2005) prompted the need to undertake this study. This phenomenon has even prompted several institutions of higher learning to tighten their admission requirements in the ensuing years; the aim being to attract academically excellent students (Govender, 2010). Student well-being is important for student retention and success.

In view of the fact that the extent of the application of knowledge to the economy provides competitiveness among nations, individuals with university degrees enjoy a higher status in our society as they are seen to play a particularly important role in managing the knowledge-driven economy. Knowledge management has become critical in providing organisations with a competitive edge (King, Kruger, & Pretorius, 2007) over others. Graduates are therefore purported to be the knowledge workers and are expected to have command over high levels of general and specialist knowledge, thereby increasing their employability (Brown, Hesketh, & Williams, 2002).

Students need to cope and to complete their studies in order to satisfy the needs of our economy. It is especially critical for them to do so in the prescribed period, in view of the fact

that a lot of funding is reported to being lost to repeaters, especially at first-year level (Department of Education, 2005). Although many students register at universities, not all of them complete their studies. Many struggle to progress through the first year. Even those that complete their studies do not do so in record time. The assumption is that they experience problems with study demands and study resources, resulting in burnout instead of engagement. Consequently such students may not enjoy good health and overall satisfaction with life.

The ideal situation is for students to experience engagement, which has a positive effect on retention (Russell, 2008) instead of burnout, good health instead of ill health, besides being satisfied with their lives. Hence, in this study, a well-being model for students will be developed and validated on students in order to determine the relation among study demands, study resources, student burnout, student engagement, student health, and student satisfaction with life, and its effect on student well-being. The development and validation of a model to assess the well-being of first-year students should provide more insight into the effect of load and resources on burnout and engagement, and the consequent health and life satisfaction. In pursuit of determining student well-being enhancers, an investigation will be done into burnout and engagement of first-year students in higher education institutions, as well as resources available for them to face demands related to their studies. Furthermore, the study should contribute towards how universities can make it possible for first-year students to cope better with their studies, thereby reducing the drop-out rates currently being reported, and consequently saving the Department of Education funding that is reported to being lost to repeaters, especially at first-year level (Department of Education, 2005; Mkhabela, 2005).

Many students register at universities with the aim of acquiring educational qualifications (degrees) in order to follow careers of their dreams (Schreuder & Coetzee, 2011). In pursuit of their studies, students have to cope with several demands, often with limited resources – especially those in historically disadvantaged institutions (HDIs). Many first-year students come academically and socially unprepared, especially those with a low socio-economic background, and who received poor-quality schooling. This inevitably denies them the requisite social and academic skills for coping with higher education, besides having to study in a medium of instruction which is not their home language (Jama, Mapesela, & Beylefeld, 2008; Maitland & Lemmer, 2011), renders them vulnerable to struggling to achieve their academic goals and not making it through the first year. Some students are able to cope with

these challenges and end up enjoying their studies, and thereby experiencing engagement while others are not able to cope, thereby experiencing burnout. Such burnout experienced could be expected to predict related ill health and less satisfaction with one's life. The situation could thus encourage students to give up hope and drop out of university.

Informal interviews with some students reflect the following concerning students: lack of enthusiasm for studies; indifference towards certain modules as there is so much to be done and the lecturer is not friendly; use of substances (prescription and illegal, such as dagga) in order to cope, leading to substance abuse; some students literally giving up their studies but not going home or informing parents, instead, staying on until the end of the semester; intention to drop studies as they cannot cope; have trouble sleeping at night, and as such have difficulty in attending first lectures; some are frequently ill; some feel exhausted most of the time; some feel that there is not enough support and resources from the institution; they cannot spend unlimited time at the computer centre as time allocated is not enough for them to practise or type assignments; fees not paid or having no money for fees, thereby not concentrating on studies but on money-problems; not having money to buy food and thereby not having enough energy and concentration to cope.

In contrast to the above-mentioned responses and observations, some students with a full load of courses in addition to holding down a job, being a spouse and a parent, do well in their studies. Informal interviews with them did not reflect behaviour and attitudes mentioned above. They had supportive family members (especially spouses) and social networks, were members of study groups and had limited financial problems (for study purposes). Their studies were either financed by loans (personal) or by employers. However, others had to worry about fees not paid and not being able to buy food to eat (finances). Such lack of resources (Food & Fees) could lead to physical and psychological ill health.

Students need to be happily engrossed in and thereby to cope with their studies in order to succeed and achieve academic goals. The need for first-year students to succeed and achieve their academic goals is now exacerbated by the Department of Education's "Student Enrolment Planning in Higher Education" idea to expel students that fail in their first-year studies. Repeat learners that fail their first year of study have been identified as among the major drain on financial expenditure by institutions of higher learning. The decision has been made in a bid to reduce the huge financial losses caused by the high drop-out rates that

tertiary institutions have to contend with. It is also deemed necessary to ensure that larger portions of their students complete their qualifications in the shortest possible time (Department of Education, 2005). The results of this research should therefore provide insight into the ‘study wellness’ of students and thereby convince universities to invest in preventive anti-burnout and engagement programmes which should result in better grades, lower dropout rates and failures and increased throughput rates.

The need to investigate the studies-related well-being of first-year students in higher education institutions, firstly, as recipients of knowledge imparted by academics, and secondly, as stakeholders in universities, has become a priority as previous studies have been conducted on academic staff and school teachers (Barkhuizen & Rothmann, 2004). Sieberhagen and Pienaar (2005) conducted a study on burnout and engagement of student leaders in a higher education institution using the MBI-SS and the UWES-S. The study was thus limited. Hence there is a need to throw the net wider as student leaders are usually “successful” or “coping” students. One reason for the lack of such studies is that students are still preparing for jobs (Law, 2010). Research is also needed regarding the causes, effects and underlying processes of burnout and work engagement for all occupational groups in South Africa (Rothmann, 2003), in view of work engagement being regarded as the hypothetical antipode of burnout (Schaufeli and Bakker, 2004).

In order to assess student burnout and engagement in this study, the Oldenburg Burnout Inventory (OLBI) (Demerouti, Bakker, Nachreiner, & Schaufeli, 2000) has been used. Burnout and engagement experienced by students need to be measured in order to determine the extent and effect of these two phenomena on them. The validity and reliability of OLBI as an instrument for measuring burnout (Demerouti, Bakker, Vardakou, & Kantas, 2003; Halbesleben & Demerouti, 2005) and engagement (Qiao & Schaufeli, 2011) has been tested. For empirical research, the importance of reliable and valid instruments for the measurement and prediction of burnout and engagement cannot be over-emphasized.

The Oldenburg Burnout Inventory (OLBI) used in this study was developed by Demerouti and Ebbinghaus (Demerouti et al., 2000). The instrument has been developed in response to the shortcomings of the Maslach Burnout Inventory (MBI), which has been used most often to measure burnout (Schaufeli, 2003) as it has been the most accepted instrument for

measuring burnout (Schaufeli & Enzmann, 1998). Demerouti et al. (2000) highlight the following shortcomings of the MBI: problems with the reproducibility of its factor structure, limited internal consistency of the depersonalisation sub-scale, one-sided wording of its items, as well as its restriction to the human services professions (then). According to Demerouti et al., 2000, the OLBI has been designed for use in all kinds of occupations, including non-service work. It includes both negatively and positively worded items. It also includes two sub-scales: exhaustion and disengagement. Its 'exhaustion' items are generic; emotionally demanding contacts with service recipients are not regarded as the source of exhaustion as in the MBI. The MBI measures 'Exhaustion', 'Cynicism' and 'Professional Efficacy'. Exhaustion refers to fatigue. Cynicism reflects indifference or a distant attitude towards one's studies. Professional Efficacy for the student should reflect coping and accomplishment. For students, burnout refers to feeling exhausted because of demands, having a cynical and detached attitude towards one's study, and feeling incompetent as a student (Jackson, Mostert, & Pienaar, 2004). Maslach, Schaufeli, and Leiter (2001) posit that this component (i.e. exhaustion) represents the basic individual stress dimension of Burnout. It refers to feelings of being overextended and depleted of one's emotional and physical resources. It is seen to be the central quality of burnout and the most obvious attention of the syndrome as it prompts actions to distance oneself emotionally cognitively from one's work as a way to cope with the work overload. They emphasize that it is the most widely reported and the most thoroughly analyzed.

In the OLBI (Demerouti et al., 2000) the conceptualisation of 'exhaustion' and 'disengagement' differs from that of the MBI, since:

- Exhaustion is referred to as intensive physical, affective and cognitive strain, resultant of a long-term consequence of prolonged exposure to work stressors.
- Disengagement is referred to as distancing oneself from one's work and to negative attitudes towards the work object, work content or one's work in general unlike in the MBI where it refers to distancing oneself emotionally from service recipients and to the development of cynical attitudes towards them. Depersonalisation is therefore conceptualised as one form of disengagement in the OLBI.

The aim of this study is to investigate the burnout and engagement phenomena among first-year students in higher education institutions; identify resources available to them in order to cope with demands facing them; assess the relation among demands, resources, burnout, engagement, health and satisfaction with life; as well as to develop and test a model of well-being for these students in South Africa. The model in this study will be adapted from the Dual-Process model (Schaufeli & Bakker, 2004). The Dual-Process model has already been validated on teachers in the North West Province, the results of which show that on the one hand job demands and a lack of job resources contributed to burnout while burnout mediated the relation between job demands and ill health. On the other hand, job resources predicted engagement, which in turn mediated the relation between job resources and organisational commitment (Jackson & Rothmann, 2005).

The dual-process model, also referred to as the Comprehensive Model of Burnout and Work Engagement, was developed by Schaufeli and Bakker (2004). It combines research findings on burnout and work engagement with situational causes. It is based on the Job Demand-Resources (JD-R) model of Demerouti, Bakker, Nachreiner, and Schaufeli (2001) and outcomes thereof. The Job Demands-Resources model is an overall theoretical framework of employee well-being (Bakker, Demerouti, & Schaufeli, 2003). One central assumption of the JD-R model is that although every occupation may have its own specific work characteristics associated with well-being, it is still possible to model these characteristics in two broad categories, namely demands and resources.

In extrapolating from ‘Job demands’ definitions (Bakker & Demerouti, 2007; Bakker, Demerouti, & Euwema, 2005) for purposes of this study, *demands* refer to those physical, psychological, social, or institutional aspects of the studies that require sustained physical and/or psychological (cognitive and emotional) effort and are therefore associated with certain physiological and/or psychological costs. As much as employees are subjected to demands at their workplace, students also experience demands emanating from their academic programs, related tasks and institutional aspects.

In defining *Resources* for first-year students, an extrapolation could also be made from job resources definitions (Bakker & Demerouti, 2007; Bakker et al., 2005). Resources are those physical, psychological, social or institutional aspects that are related to academic studies that may be functional in achieving academic goals, reducing demands (with the associated

physiological and psychological costs), and stimulating personal growth and development. Resources may be located at the level of the institution (e.g. counsellors, academic development officers and other staff), interpersonal and social relationships (e.g. lecturer and peer support), clarity on student-institutional responsibilities and obligations (e.g. clarity in decision making), and the level of the task (e.g. assignment format, performance feedback, task variety, independent thought).

Resources associated with academic tasks, as ‘job resources’ for students, may play either an intrinsic motivational role (by fostering growth, learning and development), or they may play an extrinsic motivational role (by being instrumental in achieving goals). As employees have resources at their disposal at their workplace, students also enjoy resources associated with their academic programs, related tasks and institutional aspects, interpersonal and social relationships. It should therefore be appreciated that the same analogy for demands and resources can thus be used on students.

In extrapolating the second assumption in the JD-R model (Demerouti et al., 2001), characteristics or nature of the task (i.e. studies) may evoke two psychologically different processes, namely an *energetic* process of wearing out in which high demands exhaust the students’ energy, as well as a *motivational* process in which lacking resources preclude dealing effectively with demands and foster mental withdrawal. The second assumption also fits the situation of the students. Students are also likely to experience these two processes. An adaptation to Demerouti et al.’s (2001) explanation of the processes is subsequently provided:

- **Energetic process.** Mental fatigue is a response of the mind and body to the reduction in resources due to mental task execution. The increasing risk performance failure is inherent. Under normal circumstances, students become tired by their everyday activities, but their energy resources are sufficient to meet the task demands. However, when a student is working under high levels of (mental) load and is already fatigued (e.g. at the end of any day), extra energy to compensate for fatigue has to be mobilized through mental effort in order to maintain task performance. The mobilization of extra energy may result in acute fatigue. A subsequent return to physiological and emotional baseline levels is crucial. Incomplete recovery from demands disrupts the energetic homeostasis, which in turn may lead to chronic effects on health and well-being. When incomplete

recovery takes place, the effects of high demands can accumulate gradually, carrying over from one day to the next.

- **Motivational process.** When students do not have resources, the long-term consequence is withdrawal from studies, and reduced motivation and commitment. In such a situation, a reduction of motivation or withdrawal from studies can be an important self-protection mechanism that may prevent the future frustration of not obtaining study-related goals. When the institution lacks resources, students cannot achieve their study goals. Conservation of resources theory predicts that in such a situation, students will experience a loss of resources or failure to gain an investment (Hobfoll, 1989; Hobfoll & Freedy, 1993). Moreover, in order to reduce this discomfort or stress, students will attempt to minimize losses. With the intention of achieving equity without having further negative, personal consequences they will most probably reduce their discretionary inputs.

South Africa's first-year university student drop-out rate of 40% (Macgregor, 2007), and graduation rate of 15% (Letseka & Maile, 2008) prompts the need for this study. The current climate in which universities operate means the retention of students is becoming increasingly important for reasons of funding and reputation (McPhail, Fisher, & McConachie, 2009). In trying to determine student well-being as a contributor to the said drop-out rate, several questions come to the fore. Do first-year students in higher education institutions experience burnout or engagement? What types of resources are available to them? Do the resources provided enable them to withstand related loads? How does burnout and engagement affect their health and satisfaction with life? Does a relation exist among load, resources, burnout, engagement, health and life satisfaction? This study should therefore contribute to knowledge on first-year student well-being and thereby provide insight into contributing as well as enabling factors for their well-being, which in turn should contribute to their persistence and success. The results of this research should provide insight into the 'study wellness' of students and thereby convince universities to invest in preventive anti-burnout and engagement programmes which should result in improved health and life satisfaction, with subsequent lower dropout rates, which in turn should result in increased throughput rates.

Flowing from the above, the following more specific questions regarding first-year students in higher education institutions are posed:

- Is the OLBI reliable and valid for first-year students in selected higher education institutions in South Africa?
- Are demographic variables related to the burnout and engagement of first-year students in selected higher education institutions in South Africa?
- What do demands (i.e. load associated with studies) and resources for first-year students in selected higher education institutions entail?
- Is a measure of study demands and resources reliable and valid for first-year students in selected higher education institutions in the South African context?
- What are the effects of burnout on first-year students in higher education institutions?
- What are the effects of lack of resources on first-year students in higher education institutions?
- Does burnout mediate the relation between study load and ill health of first-year students in higher education institutions?
- Does engagement mediate the relation between study resources and life satisfaction of first-year students in higher education institutions?

1.2 RESEARCH OBJECTIVES

1.2.1 General objective

The general objective of this study was to investigate the demands, resources, burnout, engagement, health and satisfaction with life of first-year students at higher education institutions in South Africa and to test a model of well-being for these students.

1.2.2 Specific objectives

The specific objectives of the study included the following:

- To study the reliability and validity of the OLBI for first-year students in selected higher education institutions in the South African context.
- To investigate the burnout and engagement of students and the relation thereof with demographic variables for first-year students in selected higher education institutions in the South African context.

- To explore study demands and resources and test the reliability and validity of a measure thereof for first-year students in selected higher education institutions in the South African context.
- To test a structural model that identifies relations among demands and resources, burnout, engagement, health and satisfaction with life of first-year students in selected higher education institutions in the South African context.

1.3 RESEARCH METHOD

1.3.1 Empirical study

1.3.1.1 Research design

The research design, the population from which the sample will be drawn and how data will be collected and analysed are central to any study. Surveys aim to provide a broad overview of a representative sample of a large population (Mouton, 2001). A survey method was chosen as it provides a quantitative description of a sample of a population, through the data collection method of posing questions to people, which in turn makes it possible to generalize these findings to a population (Creswell, 1994). A cross-sectional study will be conducted with first-year students registered at two South African higher education institutions on three campuses.

1.3.1.2 Participants

A convenience sample of first-year students ($N = 936$) in three institutions, namely North-West University – Mafikeng Campus ($n = 581$), North-West University – Vaal Triangle Campus ($n = 122$), and University of Zululand ($n = 233$) participated in the study.

1.3.1.3 Measuring instruments

In this research, the following measuring instruments were used:

- The Oldenburg Burnout Inventory (OLBI; Halbesleben & Demerouti, 2005) will be used in this study to measure student burnout and engagement. The four-point Likert scale, ranging from 1 (*totally disagree*) to 4 (*totally agree*) has both positive and negative items. On the negative side, items include statements such as: “I feel tired when I get up in the morning and have to face another day at the university”. On the positive side, items include such statements as, “I like my studies so much that I cannot imagine another occupation for myself”. The OLBI has been found to be a valid and reliable instrument of burnout (Demerouti, Bakker, Vardakou, & Kantas, 2003; Halbesleben & Demerouti, 2005), and engagement (Qiao & Schaufeli, 2011).
- The *Health Questionnaire* (HQ; Jackson, Rothmann, & Van de Vijver, 2006) was used to determine health-related symptoms experienced by participants. Items will directed at health-related symptoms suffered in the past three months, and included “constant tiredness”, “muscle tension and pain” and “headaches”, amongst others. A four-point Likert scale, ranging from 1 (*never*) to 4 (*often*) will be used.
- The *Satisfaction with Life Scale* (SWLS, Diener, Emmons, Larsen, & Griffin, 1985) was used in this study to measure how satisfied participants were with their lives. The SWLS consists of five items which measure the individual’s assessment of satisfaction with life in general. Items in this scale include statements such as “In most ways, my life is close to my ideal” and “If I could live my life all over again, I would change almost nothing”. The participants choose from a rating of 0 (*strongly disagree*) to 6 (*strongly agree*). The SWLS has been found to be a valid and reliable instrument, with a coefficient alpha of 0.87 and a correlation coefficient of 0.82 (Diener et al., 1985; Pavot & Diener, 1993).
- The *Study Demands and Resources Questionnaire* (SDRQ; Mokgele, 2014) was developed and used to obtain student evaluation of specific aspects of their studies relating to study demands and resources. A four-point Likert scale, ranging from 1 (*never*) to 4 (*always*) will be used. On the negative side, items include questions such as “Do you have too much work to do”? On the positive side, items include questions such as “Can you count on your lecturer when you run into difficulties in your work”?

- A *biographical questionnaire* will be administered in order to determine the gender, age and marital status of the respondents. Information which includes the student number, campus, faculty, and years at higher education institution ensured that only registered first-year students participated in the study. The questionnaire included a section on student resources. For data on place of residence, participants were given six types of residences to choose from. These included home, campus residence, living with relatives, living in a rented urban apartment, living in a room in a rural area with electricity provided, or living in a room in a rural area with no electricity provided. In order to indicate whom the participant was living with, seven options were provided. These included living alone, with other students, spouse/partner, children, parents/guardian, other relatives, and friends who are not students. Participants indicated the distance between their homes and the higher education institution through five options: same town (local), 30 km, 60 km, 90 km, and +120 km radius from campus. For frequency of home visits, five options were provided to the participants: daily, weekly, monthly, once a quarter and only during recess/vacation. Participants had to indicate the employment status of their parents through three options: both employed, only one employed or both unemployed. In order to indicate how often participants used the library, six options were provided: less than 3 hours daily, more than 3 hours daily, 4 days a week, 3 days a week, 2 days a week, and once a week.

1.3.1.4 Statistical analysis

The statistical analysis was carried out with the SPSS21 Program (SPSS Inc., 2013) and Mplus 7.12 (Muthen & Muthen, 2012). The SPSS was used to create a data file and to compute descriptive statistics. The analysis of the data for the models will be carried out by means of Mplus version 7.12 (Muthen & Muthen, 2012).

The eigenvalues and scree plot will be studied to determine the number of factors. A simple principal components analysis was conducted on the constructs that form part of the measurement model, including burnout and work engagement, study demands and resources, ill health and satisfaction with life. A principal components analysis with a direct Oblimin rotation was conducted if factors are related, and a principal component analysis with a Varimax rotation was used if the obtained factors are not related (Tabachnick & Fidell, 2001).

In order to assess the validity of the constructs measured in this study, exploratory and confirmatory factor analyses were used. Reliabilities of the measuring instruments were determined by computing Cronbach's alpha coefficients when exploratory factor analyses were used to construct scales, and composite reliability (Raykov & Marcoulides, 2011) when confirmatory factor analyses were used. Pearson correlations were used to specify the relations between the variables. The significance of differences in variables was established by means of MANOVAs. Results were analysed for statistical significance using Wilk's Lambda statistics. The level of statistical significance was set at $p < 0.05$. A cut-off point of 0.30 (medium effect, Cohen, 1988) was set for the practical significance of correlation coefficients.

Hypothesised relations among demands, resources, burnout, engagement, ill health and satisfaction with life were tested empirically for goodness of fit with the sample data. The weighted least squares with corrections to means and variances (WLSMV) were used as estimator. Indexes used in this study included absolute fit indices, i.e. the chi-square statistic which is the test of absolute fit of the model, and the Root-Means-Square Error of Approximation (RMSEA), as well as incremental fit indices, i.e. the Tucker-Lewis Index (TLI) and the Comparative Fit Index (CFI) (Hair, Black, Babin, & Andersen, 2010). TLI and CFI values higher than 0.90 are considered acceptable. RMSEA values lower than 0.08 indicate a close fit between the model and the data. Effect sizes (Thompson, 1998) were used to determine the practical significance of the findings.

1.3.1.5 Research procedure

Permission to conduct the study will be obtained from the institutions concerned before the study is undertaken. The targeted sample of first-year students will be drawn from mandatory first-year module classes, in order to avoid duplication of participants. Self-report questionnaires will be administered to those who present themselves and agree to participate in the study.

1.3.1.6 Ethical considerations

An introductory note introduces the participant to the study, with assurance of confidentiality and ethics observed. No harm was done to any participant. The research process was explained to the participants. The participants were given an opportunity to ask questions and raise concerns about the project before considering participation. Participants will be free to disengage from the study at any time. The roles and responsibilities of all the parties involved were outlined. The research project was approved by the Ethics Committee of the North-West University.

1.4 DIVISION OF CHAPTERS

Chapters 2 to 4 will be presented in the form of articles, while Chapter 5 deals with conclusions, limitations and recommendations.

Chapter 2 will address the measures burnout and engagement for first-year students in higher education institutions. Chapter 3 will address demands and resources for first-year students in higher education institutions and will validate a measure of study demands and resources. In Chapter 4 the structural model of student well-being will be presented and validated for first-year students in higher education institutions. In Chapter 5 conclusions will be drawn, limitations outlined and recommendations made.

1.5 CHAPTER SUMMARY

In this chapter, the problem statement is discussed. The general and specific research objectives are set out, the research method explained and a division of chapters outlined. Chapter 2 focuses on the burnout and engagement of first-year students in higher education institutions.

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CHAPTER 2

MANUSCRIPT 1

Burnout and Engagement of First-year Students at Selected Higher Education Institutions in South Africa

Abstract

The well-being of students at higher education institutions is an important research topic, given the history of South Africa. The aim of this study was to investigate the burnout and engagement of first-year students at higher education institutions. A cross-sectional survey was conducted with first year students in higher education institutions ($n = 936$) constituting a convenience sample. The Oldenburg Burnout Inventory and a biographical questionnaire were administered. Two reliable factors, namely burnout and engagement, were extracted. The results showed that whom the person lives with during their period of studies, distance between home and university campus, frequency of home visits, employment status of parents, frequency of library use, and gender had a significant effect on the burnout and engagement of first-year students at higher education institutions.

Key words: Burnout, engagement, university students, well-being, South Africa, Oldenburg Burnout Inventory.

Student burnout and engagement are important research topics in any country, as governments worldwide increasingly challenge not only institutions of higher learning, but also students and educators to contribute to national economic achievement (Zepke & Leach, 2010). The current climate in which higher education institutions operate means that the retention of students, especially at first-year level, is becoming increasingly important for reasons of funding and reputation (McPhail, Fisher, & McConachie, 2009). Students need to cope and complete their studies in order to satisfy the needs of our economy. It is especially critical for them to do so in the prescribed period, in view of the fact that huge amounts of funding are reported to being lost to repeaters, especially at first-year level (Department of Education, 2005). Individuals with university degrees enjoy a higher status in our society as they are seen to play a particularly important role in managing the knowledge-driven economy (King, Kruger, & Pretorius, 2007). Graduates are therefore purported to be the knowledge workers and are expected to command high levels of general and specialist knowledge, thereby increasing their employability (Brown, Hesketh, & Williams, 2002) and ability to contribute to the national economic achievement.

The need for greater responsiveness to a wide range of economic and social needs in the post-apartheid era prompted the South African government to establish the National Commission for Higher Education (NCHE; Hartshorne, 1996), as the new South Africa dawned. In transforming the country's education system from a long history of inequitable distribution of education funds during the apartheid era (Crouch, 1996), thereby increasing higher education student numbers to meet the human resource needs of the country, has become one of the central features of this task team (Hartshorne, 1996). In an effort to meet the multiple challenges of reconstruction and development in South Africa (Department of Education, 2002), the Department of Education offered to increase access to and decrease social inequality in universities by increasing the participation of students from underprivileged social groups (Kupfer, 2011). Against this background, disadvantaged and underprepared students land in institutions of higher learning, the rigors of which may be so overwhelming that they may end up experiencing burnout, rather than engagement.

Despite the significant increase in enrolment, a number of challenges remain. Throughput rates have not improved as fast as enrolment rates. There has been a growth of graduates by South African universities from 74 000 in 1994 to more than 144 000 in 2009 (Manikam, 2011). However, South Africa's first-year university student drop-out rate is at 40%

(Macgregor, 2007), while a further 20% dropped out in their second and third year of study (Letseka, Cosser, Breier, & Visser, 2010). South Africa's university graduation rate of 15% (Letseka & Maile, 2008) leaves much to be desired. This graduation rate reflects only those that graduate in record time; this is a cause for concern if this country endeavours to have a competitive edge over others. The United Kingdom has a 22% university dropout rate, while Australia has 19% (Letseka et al., 2010).

Although many students register at higher education institutions, not all of them complete their studies. Many struggle to get through the first year. Even those that complete their studies do not do so in the allocated time. Participants in the Offstein, Larson, McNeill, and Mwale's (2004) study reported student life to be demanding, difficult, and time effort intensive. They described a path strewn with competing demands and unrealized expectations that might impact the well-being of students. The question that comes up is, "Do first year students in higher education institutions experience burnout? If yes, to what extent?" On the other side of the coin, we could also ask "Do first year students in higher education institutions experience engagement? If they do experience engagement, to what extent do they do so?"

The investigation of burnout and engagement of first year students in higher education institutions is bound to provide useful insight into why the dropout rate is said to be particularly high in this category of students, compared to other year levels (Mkhabela, 2005; Department of Education, 2005; Letseka & Maile, 2008;). The Department of Education's "Student Enrolment Planning in Higher Education" (Mkhabela, 2005; Department of Education, 2005) initiated the expulsion of students that fail in their first-year studies as an intervention to deal with the phenomenon. This phenomenon has even prompted several institutions of higher learning to tighten their admission requirements in the ensuing year (i.e. 2011); the aim being to attract academically excellent students (Govender, 2010). A snap survey conducted by the Sunday Times among several higher education institutions in South Africa revealed the fear of the erosion of global competitiveness as a result of these high failure rates to have led them to take this route (Makoni, 2012). Such action is prompted by the fact that repeat students, that fail their first year of study, are seen as among the major drain on financial expenditure by institutions of higher learning.

First-year students seem to have more pressure in their academic and non-academic life, especially those leaving home for the first time – a time when one is expected to be responsible for one's life course (Schwartz, Cote, & Arnett, 2005) and well-being. This is due to the transition from home to university life (Doble & Supriya, 2011). This transition affects students' well-being and ability to cope with the rigors of academic life. The haven of their parents' physical presence and familiar grounds is no longer available for most students. For those unable to cope, burnout could set in while those that are thriving could be experiencing engagement. Burnout and engagement experienced by students need to be measured in order to determine the extent and effect of these two phenomena on them, and to assess their study wellness. The concept 'study wellness' (consisting of low burnout and high engagement) is coined by the researcher to refer to the readiness and availability of students to use their physical, cognitive and emotional resources to study.

Burnout and Engagement

The definitions of *burnout* found in literature (Harvey & Brown, 1996; Maslach & Jackson, 1981; Maslach, Schaufeli, & Leiter, 2001; Schaufeli & Enzmann, 1998) although different, have a common thread. Burnout is a psychological syndrome in response to stressors related to tasks. For students, tasks would be related to studies. Burnout does not happen overnight; it represents a long-term habitual experience (Demerouti, Bakker, Nachreiner, & Ebbinghaus, 2002). The most probable end-result is exhaustion, feelings of cynicism, disassociation from one's studies, feelings of inefficiency, and a sense that one is not achieving what one set out to achieve and what was expected of one to achieve.

Burnout does not only affect employees; it also affects students. Their studies can also be regarded as work, in view of the fact that their studies encompass structured and often coercive activities that can be considered as 'work' (Stoeber, Childs, Hayward, & Feast, 2011). Students' lives revolve around their studies: preparing and producing assignments, studying for tests and examinations, preparing for presentations, performing practical work and rehearsals, as well as performing experiments. It takes up a lot of their time and energy. It can be expected that they could also experience burnout.

For institutions of higher learning, where this study was conducted, burnout is not only related to negative outcomes for the individual first-year student, but also for the institution

itself. For the individual, there is depression, a sense of failure, fatigue, and a loss of motivation; while for the institution, there is absenteeism, dropouts and lowered productivity. It can be expected that students may also endure such experiences, while universities are faced with students bunking classes, drop-outs and subsequent low through-put rates. For students, burnout is referred to as feeling exhausted because of study demands, having a cynical and detached attitude towards one's study, and feeling incompetent as a student (Schaufeli, Martinez, Pinto, Salanova, & Bakker, 2002). The ideal situation is to have students who experience engagement in their studies and not burnout. Schaufeli and Bakker's (2004) regard for work engagement as an antipode of burnout can therefore be applied to students, where student engagement can be seen as an antipode of student burnout. The extent of student burnout and engagement on first-year university students therefore needs to be determined in order to assess their study-wellness.

Several definitions of *engagement* exist. To Schaufeli, Salanova, González-Roña, and Bakker (2002), work engagement is a positive, fulfilling, work-related state of mind characterised by vigour, dedication and absorption. Vigour is defined as a high level of energy while working, willingness to invest effort in work, and persistence in the face of difficulties. Dedication refers to a sense of enthusiasm, inspiration, pride and challenge. Absorption is viewed as being happily engrossed in one's work, whereby time passes quickly and one has difficulty in detaching oneself from work. Students can be immersed in their studies to such an extent that they feel fulfilled by their studies as they achieve their short- and medium-term goals, and when their strategies enable them to achieve their goals. When they achieve what they set out to do, they can be expected to be positive about and enjoy their studies. Student engagement can thus be defined as cognitive investment in, active participation in, and emotional commitment to their learning (Chapman, 2003).

The importance of vigour and dedication in engagement is highlighted by Schaufeli and Bakker (2004) as they consider these two characteristics as the 'core dimensions' of work engagement. Absorption is seen as a consequence, as it resembles a state of optional experience. Work satisfaction, enjoyment, participation, positive future career plans, and buoyancy seem to be central to engagement (Parker & Martin, 2009). Student engagement in higher education is one of the student success indicators (Zepke & Leach, 2010), as engaged students are expected to have high levels of energy and to be enthusiastic about their work, similar to engaged employees (Bakker & Demerouti, 2008).

Measurement of Student Burnout and Engagement

Literature (Doble & Supriya, 2011; Jackson, Mostert, & Pienaar, 2004; Rothmann, 2003; Sieberhagen, 2004) highlights the need to study burnout for groups such as students. Only one South African study was found that focused on the burnout and engagement of students, and this study focused on student leaders from one higher education institution. Sieberhagen (2004) conducted a study on burnout and engagement of student leaders in a higher education institution using the MBI-SS and the UWES-S. Results from the study confirmed that the MBI-SS and the UWES-S were valid and reliable instruments for measuring burnout and engagement of student leaders in a higher education institution.

The current study, however, is the first to be conducted on first-year students to test the reliability and validity of the OLBI as a measure of student burnout and engagement in South Africa. The study will result in information on the burnout and engagement of first-year students. The study will also generate information on study resources (or the absence of) that may buffer the effects of student burnout and promote student engagement. Such resources include, inter alia, libraries, place of residence, whom one lives with during the study programme, and the employment status of parents as it reflects the ability of the student to pay for studies.

The Oldenburg Burnout Inventory (OLBI) has been developed by Demerouti and Ebbinghaus (Demerouti, Bakker, Nachreiner, & Schaufeli, 2000). The OLBI has been designed for use in all kinds of occupations, including non-service work. Although OLBI was originally designed to measure burnout, it has subsequently been validated as an instrument for measuring both burnout and engagement (Qiao & Schaufeli, 2011). It has thus been proven to not only include two subscales: exhaustion and disengagement (Demerouti et al., 2000), but also vigour and dedication; the negatively and positively worded items of the scale being the catalysts in this development (Qiao & Schaufeli, 2011). The OLBI has also been used in this study to measure both burnout and engagement.

Demerouti et al. (2000) refer to *exhaustion* as ‘intensive physical, affective and cognitive strain, resultant of a long-term consequence of prolonged exposure to work stressors’; while *disengagement* is referred to as distancing oneself from one’s work and to negative attitudes towards the work object, work content or one’s work in general, unlike in the MBI where it

refers to distancing oneself emotionally from service recipients and to the development of cynical attitudes towards them. Depersonalisation therefore is conceptualised as one form of disengagement in the OLBI.

Although the OLBI was originally developed in German, it has been validated among different occupational groups. Validation evidence for the OLBI has been provided in studies among Dutch health care professionals and white collar workers (Demerouti & Bakker, 2007), and Chinese nurses (Qiao & Schaufeli, 2011), with translations. Studies conducted in Greece confirmed the factorial validity of the OLBI (Demerouti, Bakker, Vardakou, & Kantas, 2003), while the validity of the English translation was tested in the United States (Halbesleben & Demerouti, 2005). It is argued that the OLBI can be used for virtually any job (Demerouti & Bakker, 2007). For the purposes of this study, students are regarded as workers; hence the OLBI will be used to investigate burnout and engagement among them.

Determinants of Student Burnout and Engagement

In this section, an analysis is done on literature findings on the relation between burnout, engagement, demographic variables and student resources.

Burnout is a common form of student distress that affects up to 50% of students (Dyrbye et al., 2009). The burnout syndrome has been described as being the result of chronic work-related stress (Maslach, 2003). As the ‘work’ of students is studying, such studying could be regarded as work, and they could, therefore, experience burnout. Students could also experience engagement during their studies, which is a positive, fulfilling, work-related state of mind characterised by vigour, dedication and absorption (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002).

Determinants of student burnout and engagement include the employment status of parents as it has a bearing on financial difficulties, which in turn impacts on whom one lives with and how often one visits home; distance between home and university as it also affects how often home visits occur, especially when homesickness (Archer, Ireland, Amos, Broad, & Currid, 1998) sets in; seating adequacy in the lecture rooms; and library and computer laboratory use. Financial difficulties have been found to be a contributor to first-year-student attrition (Willcoxson, Cotter, & Joy, 2011). Family support is very important for the success of first-

year students, as the lack thereof may lead to feelings of insecurity (Young, Johnson, Hawthorne, & Pugh, 2011). Certain family/home factors such as distance between home and university, frequency of home visits, whom one is living with, and place of residence (in order to show whether or not one lives with one's parents), combine to influence the first-year university students' coping skills with university life and subsequent experience of engagement or burnout. The employment status of the parents also has a role to play in this equation.

The influence of geographic characteristics, such as the proximity of a student's home city or village to the university and the university location, on student burnout and engagement, especially at first-year level needs to be investigated. Currently, the small body of literature on the associations of student geographic characteristics and first-year persistence (Williams & Lou, 2010), might shed light on the phenomena *burnout* and *engagement*.

Williams and Lou's (2010) findings from their study suggest that the proximity of a student's home city to the campus (i.e. *distance between home and university*) significantly influences first-year persistence. Students that study locally were found to be more likely to persist to the second year than those coming from home cities further off than 50 miles (i.e. 80 km) from the campus. Williams and Lou (2010) suggest that students far from home might have less family support. Such a situation could increase challenges in the adjustment of their lifestyle as they try to adjust to university life. Challenges faced by these students include travelling inconvenience and the cost thereof, family support and responsibilities.

The impact of the frequency of home visits is linked to family support as it is shown in Lipschitz-Elhawi and Itzhaky's (2005) study. Family support has been found to be related to academic and personal adjustment for adolescents living in an Israeli residential treatment centre, despite the fact that the youth were from family environments characterised by stress and deprivation. In this study (Lipschitz-Elhawi & Itzhaky, 2005) findings indicated that family support correlated more strongly with academic adjustment among adolescents living within 36 miles (i.e. 57.6 km) of the centre than among those living further off. For those living nearer the centre, findings indicated that the greater the extent of family support, the higher the level of academic adjustment. In education, perceived social support is imperative to academic success (Young, et al., 2011)

Where students reside during the period of their studies is important as it could contribute to burnout and engagement. In her study on student retention in higher education, Thomas, (2002) indicates that local students living at home said that they would have liked to have had the opportunity of going away from home to university, and thus living with other students. One reported: “In a way I feel that I miss out living at home”. These feelings could be compounded by a load of home chores and family responsibility that may take up much of one’s time and energy. The need for and importance of family as reflected in an act for the preservation and protection of relationships with her guardians, led a participant in Stieha’s (2010) qualitative study to make a residential decision for the duration of her studies to the detriment of both her social and academic life, by staying with her grandparents. This decision meant that she does not receive a loan to pay for college, which would be contrary to her grandparents’ wishes but rather has two jobs to pay her fees; she does not move onto campus; and she stays home when they oppose her driving to campus for an activity – even an academic activity – rather than upset them.

The lack of empirical research on the relationship between adequacy of seating in lecture rooms with burnout and engagement does not provide a basis for building on existing work in this area. This relationship can thus be inferred from related studies. In proposing for a collaborative tutor development at a South African university, Underhill and McDonald (2010) report an overall increase of 800% in first-year students in Historical Studies since 2000. This dramatic increase is justified as being due to the paradigm shift in the South African education sector from elitist to a mass-based system for purposes of fostering democratic nation-building since 1994, as well as the changing higher education landscape as a result of mergers of institutions of higher learning. It can therefore be inferred that the adequacy of seating in lecture rooms should prove to be challenging, if not inadequate.

The *library* is the physical manifestation of the core values and activities of academic life (Kuh & Gonyea, 2003). The use of library services has been found to have an impact on first-year student learning, especially in that many first-year students lack information (Dobozy & Gross, 2010). Kuh and Gonyea (2003) further assert that better information literacy and library skills development practice is needed for first-year students, as it is practised at the Indiana University (USA) for example, where a librarian serves on each of the four-person instructional teams (instructor, librarian, academic advisor, student mentor) that deliver the Learning Community course designed for first-year students, as well as the Sonoma State

University (USA) where a librarian teams with the instructor of the Freshman Interest Group seminar to increase information competence. The aim of these practices is to improve academic support for 'students new to university studies' and to develop a more scholarly mind-set for the student. Findings from Kuh and Gonyea's (2003) study indicate that the majority of those that participated in the study found all modules somewhat or very useful, with the basic module on borrowing to be the most highly rated (68%). One of the most interesting comments included: "I have never really been to a library until I started university, and I find it great for researching and also for studying". Library use is thus an important resource for students, especially at first-year level. Those students that more frequently use the library reflect a studious work ethic and engage in academically challenging tasks that require higher-order thinking, while the library also appears to be a positive learning environment for all students, especially members of historically underrepresented groups (Kuh & Gonyea, 2003).

Gender differences have been found in burnout and engagement. Brougham, Zail, Mendoza, and Miller (2009) have found that college women reported a higher overall level of stress than college men. In a study on gender differences in burnout, Purvanova and Muros (2010) found that females (54%) experienced more burnout than males (46%), with females being more prone to report the emotional exhaustion component than males. A study on burnout among Swedish medical students, involving a sample of 342 in a cross-sectional survey of first-, third- and sixth-year students indicated a positive association between poor health and exhaustion; with females being more exhausted than males. The study could not determine whether levels of 'exhaustion' or 'disengagement' were too high or too low, in view of the fact that there are no standardised cut-off points for a Swedish population (Dahlin, Joneborg, & Runeson, 2007).

Aim and Hypotheses

In view of the reasons outlining the need to study burnout and engagement on students above, this study aims to investigate the burnout and engagement of students and the relation thereof with demographic variables.

On the basis of the literature, the following hypotheses are formulated:

Hypothesis 1: The OLBI is a valid measure of burnout and engagement of students.

Hypothesis 2: The OLBI is a reliable measure of burnout and engagement of students.

Hypothesis 3: Place of residence is related to burnout and engagement of first-year students.

Hypothesis 4: Whom one is living with during one's studies is related to burnout and engagement of first-year students.

Hypothesis 5: Distance between home and university is related to burnout and engagement of first-year students.

Hypothesis 6: Frequency of home visits is related to burnout and engagement of first-year students.

Hypothesis 7: Employment status of parents is related to burnout and engagement of first-year students.

Hypothesis 8: Adequacy of seating in lecture rooms is related to burnout and engagement of first-year students.

Hypothesis 9: Frequency of and satisfaction with library use are related to burnout and engagement of first-year students.

Hypothesis 10: Gender is related to burnout and engagement of first-year students.

Method

Research Design

In this study, a quantitative approach was adopted. This approach was used as it enabled the researcher to develop knowledge through the use of a survey in order to measure certain variables using pre-determined instruments that yield statistical data (Creswell, 2003). A survey was undertaken to reach the research objectives.

Participants

The first-year student population of the institutions under study was targeted. In view of the fact that the completion of the questionnaire was voluntary, not all students chose to participate in the study, despite being urged to do so for their own sake and for those that would follow in their footsteps.

A convenience sample of first-year students ($N = 936$) in three institutions, namely North-West University – Mafikeng Campus ($n = 581$), North-West University – Vaal Triangle

Campus ($n = 122$), and University of Zululand ($n = 233$) participated in the study. The characteristics of the participants are provided in Table 1.

Table 1
Characteristics of the Participants

Item	Category	Frequency	Percentage
Gender	Female	602	64.31
	Male	308	32.90
	Missing	26	2.77
Age	20 years and younger	441	47.11
	21-25 years	313	33.44
	26-30 years	73	7.79
	31-35 years	43	4.59
	36 years and older	25	2.67
	Missing	41	4.38
Marital status	Single	865	92.41
	Married	58	6.19
	Widowed	1	0.11
	Divorced	7	0.74
	Missing	5	0.53

Table 1 shows that the ages of 60.9% of the respondents fell between 17 and 21 years, with most (29.7%) of them being 19 years of age. The majority of the respondents were female (64.7%), while males formed the minority (35.3%). Most (92.9%) respondents were single, while the rest formed the minority at 6.2% (married), 0.1 (widowed), and 0.8% (divorced).

Procedure

Permission to conduct the study was obtained from the institutions before the study could be undertaken. The targeted sample of first-year students was drawn from mandatory first-year module classes in order to avoid duplication of participants. Self-report questionnaires were administered to those that presented themselves and agreed to participate in the study.

Measuring Instruments

Biographical details were included in order to determine gender, age and marital status of students. Information involving student numbers, campus, faculty, and years at university ensured that only registered first-year students participated in the study.

The *Oldenburg Burnout Inventory* (Demerouti, Bakker, Nachreiner, & Schaufeli, 2000) was used in this study to measure burnout experienced by students at a tertiary institution in South Africa. A four-point Likert scale, ranging from 1 (totally disagree) to 4 (totally agree) was used. Both positive and negative items are used in this instrument. On the negative side, items include statements such as, “I feel tired when I get up in the morning and have to face another day at the university”. On the positive side, items include such statements as, “I like my studies so much that I cannot imagine another occupation for myself”.

The Student Resources section of the biographical details was also used in this study to investigate resources used by students at these institutions. For data on place of residence, participants were given six types of residences to choose from. These included home, campus residence, living with relatives, living in a rented urban apartment, living in a room in a rural area with electricity provided, or living in a room in a rural area with no electricity provided. In order to indicate whom the participant was living with, seven options were provided. These included living alone, with other students, spouse/partner, children, parents/guardian, other relatives, and friends who are not students.

Participants indicated the distance between their homes and the higher education institution through five options: same town (local), 30 km, 60 km, 90 km, and +120 km radius from campus. For frequency of home visits, five options were provided to the participants: daily, weekly, monthly, once a quarter and only during recess/vacation. Participants had to indicate the employment status of their parents through three options: both employed, only one employed or both unemployed. In order to indicate how often participants used the library, six options were provided: less than 3 hours daily, more than 3 hours daily, 4 days a week, 3 days a week, 2 days a week, and once a week.

Statistical Analysis

The capturing of data and statistical analysis were achieved by means of the SPSS21 program (SPSS Inc, 2013). Descriptive statistics were computed to describe the data. Cronbach alpha coefficients were used to assess the internal consistency of the measuring instrument. Exploratory factor analyses were used to assess the validity of the constructs measured in this study. Pearson correlations were used to specify the relationship between the variables. Effect sizes were used to determine the practical significance of the findings. The significance of differences in students' experiences of burnout and engagement regarding students' resources and biographical variables was established by means of MANOVA. Results were first analysed for statistical significance using Wilk's Lambda statistics.

Results

An exploratory factor analysis was carried out on the 20 items of the OLBI in the total sample ($n=936$), using the principal component analysis. Consequently, a scree plot can be generated to show how many factors are strong enough (47% in this study) to be included to represent the rest.

In this study, four factors with eigenvalues larger than one were indicated; thereby showing that they are primarily responsible for causing burnout and engagement. The Bartlett's Test of Sphericity confirmed that the items are factorable ($\chi^2 = 4123.31$; $df = 190$; $p < 0.01$) while the Kaiser-Meyer-Olkin measure of sampling adequacy was 0.86, which is acceptable, compared to the recommended value of 0.60.

Principal axis factor analysis with a direct oblimin rotation was subsequently conducted. Loading of variables, and variables on factors as well as percentages of variance are shown in Table 2. Variables are ordered and grouped by size of loading to facilitate interpretation. Factors in the table represent the constructs of the instrument. The constructs include Engagement and Burnout, with eight items each, with self-efficacy having only three items.

Table 2

Pattern Matrix of the OLBI

		Factor			h^2
		1	2	3	
WB19	Studies inspire	0.77	-0.04	0.02	0.65
WB20	Enthusiastic about studies	0.68	-0.11	0.02	0.58
WB17	Studies engaging	0.61	-0.08	0.23	0.61
WB4	Meaningful studies	0.57	0.03	0.08	0.60
WB15	Like studies	0.55	-0.02	0.10	0.52
WB2	New and interesting aspects	0.43	-0.02	0.12	0.39
WB16	Studies energise	0.42	-0.10	0.38	0.60
WB9	Studies are challenging	0.38	0.27	-0.07	0.32
WB18	Less studies enthusiasm	-0.30	0.28	0.10	0.32
WB8	Emotionally drained	-0.01	0.57	-0.10	0.46
WB14	Tiring classes	0.20	0.50	-0.10	0.42
WB6	Time to relax	0.17	0.47	-0.03	0.35
WB7	Think less about studies	-0.20	0.45	0.21	0.46
WB11	Lost interest	-0.29	0.44	0.11	0.42
WB1	Feeling tired	-0.07	0.39	-0.07	0.31
WB5	Studies negativity	-0.23	0.39	0.04	0.36
WB13	Hate studies	-0.04	0.37	-0.07	0.41
WB12	Managing study load	0.20	-0.11	0.58	0.56
WB3	Coping with pressure	0.18	-0.12	0.47	0.62
WB10	Enough energy	0.00	0.04	0.43	0.45

Table 2 above shows that the communalities for the factors are all above the 0.30 cut-off point. Reliabilities of the OLBI therefore are acceptable. For engagement (i.e. factor 1), communalities range between 0.32 and 0.65; with “studies inspire” (0.65) and “are engaging” (0.61), as the strongest items in the engagement scale. Burnout has communalities ranging between 0.37 and 0.57 (“I feel emotionally drained by my studies”). A factor correlation matrix reflected a negative relationship ($r = -0.22$) between burnout and engagement. These results provide support for Hypothesis 1.

Descriptive Statistics

The descriptive statistics and alpha coefficients of the two factors of the OLBI are given in Table3.

Table 3

Descriptive Statistics and Alpha Coefficients of the OLBI

	Mean	SD	Skewness	Kurtosis	α
Engagement	3.12	0.51	-0.69	0.89	0.80
Burnout	2.59	0.64	-0.16	-0.10	0.68

Table 3 reveals that an acceptable Cronbach alpha coefficient was obtained for engagement ($\alpha = 0.80$), but not for burnout ($\alpha = 0.68$) compared to the guideline of 0.70 as set by Nunnally and Bernstein (1994). Table 3 also shows that there are more students that are engaged (Mean=3.1; $SD=0.51$) than those that are burnt out (Mean=2.6; $SD=0.64$). These results provide partial support for Hypothesis 2.

In Table 4 below, the MANOVAs of student resources and gender are presented. If a MANOVA was statistically significant, ANOVA was used to determine the differences between the dependent variables for different categories of the independent variable. Tukey tests were used for pairwise comparisons. If an effect was statistically significant, a Bonferroni correction was made to the p -value (by dividing it by the number of comparisons made). The Bonferroni correction was made to reduce the chances of obtaining false positive results.

Table 4

MANOVAs of the Student Resources and Gender

Variable	Value	<i>F</i>	Hypothesis <i>df</i>	Error <i>df</i>	<i>p</i>	η^2
Place of residence during studies	0.99	1.25	10	1832	0.25	0.01
Living with whom during studies	0.97	2.44	12	1794	0.00*	0.02
Distance between home and university	0.97	3.63	8	1778	0.00*	0.02
Frequency of visits to home	0.98	2.61	8	1810	0.01*	0.01
Employment status of parents	0.98	3.52	4	1770	0.01*	0.01
Adequacy of seating in lecture rooms	0.99	1.46	8	1778	0.17	0.01
Frequency of library use	0.92	7.50	10	1804	0.00*	0.04
Satisfaction with library services	0.99	1.55	8	1824	0.14	0.01
Frequency of computer lab use	0.99	0.89	10	1792	0.54	0.01
Gender	0.99	5.394	2	926	0.01*	0.01

* $p < 0.01$

The results indicate that the place where first-year students reside during their period of university studies is not related to burnout and engagement. Hence Hypothesis 3 is rejected.

Table 4 reflects the significant effect of *whom the student lives with*, on the combined variable burnout and engagement ($F_{(12, 1794)} = 2.442$, $p < 0.01$; $\eta^2 = 0.02$). The effect size was small (2% of the variance explained). The results showed that people living with their children (Mean = 3.30, $SD = 0.46$) experienced statistically significantly higher levels of engagement than people living on their own (Mean = 3.16, $SD = 0.51$); while those living with their parents or guardians (Mean = 2.30, $SD = 0.53$) were the least engaged ($F = 4.11$, $p < 0.002$). These results provide evidence to support Hypothesis 4.

The *distance between home and university campus during studies* also had a significant effect on the combined variable burnout and engagement ($F_{(8,1778)} = 3.63, p < 0.01; \eta^2 = 0.02$). The effect size was small (2% of the variance explained). The results showed that people living within 30 km from campus (Mean = 3.10, $SD = 0.49$) experienced almost the same level of engagement ($F = 2.78, p < 0.005$) than those living in the same town as that in which the campus is situated (mean = 3.10, $SD = 0.51$). Those students living more than 120 km from campus (Mean = 2.69, $SD = 0.65$) experienced statistically significantly higher levels of burnout ($F = 5.88, p < 0.005$) than those living approximately 30 km from campus (Mean = 2.3, $SD = 0.63$). The results confirm Hypothesis 5.

Frequency of visits to home had a significant effect on the combined variable burnout and engagement ($F_{(8,1810)} = 2.611, p < 0.01; \eta^2 = 0.01$). The effect size was small (1% of the variance explained). The results showed that students that went home only during recess (Mean = 3.21, $SD = 0.50$) experienced statistically significantly higher levels of engagement ($F = 4.86, p < 0.005$) than those that went home daily (Mean = 2.52, $SD = 0.59$). The results confirm Hypothesis 6.

Employment status of parents had a significant effect on the combined variable burnout and engagement ($F_{(4,1770)} = 3.52, p < 0.01; \eta^2 = 0.01$). The effect size was small (1% of the variance explained). The results showed that students whose parents were both unemployed (Mean = 3.19, $SD = 0.50$) experienced statistically significantly higher levels of engagement ($F = 6.25, p < 0.01$) than those that had both or only one parent working (Mean = 2.63, $SD = 0.64$). The results confirm Hypothesis 7.

Frequency of library use during studies also had a significant effect on the combined variable burnout and engagement ($F_{(10,1804)} = 7.50, p < 0.01; \eta^2 = 0.04$). The effect size was medium (4% of the variance explained). The results showed that those that used the library four days a week (Mean = 3.30, $SD = 0.41$) experienced statistically significantly high levels of engagement, while those that used the library once a week (Mean = 2.92, $SD = 0.59$) were the least engaged ($F = 14.94, p < 0.005$).

Gender had a significant effect on the combined variable burnout and engagement ($F_{(2,926)} = 5.40, p < 0.01; \eta^2 = 0.01$). The effect size was small (1% of the variance explained). The

results showed that females (Mean = 3.13, $SD = 0.50$) experienced statistically significantly higher levels of engagement ($F = 0.25$, $p < 0.01$) than males (Mean = 3.11, $SD = 0.52$). The results also showed that males (Mean = 2.67, $SD = 0.64$) experienced statistically significantly higher levels of burnout ($F = 8.03$, $p < 0.01$) than females (Mean = 2.55, $SD = 0.63$). The results confirm Hypothesis 10.

Table 4 shows that no statistically significant differences were found between the adequacy of seating in lecture rooms, satisfaction with library services and the frequency of computer laboratory use. The results do not confirm Hypotheses 8 and 9.

Discussion

The aim of this study was to investigate burnout and engagement of students and the relation thereof with demographic variables. Acceptable construct validity and reliability for the scales measuring engagement ($\alpha = 0.80$) and for burnout ($\alpha = 0.68$) were established. Results indicated that with whom the person lives during studies, distance between home and university campus, frequency of visits to home, employment status of parents, frequency of library use, and gender had significant effects on the well-being (i.e. burnout and engagement) of first-year students.

The OLBI was found to be a reliable and valid instrument to measure burnout and engagement of first-year students. While engagement was reflected by vigour and dedication, burnout was reflected by exhaustion and cynicism. In this study, more participants were found to be engaged than burnt out, despite the challenges of adjustment expected to be experienced by first-year students, especially those from socio-economically underprivileged backgrounds, as Herzog (2005) highlights the fact that students today increasingly hail from first-generation, low-income, and ethnically diverse backgrounds.

Findings from this study confirm Meyer, Spencer, and French's (2009) qualitative study conducted through in-depth interviews of students about their academic experience. The students reported that their initial perceptions exceeded their actual experience. This experience could therefore be seen as having made these students to prepare and find ways to meet study demands, enabling them to cope, and subsequently to increase their chances of experiencing engagement rather than burnout.

Place of residence did not have a significant effect on the combined variable burnout and engagement. Reasons that could explain the situation is that students from socio-economically underprivileged backgrounds may be so used to not having choices in many areas of their lives that place of residence may be insignificant, as long as they can achieve what they set out to do. The adage that ‘beggars can’t be choosers’ could be true for them. Many students could be affected as first-year students currently are increasingly from first-generation, low-income backgrounds (Herzog, 2005). For those well-heeled students that can afford to pay, they would have had choices with ease as they could afford to pay upfront for a place of their choice; a place which would satisfy their needs as students. The ability of the parents to pay for a residence and the convenience thereof should be the determining factor for place of residence for the student.

With whom one is living during one’s studies is related to the burnout and engagement of first-year students. Those participants living with their parents and going home daily were the least engaged. These students may experience exhaustion and even cynicism towards their studies as a result of the daily chores that they have to do at their homes in addition to their studies, which may have to take the back seat at times. Those living on their own enjoyed higher levels of engagement than those living with their parents. The situation could be explained by the autonomy (Bakker, Demerouti, & Euwema, 2005) that goes along with living on their own, thereby enabling them to concentrate on their studies only. It can therefore be expected that they should have more time for their studies, and thus have more opportunities to be immersed in and enjoy their studies. The suggestion that going to university occurs at a time in the life cycle when attachments away from home have begun to assume salience (Archer, et al., 1998) is assumed to provide the answer to this result. Findings from this study thus suggest that all first-year students must reside on campus where they will be able to live on their own and subsequently concentrate on their studies rather than divide their attention between home chores and their studies. It can therefore be expected that students will channel high levels of energy into their studies, be willing to invest effort in their work, and persist in the face of difficulties. Therefore financial resources should be obtained to fund campus residence for all first-year students.

Distance between home and university is related to burnout and engagement of first-year students. As expected, students whose homes are 120 km and further away experience statistically significantly higher levels of burnout while those living within the 30 km radius

experienced statistically significantly higher levels of engagement. It is possible that those within the 30 km radius have more opportunities of going home any day, funds permitting. Such action is bound to provide more time with family, especially when exhaustion and cynicism set in; a privilege that those whose homes are 120 km or further do not have. It can therefore be expected that such students' well-being should be enhanced.

Frequency of home visits is related to burnout and engagement of first-year students. Students that went home during recess only experienced statistically significantly higher levels of engagement than those that went home daily. It can be inferred that students that went home during recess only, have more time to spend their energy on their studies and have more opportunity to get immersed in their studies without dividing their attention to home chores. It can therefore be inferred that those students that live at home have chores to contend with when they reach home, besides their academic workload. This situation can be expected to drain the students' energy.

Employment status of parents is related to burnout and engagement of first-year students. Students whose parents were both unemployed experienced statistically significantly higher levels of engagement than those that had one or both parents working. These students may immerse themselves in their studies as they might see their success as the only hope in their families to break the poverty cycle by becoming graduates. The drive to strive for an education from institutions of higher learning can be attributed to the reality of finding work in the poorly remunerated and unskilled informal employment sector by individuals with low educational levels (Cohen & Moodley, 2012). It is for this reason that students can be assumed to be enrolling for degree qualifications in order to escape from this bleak situation and subsequently obtaining better and meaningful jobs. With South Africa's high level of unemployment, which is said to be 25% in the first quarter of 2012, as well as the employment-to-population ratio of 40.9% (Statistics South Africa, 2012); the South African government's determination to increase the participation of students from under-privileged social groups; and individuals with university degrees enjoying a higher status in our society as they are seen to play a particularly important role in managing the knowledge-driven economy (King, Kruger, & Pretorius, 2007), it can thus be expected that more students would like to enter universities and achieve the dream of becoming graduates, despite the (un)employment status of their parents. The Human Sciences Research Council's Annual South African Social Attitudes Survey indicates that the majority of South Africans report a

lack of sufficient income to meet all their household needs (Davids, 2006). The situation could translate into parents not being able to afford decent housing for their children (students) while studying; and paying for transport for home visits as frequently as needed for social support purposes, especially where there are long distances between one's home town or village and the university campus. Students could then end up living at home or with relatives (within reasonable but sometimes unreasonable distances), or at affordable rented rooms in undesirable parts of town.

Contrary to what was expected, the *adequacy of seating in lecture rooms* did not have a significant effect on the combined variable burnout and engagement. Besides the facilities in a student's major subject, the library and technology facilities, classrooms (lecture rooms) have been rated fairly high in both importance and satisfaction with regard to the choice of the institution for studies (Reynolds, 2007). Hence it can be inferred that adequacy of seating in lecture rooms plays an important role in making such big decisions as to which institution to attend.

Frequency of library use during studies did not have a significant effect on the combined variable burnout and engagement. Contrary to expectations, the library use had no effect on the burnout and engagement of first-year students. This finding could be explained by the easy access to information via the internet, thereby making "the need for and practical value of a physical repository for printed and other material less compelling" (Kuh & Gonyea, 2003, p.256). With students being able to access journals, newspapers, magazines, study guides, notes, assignments, and even communicating with their lecturers to seek help or clarification over the internet, the frequent use of the library is compromised; it no longer holds a central position in the life of a student. Findings from Kuh and Gonyea's (2003) study conducted between 1984 and 2002 show that library experiences of undergraduates positively relate to educationally purposeful activities such as computing and information technology. They therefore concluded that students using the library frequently reflect a studious work ethic and engage in academically challenging tasks that require higher-order thinking. It can thus be inferred that such students should experience engagement in their studies. Unfortunately a scarcity of studies exists with regard to what and how students' academic library experiences contribute to the desired outcomes of colleges (Kuh & Gonyea, 2003).

Gender had a significant effect on the combined variable burnout and engagement. Findings point to first-year female students enjoying higher levels of engagement in their studies than males, while first-year male students experienced higher levels of burnout than females. Kong, (2009) explains that female employees dedicate significantly more than male employees in their job engagement because female employees value their jobs more than male ones with regard to burnout. Weckwerth, and Flynn (2006) found that gender differences on burnout were influenced by the variety of support received, with women scoring significantly higher than males on support, and thereby having lower levels of burnout. The higher level of burnout experienced by males than females is in contrast to Purvanova and Muros' (2010) findings according to which females experienced more burnout than males.

In conclusion, the OLBI has been found to be a valid and reliable instrument to measure the burnout and engagement of first-year students. The results of this study also show that the employment status of parents, being able to visit one's home town or village as and when needed, how far one's home is from the university campus, have an effect on engagement and burnout. Where one resides during one's studies, the number of times one uses the library, whether or not the number of seats in the lecture rooms were adequate, had no effect on burnout and engagement. Furthermore, gender does have an effect on burnout and engagement.

This study is not without limitations. The cross-sectional nature of this study has limitations. An annual follow-up of the participants until they have finished their studies would provide a rounded picture of burnout and engagement of university students from start to finish. A trend with regard to the phenomena per year level could thereby be established by such studies. Findings from such studies could enable university planners and authorities to provide appropriate resources adequately and timely, per year level. Qualitative studies could also provide more in-depth insight into the burnout and engagement of first-year students.

The sample did not include first-year students from all South African universities. Findings from this study cannot be generalised to all South African universities. A better picture of burnout and engagement of first-year university students would be provided by the inclusion of all universities in the country, as challenges faced by students on each campus will differ.

Recommendations

Since the Oldenburg Burnout Inventory (OLBI) has demonstrated to be a valid and reliable measure of burnout and engagement for first-year university students, future studies should be carried out in order to determine which students experience burnout so that relevant interventions can be introduced to rescue the students, while those experiencing engagement can receive reinforcement to ensure that the status quo is maintained and enhanced. Seeing that social support is imperative to academic success in education (Young, Johnson, Hawthorne, & Pugh, 2011), it is recommended that comprehensive support in terms of appropriate and timely resources, especially from the universities as institutions of higher learning, be provided to first-year students. Such support should lead the students to experience engagement rather than burnout. Should the study wellness of these students be improved, South Africa's first-year university student drop-out rate of 40% (Macgregor, 2007) could be reduced and its university graduation rate of 15% (Letseka & Maile, 2008) improved.

Suggested practices for promoting student engagement should include team-teaching of librarians by lecturers (Kuh & Gonyea, 2003), the aim being to promote better coordination of information seeking related to tasks (such as assignments) associated with their studies. This practice could enable the librarian to know exactly what types of resources first-year students need, and give related guidance and assistance. Consequently, more student engagement could be experienced rather than burnout. Student well-being should therefore be considered as top priority for educational institutions' strategic plans, especially for institutional development purposes. To remain competitive in the global village, the context and content of South African educational systems need to encourage and promote student engagement, while preventing and minimising student burnout.

It is further recommended that future studies consider the phenomena in different cultural groups, as well as urban, semi-urban and rural settings of such higher education institutions.

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CHAPTER 3

MANUSCRIPT 2

Study Demands, Study Resources and Subjective Well-being of First-Year Students at Higher Education Institutions in South Africa

ABSTRACT

The aim of this study was to validate a measure of study demands and resources for first-year students in higher education institutions in South Africa. A cross-sectional survey was conducted with first-year university students ($n = 936$). The Study Demands and Resources Questionnaire was developed to measure demands and resources, while the Satisfaction with Life Scale was used to measure life satisfaction. The results provide support for the construct validity of a measure of study demands and resources. Findings showed that a positive relationship between study resources and satisfaction with life exists, while a negative relationship between study demands and satisfaction with life also exists. Age was positively related to study resources and satisfaction with life.

Key words: Study demands, study resources, satisfaction with life, subjective well-being, first-year university students, academic goals.

Education is a high priority in South Africa. Its importance is noted in its contribution in improving the economy of the country (National Planning Commission, 2010). In spite of this importance in contributing to the upliftment of human resources for the betterment of a country's economy, universities as institutions of higher education in South Africa are challenged by various factors: inequalities in resources; under-prepared students; students' life experiences; student drop-out rates; and utilization of institutional resources.

South Africa's history in resource allocation for education in particular needs to be highlighted in order to provide the backdrop to the different school types that feed universities. The impact of the inequality in resource allocation in education amongst different races in South Africa during the Apartheid era is perplexing and deep-rooted. For example, Blacks constituted 74.3% of the student cohort but receiving only 17.2% of all the resources dedicated to education; whites received 67.1% while representing only 12.2% (Marais, 1995). It has not been easy for the post-1994 South African government to completely eradicate such inequalities. Despite having the distribution of resources in education becoming more equal over time, substantial inequalities remain; the quality of education across different school types remains unequal (Marais, 1995). Although equity has mostly been reached in educational spending, vast discrepancies persist in the quality of education received in different school types (van der Linde, 2012). Several problems still remain in the South African education system, mainly affecting the disadvantaged schools, despite the progress made since 1994. Higher education institutions are struggling to cope with the increased number of students and their demands for academic support; throughput rates have not improved as fast as enrolment rates; only one in five first generation students graduate in regulation time (National Planning Commission, 2010).

Higher education institutions in South Africa are challenged by a need to produce graduates who are to serve in the knowledge-driven economy (Brown, Hesketh, & Williams, 2002). Studies on factors that have a bearing on student failure and/or success, and subsequently student well-being, are therefore of great importance. Understanding how students perceive academic obstacles and facilitators (Salanova, Schaufeli, Martinez, & Bresó, 2010) is essential for promoting the subjective well-being of first-year university students. Subjective well-being is seen as an indication of psychological and healthy functioning (Silva, de Keulenaer, & Johnstone, 2012); a desired state that can lead to student success. To promote first-year university well-being, resources provided must match existing demands (Lavoie-

Tremblay, Trepanier, Fernet, & Bonneville-Roussy, 2014) and enhance life satisfaction. Although studies on student failure and/or success have been done, gaps about the validity of a measure of study demands and resources exist (Tinto, 2006). In addition to confirmatory factor analysis evidence for such a measure, evidence for convergent validity will exist if experiences of study demands and resources are related to life satisfaction.

The availability of resources plays a critical role in building a solid foundation for the achievement of academic goals for first-year university students. In order for students to succeed in their studies, appropriate institutional resources that are seen to be adequate to buffer the impact of study demands need to be provided by the institution. Resources are motivational while chronic demands are harmful (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). A good supply of study resources should therefore be expected to contribute positively, whereas an overload of study demands can be expected to contribute negatively to student well-being. Students are more likely to succeed and continue within the institution that hold high expectations for their success, provide the needed academic and social support, and frequent performance feedback, and are being actively involved in their learning (Tinto, 2010).

As universities admit students from different school types, one can begin to understand the challenges faced by these students. The majority of first-year students are not first-language English speakers and their levels of preparedness for university studies are diverse (Underhill & McDonald, 2010). First-generation students are more likely to have weaker cognitive skills (in reading, math, and critical thinking; Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996). Students typically have unrealistic expectations about workload, and find standards to be higher than expected; thereby experiencing a culture shock which may be more challenging for those coming from a disadvantaged background, especially the ‘first-generation’ students (Keane, 2011). The first week or two at university is overwhelming. First-year students have to contend with locating venues for lectures; buying books; learning to live with roommates; make sense of multiple syllabi. Suddenly, the student’s world seems to fall apart as the academic workload verges on the insanely unmanageable: the demand to complete assignments on time and at the same period in some cases; writing tests and examinations sometimes around the same period as the assignments; as well as classes, practical work and tutorials to attend. The difficulty experienced arises from the workload

that each course expects of them as well as the transformation in the students' style of learning. The pace never seems to abate, but rather intensify (Kidwell, 2005).

The study demands facing students have implications for the support of students at universities (Wickens & Greeff, 2005). South African first-year university students come from a wide range of social and cultural backgrounds that provide them with very different life experiences, different educational opportunities and a great variety of expectations, needs and academic potential (Fraser & Killen, 2003). While some students feel overwhelmed and unable to effectively meet the demands of their new roles, others are able to cope and make the transition constructively (Estrada, Dupoux, & Wolman, 2006). Negative experiences with institutional resources, as well as lack of involvement in campus activities may cause the student's commitment to studies to decrease and possibly abandon their studies (Meyer, Spencer, & French, 2009). The question that comes up is: do institutions periodically 'audit' the adequacy of the resources provided to students? Continuous revision and adaptation of resources are required to ensure that student needs are adequately addressed.

The South African Council of Higher Education expects 40% of students enrolling in tertiary institutions to drop out, while 50% will take five years to complete a three-year degree (Maake, 2012). Furthermore, only 15% of university students complete the degrees in record time (Macgregor, 2007). The socio-economic status of families of students who do not finish their studies played a significant role in their inability to persevere in their studies, with some abandoning their studies to take up jobs because loans and bursaries do not always cover the full costs of the studies, including living and other expenses (Letseka, 2007). In the United Kingdom, for example, two-thirds of the drop-out rate is experienced in the first-year; the main reason cited being the lack of preparation for and understanding of the type of learning that is required (Wingate, 2007).

Academic, social and financial support (Palmer, Davis, & Hilton, 2009) is critical for student support, without which many students struggle to meet institutional expectations and academic success. Reason, Terenzini, and Domingo (2006) found that students' perception of the degree to which the institution was supportive of their academic, personal and social needs as the most powerful predictor of growth in student academic competence (Reason et al., 2006). Positive emotions thus initiate the building of resources (Ouweneel, Le Blanc, & Schaufeli, 2011).

The relationships amongst study demands, study resources and satisfaction with life of first-year students in higher education institutions need to be investigated in order to provide institutions with information that can aid institutional resource planning. In view of the reasons outlining the need to study student resources and related demands as well as satisfaction with life above, this study aims to derive and classify study demands and resources from first-year students' experiences; develop and test a model showing the relationship amongst the three variables.

Study Demands and Study Resources

Study demands refer to the workload that students have to deal with during their studies. Workload for students, i.e. study load, is essentially measured by the number of contact hours for classes and the time spent on independent study (Kember, 2004). Study demands include class attendance, tutorials, practical work, assignments, tests and examinations time-tables (including their scheduling). The sense of having too much work to do in the time available is referred to as work or time pressure, and is usually treated as an indicator of workload or quantitative job (study) demands (Boyd, et al., 2011). Some students may feel overwhelmed and unable to effectively meet the demands of their new roles and may feel stressed (Kember, 2004).

Stress is the result of an individual's perceptions that they do not have the resources to cope with a perceived situation from the past, present and future (Robotham, 2008). Unmanageable study loads, time pressures and inadequate resources produce stress (Barkhuizen & Rothmann, 2008). It is the individual's perception and interpretation of the demands placed upon them that causes harm, and not the demands themselves (Robotham, 2008). If students see their study load as a challenge, more effort will be exerted (which is positive), while those who see their study load as a threat may respond by avoidance of tasks and subsequently become dropouts. It can therefore be expected that students who are provided with timely and appropriate resources should be able to reach their academic goals. Academic goals are defined as academic or learning outcomes that students are actively working to attain or avoid during a semester (Okun, Fairholme, Karoly, Ruehlman, & Newton, 2006).

Study resources refer to the physical, material, environmental aspects and the people (i.e. social) related to their studies, enabling them to succeed in their studies. Using Bakker, Albrecht and Leiter's (2011) definition of job resources, study resources refer to those physical, social or institutional aspects of studies that may reduce study demands. The availability of physical resources such as lecture rooms, libraries, computer laboratories (i.e. physical resources), as well as lecturer and peer support (i.e. social resources) coupled with enabling institutional atmosphere, culture & values, as well as accessibility to information, should enable the students to regard study demands as surmountable, enjoyable, realistic and even necessary.

Studies need sustained physical and mental effort (Llorens, Bakker, Schaufeli, & Salanova, 2006). If students can find their studies stimulating, engrossing, significant and worth pursuing, we would then have students who reach their academic goals in our universities. Study resources are motivational (Xanthopoulou, et al., 2009), especially when study demands are high (Bakker & Demerouti, 2007). Study resources trigger the motivation process, and thus lead to positive well-being and better performance (Mäkikangas, Bakker, Aunola, & Demerouti, 2010). Students will become so motivated when relevant and timely study resources are available that they will actively learn and come with ways of handling their study load effectively (Hakanen, Schaufeli, & Ahola, 2008).

The importance of resources in enabling students to deal with study demands is best explained by Hobfoll's Conservation of Resources theory (Hobfoll, 1989 & 2001). According to the Conservation of Resources (COR) theory, people strive to obtain, retain, and protect that which they value. "These things that they value, or that aid in obtaining that which is valued, are termed resources" (Hobfoll & Lilly, 1993, p. 129). In order to prevent stressful loss cycles of resources and to enhance motivating resource gain spirals, people need to invest resources. The more resourceful people are, the better they are able to do so (Hobfoll, 2011). Those with greater resources are less vulnerable to resource loss and more capable of orchestrating resource gain. Conversely, those with fewer resources are more vulnerable to resource loss and less capable of resource gain. Resources thus allow an individual more opportunity to respond and regulate behaviours (Muraven & Baumeister, 2000) associated with their studies and to position themselves in ways that ensure coping success (Hobfoll, 2001). Furthermore, Hobfoll (2001) maintains that, individuals perceiving more resources

may be more likely to adapt to the increased opportunities available and look for and come up with a resource replacement or substitution, thus the initial job tension declines (Hobfoll & Shirom, 2000).

An increase in resources is produced when resource-endowed people use more productive coping strategies, to deal with given demands (Hobfoll & Shirom, 1993) while those with fewer resources will use more maladaptive coping strategies, leading to fewer resources. Furthermore, individuals with poor resources, especially low levels of energy, are more susceptible to further resource loss and demand accumulation (Ten Brummelhuis, Ter Hoeven, Bakker, & Peper, 2011). The value of resources is shown in their impact on stress. “Psychological stress occurs in any of the three circumstances: (1) when individuals’ resources are threatened with loss, (2) when individuals’ resources are lost, (3) when individuals’ fail to gain resources following investment of other resources” (Hobfoll & Lilly, 1993, p. 129).

Hobfoll (1989) states that, given certain demands, a person uses one of the four resources (object, conditions, personal characteristics and energies) to cope with demands or loss of resources. The physical nature of object resources makes them valued, based on the extent to which they enable an individual to meet survival needs or have acquired value through demand and scarcity, e.g. a library or computer laboratory for students. Conditions are resources to the degree that they are sought or as providing access to other key elements of survival and can provide stability, for example, social support from a lecturer. Personal characteristics are resources to the extent that they are prized aspects of the self (e.g. sense of mastery, time-management). Personal resources are important to students in that they are functional in achieving goals, and stimulate personal growth and development (Ouweneel, et al., 2011; Xanthopoulou, et al., 2009). Energies are valued for their aid in acquiring other resources; e.g. money and knowledge can enhance access to objects, enhance conditions or increase personal resources (Alarcon, Edwards, & Menke, 2011; Hobfoll & Lilly, 1993).

If institutions of higher learning want to have students who will cope with their studies, especially the first-years, they need to provide resources that would enable them to do so; and thereby facilitate their integration into higher education. When this happens, a high throughput rate of students at universities can be expected. Consequently, funding by the

Department of Education to universities could be more than adequate, thereby providing more resources to cushion the impact of study demands on students. Resources therefore play an important role in cushioning the impact of study demands on students. Ample job resources may reduce the effects of job demands (Demerouti et al., 2001; Fourie, Rothmann, & van de Vijver, 2008). Different organisational and individual interventions are necessary in order to increase well-being (Korunka, Kubicek, Schaufeli, & Hoonakker, 2009).

For the student, resources include lecture halls, computers laboratories, libraries, funding, and equipment and 'study security' such as institutional rules enabling students to continue and complete their studies based on their successful performance; conferences, workshops, study-related and non-study related interpersonal and social relations, while study demands include class attendance, tutorials, practical work, assignments, tests and examinations time-tables (including their scheduling). Ample study resources may reduce the effects of study demands (Demerouti et al., 2001; Fourie, Rothmann, & Van de Vijver, 2008).

Study resources include deans and school directors, library staff, lecturers, student assistants, tutors, as well as class and task-team mates for doing group work. The role of social support (Schaufeli, Bakker, & van Rhenen, 2009) in student well-being is important. Role clarity, participation in decision-making, performance feedback, acquiring skills relevant to their careers, being made aware of the significance of and being able to identify with the tasks given. Students need to know what is expected of them (i.e. time tables for class- and tutorial-attendance, presentations and role-plays and deadlines for assignments, reports and presentations) and how do they get involved in decision making, i.e. university, campus-wide, as well as per faculty, school and module. They also need feedback from tests, assignments, practical work, tests and examinations for a variety of modules in a program; expect each task to be significant towards their studies, be given deadlines for tasks and be left to do such tasks on their own without so much pressure.

Resources are more important than demands in promoting the subjective well-being of students. Role clarity, participation in decision-making, performance feedback, acquiring skills relevant to their careers, being made aware of the significance of and being able to identify with the tasks given. Students need to know what is expected of them (i.e. time tables for class and tutorial attendance, presentations and role-plays and deadlines for assignments, reports and presentations) and how do they get involved in decision making, i.e. university,

campus-wide, as well as per faculty, school and module. They also need feedback from tests, assignments, practical work, tests and examinations for a variety of modules in a program; expect each task to be significant towards their studies, be given deadlines for tasks and be left to do such tasks on their own without so much pressure.

The role of social support (Schaufeli, Bakker, & van Rhenen, 2009) in student well-being is important. Good student-student relationships have also been proven to be a positive factor in helping students to cope with their studies, and had the added benefit on mitigating perceptions of heavy study load (Kember, 2004). Peer support has been shown to be significantly associated with a smooth transition to college for non-first generation students (Inkelas & Weisman, 2003). Peer support refers to situations where students support each other in educational settings, and is indicated as being effective in improving academic performance (Ashwin, 2003). Peer culture that emphasizes academic pursuits and peers as study partners can assist in successful academic transition (Inkelas, Daver, Vogt, & Leonard, 2007). Early peer involvement appears to strengthen perception of institutional and social support and ultimately persistence (Ashwin, 2003).

Lecturer support a critical resource for students as it has been found to have a positive effect on integrating students into university life (Pascarella, 1980). Involvement with lecturers has been found to have a positive total effect on persistence (Ashwin, 2003). Interactions with lectures as well as peer support promoted sense of belonging among students (Hausmann, Schofield, & Woods, 2007), which in turn was associated with institutional commitment and persistence with studies, although such commitment might diminish as a reaction to heavy academic demands. Interactions with lecturers facilitated an easier academic transition for first-generation students in living-learning programs, which are residential communities with a shared academic or thematic focus (Inkelas et al, 2007). Consultative feedback is widely seen as an effective support mechanism to help lecturers use student assessment to improve teaching (Penny & Coe, 2004), while continued support can assist first generation students in maintaining self-confidence that they can succeed and persist in high education.

Satisfaction with Life

Subjective well-being (SWB), also known to denote happiness, (Suldo, et al, 2009), refers to an individual's cognitive and affective evaluations of their lives; with Life satisfaction

forming the cognitive component of subjective well-being, while the affective component refers to the positive and negative affect, the levels of which are seen to indicate the level of subjective well-being (Song, Kong, & Jin, 2013).

Life satisfaction is an individual's overall evaluation of their life; it is the hallmark of the subjective well-being area that centres on the person's own standard (Diener, Emmons, Larsen, & Griffin, 1985). Bradley and Corwyn (2004) maintain that life satisfaction reflects both the extent to which basic needs are met and the extent to which a variety of other goals are viewed as attainable. Therefore it is expected that it will be negatively related to the study demands and positively related to having study resources. Çapan (2010) suggests that for university students the most important standard is to get into university and acquire a profession and maintains that the closer they get to this standard the more satisfaction they will get from their lives. Success in academic life will therefore affect their satisfaction with their lives. According to Diener and Diener (1996), a relationship exists between satisfaction with life and positive affect. They believe that positive affect causes individuals to enjoy more from their jobs (i.e. studies in this study), and their relationships, and subsequently more life satisfaction. Furthermore, individuals with higher life satisfaction achieve better life outcomes. Students can therefore be expected to achieve their academic goals.

Satisfaction with life is studied worldwide across different age groups. The Satisfaction with Life Scale (SWLS; Diener et al., 1985), a self-report questionnaire, seems to be the most common measure used to assess this phenomenon. Satisfaction with life has not been significantly related to age (Jankowski, 2012). Life satisfaction has been found to be stable across the age groups despite a decline in resources, thereby suggesting that people amazingly adapt to their conditions (Diener, Suh, Lucas, & Smith, 1999).

Aim and Hypotheses

In view of the importance of study resources in enabling students to deal with study demands, this study aimed to validate a measure of demands and resources for first year students in higher education institutions. Validation of a questionnaire to measure study demands and resources requires a factor analytical approach. However, it was decided to evaluate the construct validity of the measure of study demands and resources further by relating these to an important outcome, namely satisfaction with life. Lastly, based on literature findings, it

was decided to investigate the relationship of age with job demands, job resources and satisfaction with life.

In view of the discussion above, the following hypotheses are presented:

Hypothesis 1: Experiences of studies by first year students can be accurately classified in terms of study demands and resources.

Hypothesis 2: There is a positive relationship between study resources and life satisfaction.

Hypothesis 3: There is a negative relationship between study demands and life satisfaction.

Hypothesis 4: Age is related to job demands, job resources and life satisfaction.

Method

Research Design

In this study, a quantitative approach was adopted. This approach was used as it enables the researcher to develop knowledge through the use of a survey in order to measure certain variables, using pre-determined instruments that yield statistical data (Creswell, 2003). A survey was undertaken to reach the research objectives in this cross-sectional study.

Participants

A convenience sample of first-year students ($N = 936$) in three institutions, namely North-West University – Mafikeng Campus ($n = 581$), North-West University – Vaal Triangle Campus ($n = 122$), and University of Zululand ($n = 233$) participated in the study. The characteristics of the participants are provided in Table 1.

Table 1

Characteristics of the Participants

Item	Category	Frequency	Percentage
Gender	Female	602	64.31
	Male	308	32.90
	Missing	26	2.77
Age	20 years and younger	441	47.11
	21-25 years	313	33.44
	26-30 years	73	7.79
	31-35 years	43	4.59
	36 years and older	25	2.67
	Missing	41	4.38
Marital status	Single	865	92.41
	Married	58	6.19
	Widowed	1	0.11
	Divorced	7	0.74
	Missing	5	0.53

Table 1 shows that the ages of 60.9% of the respondents were between 17 and 21 years, with most (29.7%) of them being 19 years of age. The majority of the respondents were female (64.7%), while males formed the minority (35.3%). Most (92.9%) respondents were single, while 6.2% were married, 0.1% widowed, and 0.8% divorced.

Procedure

Permission to conduct the study was obtained from the institution before the study could be undertaken. The targeted sample of first year students was drawn from mandatory first-year module classes, in order to avoid duplication of participants. Self-reporting questionnaires were administered to those who presented themselves and agreed to participate in the study.

Instruments

A biographical section was included to determine the gender, age and marital status of the respondents. Information which included the student number, campus, faculty, years at higher education institution ensured that only registered first year students participated in the study.

The *Study Demands-Resources Questionnaire* (SDRQ) was used in this study to obtain student evaluation of specific aspects of their studies relating to study demands and resources. A four-point Likert scale, ranging from 1 (*never*) to 4 (*always*) was used. Both positive and negative items are used in this instrument. On the negative side, items include questions such as, “Do you have too much work to do?” On the positive side, items include questions such as, “Can you count on your lecturer when you run into difficulties in your work?” Dimensions of the SDRQ include study demands, growth, peer support, lecturer support, and information accessibility. Items on this scale are supported and influenced by several studies. Study demands consist of three items. Items on study demands focus on study demands tasks such as work overload and time pressure, and include such items as “Do you have too much work to do?”, and “Do your work under time pressure?” Kember (2004); Boyd et al. (2011); as well as Meyer et al. (2009) highlight the importance of the challenges provided by study demands and associated effects.

Hobfoll’s Conservation of Resources theory (Hobfoll, 1989, 2001) highlights the importance of resources in enabling students to deal with study demands. Resources in this instrument consist of growth, peer support, lecturer support, and information accessibility. Growth consists of five items. Items on Growth focus on growth tasks such as opportunities, as well as achievement motivation, and include such items as “Do your studies give you the feeling that you can achieve something?”, and “Do your studies give you the opportunity for independent thought and action?” The importance of providing studies that allows for growth and independence is supported by Pekrun and Stephens (2010), who indicate that increasing the cognitive quality of tasks positively, affect university student’s learning-related enjoyment. Peer support consists of three items. Items on peer support focus on peer support tasks such as reliability and assistance readiness of peers, and includes items such as “Can you count on your fellow students when you run into difficulties in your studies?” and “If necessary can you ask your fellow students for help?” The importance of peer support has been highlighted by Ashwin (2003) as helping students to come to terms with the demands of

their studies. Lecturer support consists of eight items. Items on lecturer support focus on lecturer support tasks such as lecturer providing guidance and feedback, as well as problem solving. Items include “Can you discuss study problems with your lecturer?”, and “Do you know exactly what your lecturers expect of you in your studies?”, “Do you receive sufficient information on the results of your studies?” Information accessibility consists of three items. Items on information accessibility focus on understanding of protocol (includes roles and responsibilities, policies, rules, regulations) observed at the institution. Items on information accessibility focus on being knowledgeable of issues related to studies and roles and responsibilities of stakeholders in the decision-making process on issues related to studies, and include items such as “Is the decision-making process of your university clear to you?”, and “Are you kept adequately up-to-date about issues within your faculty/university?”

The *Satisfaction with Life Scale* (SWLS, Diener et al., 1985) was used to measure how satisfied participants were with their lives. The SWLS consists of five items (e.g. “I am satisfied with my life”). The participants choose from a rating of 0 (*strongly disagree*) to 6 (*strongly disagree*). The Satisfaction with Life Scale has been found to be a valid and reliable instrument (Diener et al., 1985; Pavot & Diener, 1993). Alpha coefficients varying from 0.79 to 0.89 in various studies confirm the internal consistency of the SWLS (Pavot & Diener, 2008).

Statistical Analysis

The initial analyses were carried out with the SPSS21 program (SPSS Inc., 2013). SPSS was used create a data file and to compute descriptive statistics. The analysis of the data was carried out by means of Mplus version 7.3 (Muthen & Muthen, 2008-2014). To allow for the comparison of measurement models in the first phase, the items of the SDRQ was defined as categorical and the robust maximum likelihood (MLR) was used as estimator. The following indexes produced by Mplus were used in this study: a) absolute fit indices, including the chi-square statistic which is the test of absolute fit of the model, and the Root-Mean-Square Error of Approximation (RMSEA), b) incremental fit indices, including the Tucker-Lewis Index (TLI) and the Comparative Fit Index (CFI) (Hair, Black, Babin, & Andersen, 2010). TLI and CFI values higher than 0.90 are considered acceptable. RMSEA values lower than 0.08 indicate a close fit between the model and the data. Two fit statistics, namely the Akaike

Information Criterion (AIC) and Bayes Information Criterion (BIC) were used to compare alternative measurement models.

Reliabilities (ρ) of scales measured by items rated on a continuous scale were computed by means of a formula based on the sum of squares of standardised loadings and the sum of standardised variance of error terms (Wang & Wang, 2012). The method has an advantage over the Cronbach's alpha, which does not provide a dependable estimate of scale reliability when latent variable modelling is used.

Results

The results are reported next. Firstly, the results of tests of competing measurement models are reported. Thereafter, the results of tests of alternative structural models are then reported.

Model Development

Using confirmatory factor analysis (CFA), a three-factor measurement model as well as alternative models were tested to assess whether each of the measurement items would load significantly onto the scales with which they were associated. Three measurement models were tested. Model 1 consisted of three latent variables, namely a) study demands (measured by five observed variables); b) study resources, consisting of four latent variables, namely growth (measured by two observed variables), peer support (measured by three observed variables), lecturer support (measured by six observed variables) and information availability (measured by three observed variables); c) satisfaction with life (measured by five observed variables). All the latent variables in model 1 were allowed to correlate.

Models 2 and 3 followed the same template: model 2 was specified with a) five observed variables measuring study demands; b) 18 observed variables measuring study resources (without the three first-order latent variables, namely growth, peer support, lecturer support and information availability); c) five observed variables measuring satisfaction with life. Model 3 was specified with a) 23 observed variables measuring study load; b) five observed variables measuring satisfaction with life.

Two fit statistics, namely the AIC and BIC were used to compare alternative measurement models. The AIC, which is a comparative measure of fit, is meaningful when different models are estimated. The lowest AIC is the best fitting model. The BIC provides an indication of model parsimony (Kline, 2010). Table 2 presents the AIC and BIC values of the various models.

Table 2

Fit Statistics for the Competing Measurement Models

Model	χ^2	<i>df</i>	CFI	TLI	RMSEA	SRMR	AIC	BIC
Model 1	1053.08	343	0.88	0.86	0.05	0.06	67541.82	67981.92
Model 2	2032.71	347	0.70	0.68	0.07	0.07	68615.33	69036.08
Model 3	3391.43	350	0.46	0.42	0.10	0.10	70115.05	70521.29

df = degrees of freedom; TLI = Tucker-Lewis Index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual; AIC = Akaike Information Criterion; BIC = Bayes Information Criterion.

Comparison of the fit indices indicates that model 1 best fitted the data. The χ^2 (343, $n = 936$) = 1053.08 of the hypothesised model was statistically significant ($p < 0.001$), and two of the fit indices indicated good fit of the model to the data: RMSEA = 0.05, SRMR = 0.06. However, the CFI and TLI values were lower than the recommended cut-off value of 0.90.

Analyses continued in an exploratory mode to improve the fit of the selected model. The modification index (MI = 90.55) for item 5 (“Do you have to give continuous attention to your studies”) and item 6 (“Do you have to remember many things in your studies”) of the SDRQ indicated that the model fit could be improved by correlating the errors of the items. Correlated errors may indicate participant characteristics that reflect bias, social desirability, as well as an overlap in item content (Byrne, 2010). The model was re-specified, allowing a correlation items between items 5 and 6. The fit statistics for the revised model (model 1.1) showed that the model fit improved significantly when the errors of the items were allowed to correlate. A χ^2 value of 958.56 ($df = 342$) was obtained for the hypothesised measurement model. The fit statistics on the four fit indices were acceptable: TLI = 0.88, CFI = 0.89,

RMSEA = 0.04, SRMR = 0.06. The AIC and BIC values for model 1.1 were also lower than for model 1: AIC = 67440.95 and BIC = 67885.89.

Further analyses were done in order to improve the fit of model 1.1. The model was further re-specified. The modification index (MI = 85.53) for item 7 (“Do your studies require creativity”) and item 8 (“Do your studies make sufficient demands on your skills and capacities?”) of the SDRQ indicated that the model fit could be improved by correlating the errors of the items. The model was re-specified, allowing a correlation items between items 7 and 8. The fit statistics for the revised model (model 1.2) showed that the model fit improved significantly when the errors of the items were allowed to correlate. A χ^2 value of 870.73 ($df = 341$) was obtained for the hypothesised measurement model. Not all the fit statistics on the four fit indices were acceptable: TLI = 0.90, CFI = 0.91, RMSEA = 0.04, SRMR = 0.06. The AIC and BIC values for model 1.2 were also lower than for model 1.1: AIC = 67346.93 and BIC = 67796.70.

Further analysis was done in order to improve the fit of the model 1.2. The modification index (MI = 54.59) for item 17 (“Do you get on well with your lecturers?”) and item 16 (“Can you count on your lecturer if you run into difficulties in your studies?”) of the SDRQ indicated that the model fit could be improved by correlating the errors of the items. The model was re-specified, allowing a correlation items between items 17 and 16. The fit statistics for the revised model (model 1.3) showed that the model fit improved significantly when the errors of the items were allowed to correlate. A χ^2 value of 818.05 ($df = 340$) was obtained for the hypothesised measurement model. The fit statistics on the four fit indices were acceptable: TLI = 0.91, CFI = 0.92, RMSEA = 0.04, SRMR = 0.06. The AIC and BIC values for model 1.3 were also lower than for model 1.2: AIC = 67291.67 and BIC = 67746.28. The best fitting model, model 1.3 is better than the baseline model, the χ^2 value of which is 6048.72 ($df = 378$).

The measurement model formed the basis of the structural model. Standardised regression coefficients of the variables estimated by Mplus for the structural model are presented in Table 3.

Table 3

Standardised Regression Coefficients of the Items

Variables	Estimate	SE	Est/SE	<i>p</i>
<i>Study demands</i>				
Do you have too much work to do?	0.65	0.03	20.64	0.000**
Do your work under time pressure?	0.74	0.03	22.66	0.000**
Do you have to work extra hard to complete something?	0.56	0.03	17.08	0.000**
Do you have to give continuous attention to your studies?	0.22	0.04	5.20	0.000**
Do you have to remember many things in your studies?	0.28	0.04	6.93	0.000**
<i>Growth</i>				
Do your studies require creativity	0.32	0.04	8.46	0.000**
Do your studies make sufficient demands on your skills and capacities?	0.32	0.04	8.14	0.000**
Do you have enough variety in your studies?	0.47	0.03	13.58	0.000**
Do your studies offer your opportunities for personal growth and development?	0.69	0.03	25.02	0.000**
Do your studies give you the feeling that you can achieve something?	0.71	0.03	24.41	0.000**
Do your studies give you the opportunity for independent thought and action?	0.70	0.03	23.77	0.000**
<i>Peer support</i>				
Can you count on your fellow students when you run into difficulties in your studies	0.76	0.03	24.62	0.000**
If necessary, can you ask you fellow students for help?	0.74	0.04	21.54	0.000**
Do you get on well with your fellow students?	0.51	0.03	15.88	0.000**

Table 3

Standardised Regression Coefficients of the Items (Continued)

Variables	Estimate	SE	Est/SE	p
<i>Lecturer support</i>				
Can you count on your lecturer if you run into difficulties in your studies?	0.53	0.03	17.46	0.000**
Do you get on well with your lecturers?	0.54	0.03	18.51	0.000**
Do you know exactly what your lecturers expect of you in your studies?	0.59	0.03	21.47	0.000**
Do you know exactly what your lecturer thinks of your performance?	0.53	0.03	17.88	0.000**
Do you receive sufficient information on the results of your studies?	0.56	0.03	18.60	0.000**
Can you discuss study problems with your lecturer?	0.60	0.03	21.07	0.000**
<i>Information accessibility</i>				
Are you kept adequately up-to-date about issues within your faculty/university?	0.73	0.03	28.88	0.000**
Is the decision-making process of your university clear to you?	0.76	0.03	30.62	0.000**
Is it clear to whom you should address within the university if you experience specific problems?	0.66	0.03	23.76	0.000**
<i>Satisfaction with life</i>				
In most ways, my life is ideal.	0.55	0.03	16.89	0.000**
The conditions of my life are excellent.	0.82	0.02	40.10	0.000**
I am satisfied with my life.	0.82	0.02	38.33	0.000**
So far, I have had the important things that I want in life.	0.61	0.03	20.51	0.000**
If I could live my life all over again, I would change almost nothing.	0.49	0.03	14.42	0.000**

** $p < 0.001$

In Table 3, statistical significance was obtained on all variables. Table 3 indicates that working under pressure ($\beta = 0.74, p < 0.01$), having too much work to do ($\beta = 0.65, p < 0.01$), and having to work extra hard ($\beta = 0.56, p < 0.01$) is the key to predicting study load. Growth opportunity was strongly indicated by studies providing the feeling that one can achieve something ($\beta = 0.71, p < 0.01$) and an opportunity for independent thought and action ($\beta = 0.70, p < 0.01$), as well as personal growth and development ($\beta = 0.69, p < 0.01$). Peer support was strongly indicated by being able to count on fellow students when problems arose ($\beta = 0.76, p < 0.01$), and ask for help ($\beta = 0.74, p < 0.01$).

The results showed that being able to discuss problems with the lecturer ($\beta = 0.60, p < 0.01$), being knowledgeable about lecturer expectations ($\beta = 0.59, p < 0.01$), and getting feedback on one's studies ($\beta = 0.56, p < 0.01$) are strong indicators of lecturer support. Results showed that the clarity of the decision-making process of the institution ($\beta = 0.76, p < 0.01$) and whom to approach if problems arose ($\beta = 0.66, p < 0.01$), as well as being kept up-to-date about relevant issues ($\beta = 0.73, p < 0.01$) are strong indicators of accessibility to information. Satisfaction with life was strongly indicated by excellent conditions of one's life and being satisfied with one's life ($\beta = 0.82, p < 0.01$), as well as having had the most important things in life ($\beta = 0.61, p < 0.01$).

The results indicated that the relationship between each observed variable and its respective construct was statistically significant ($p < 0.01$), thereby establishing the proposed relationships among indicators and constructs. Hypothesis 1 is therefore supported.

The Structural Model

The measurement model formed the basis of the structural model. The hypothesised relationships shown in the model were tested, using latent variable modelling as implemented by Mplus 7.3 (Muthen & Muthen, 2008-2014).

Reliabilities and correlations among study demands, study resources and satisfaction with life are reported in Table 4.

Table 4

Composite Reliabilities and Correlations of the Scales

Variable	ρ	1	2	3	4	5	6
1 Study load	0.61	-	-	-	-	-	-
2 Task characteristics	0.71	0.05	-	-	-	-	-
3 Peer support	0.73	0.03	0.21**	-	-	-	-
4 Lecturer relations	0.71	0.08	0.62**	0.31**	-	-	-
5 Information	0.76	0.06	0.46**	0.23**	0.69**	-	-
6 Study resources	0.73	0.08	0.64**	0.33**	0.96**	0.71**	-
7 Satisfaction with life	0.79	-0.17**	0.26**	0.13**	0.39**	0.29**	0.40**

** $p < 0.01$

Table 4 shows that the reliabilities of the constructs were acceptable, compared to the guideline of 0.70 (Wang & Wang, 2012), except for study load ($\rho = 0.61$). A statistically significant ($p < 0.01$) negative relationship was found between study load and satisfaction with life. Statistically significant relationships were also found between lecturer relations, information, peer support and task characteristics on the one hand and satisfaction with life on the other hand.

The relationship amongst the variables of the structural model are shown in Table 5

Table 5

Standardised Regression Coefficients of the Variables

Variables	Estimate	SE	Est/SE	<i>p</i>
Satisfaction with life on				
Study demands	-0.16	0.04	-4.01	0.00**
Study resources	0.39	0.05	8.55	0.00**
Age	0.07	0.04	4.51	0.05*
Study demands on				
Age	-0.00	0.05	-0.03	0.98
Study resources				
Age	0.18	0.04	4.51	0.00**

** $p < 0.01$ * $p < 0.05$

For the portion of the model predicting life satisfaction, Table 5 indicates that the path coefficients of study resources ($\beta = 0.39$, $p < 0.01$), study demands ($\beta = -0.17$, $p < 0.01$), and age ($\beta = 0.07$, $p < 0.05$) were statistically significant and had the expected signs. Life satisfaction had a positive relation with study resources, a negative relation with study demands and a positive relation with age.

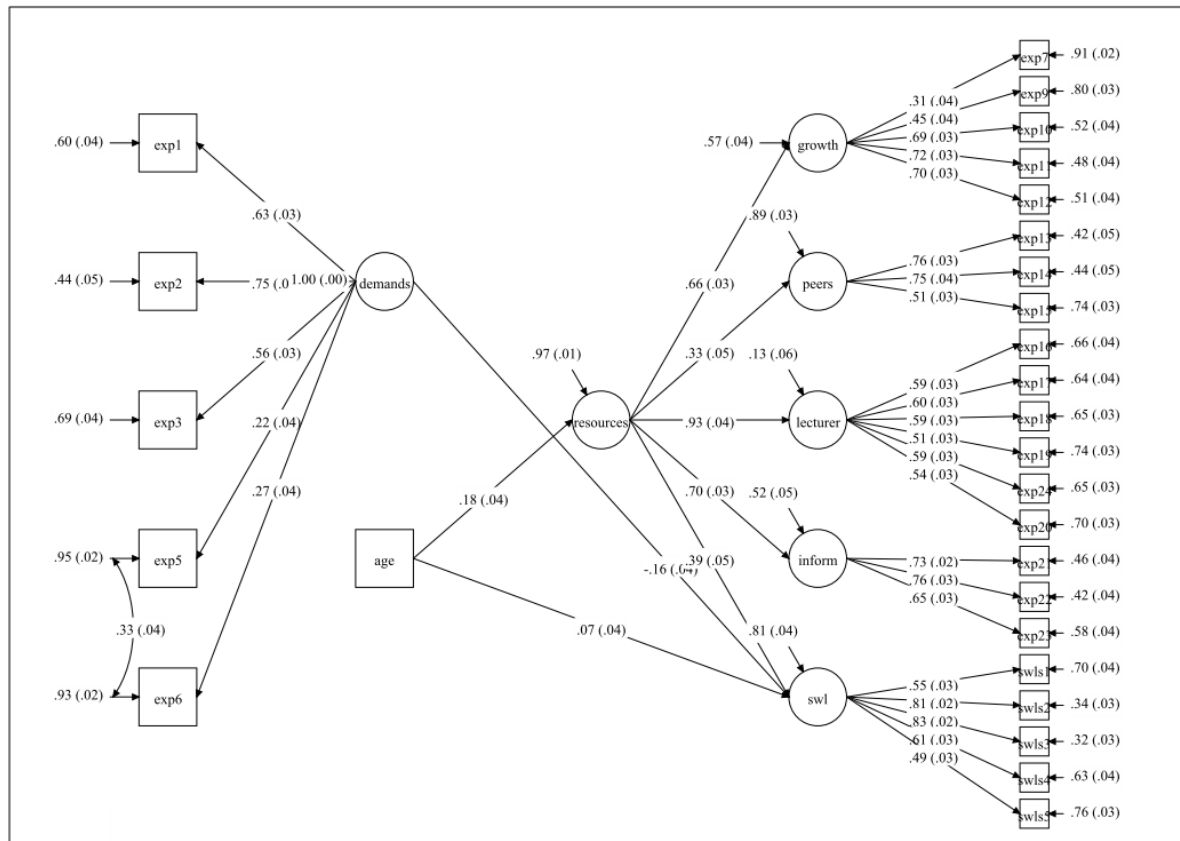


Figure 1. The structural model of study demands, study resources and satisfaction with life

The MLR-estimated equation accounted for a large proportion of the variance in life satisfaction ($R^2 = 19.3$). Hypotheses 2 and 3 are supported. Table 5 indicates that the path coefficient of age was statistically significant for study resources ($\beta = 0.18$, $p < 0.01$). Age was positively associated with experiences of higher study resources. Hypothesis 4 is partially supported.

Discussion

The aim of the study was to validate a measure study demands and resources for first-year university students. The results showed that the SDRQ is a reliable and valid measure of study demands and resources. Results indicated that the relationship between each observed variable and its respective construct was statistically significant. Reliabilities of the constructs were acceptable (> 0.70) except for study load (0.61). It can therefore be concluded that the SDRQ measures what it is supposed to measure with regard to both study demands and resource, and is a reliable measure of study demands and resources. Study resources had a positive relationship with satisfaction with life, while study demands had a negative

relationship with satisfaction with life. A relationship between age and satisfaction with life was also established. A positive relationship was also established between study resources and age.

Results showed that study demands are mainly determined by having too much work to do, working under pressure, and having to work extra hard to complete tasks associated with studies. It can therefore be interpreted that, besides having too much work to do, with related deadlines, students have to put extra effort in order to complete tasks associated with their studies. These results are in line with Modipane's (2011) study, where too much work coupled with the difficulty of accessing information as study demands, were cited as a challenge for students. The impact of this challenge also proved to be a negative experience for students in Modipane's (2011) study, as students complained of heavy workloads.

If job demands such as work pressure and workload contribute to psychological strain (Ramsden, 1979), the same can be expected for students, who consequently cannot be expected to be satisfied with their lives. Study demands (i.e. workload difficulty) have been found to significantly affect the decision to stay or drop an academic course (i.e. module as is commonly currently named (Babad, Icekson, & Yelinek, 2008)). Such a decision by students suggests that, study demands, if perceived to be difficult, will be seen as a hurdle towards academic goals. It can be expected that students who perceive high study demands will consequently not be satisfied with their lives.

Students need matching resources to enable them to contend with having too much work to do and associated deadlines, and having to work extra hard to get through their tasks. If students are to reach their academic goals, study demands must be accompanied by relevant study resources. The argument is that, without lecturer and peer support, access to relevant and important information related to studies, as well as tasks that promote opportunities for growth and development by encouraging independent thought and action, students cannot be expected to withstand the impact of study demands. Consequently, students could not be expected to be satisfied with their lives. Results show that lecturer and peer support, opportunities for growth, as well as access to information that is relevant to their studies, serve as appropriate resources for students. These results are in line with the results of Kember's (2004) study.

In this study, results also showed that lecturer support consists mainly of being able to discuss problems associated with studies with them, being clearly knowledgeable of their expectations, getting sufficient feedback on studies from the lecturers. If lecturers discuss the set standards for the associated modules, guide students through their expectations, allow students to discuss problems with them whenever they arise, students can be expected to withstand the study demands faced by them, and thereby be successful in achieving their academic goals. Lecturers are thus a critical resource for the students. The critical importance of lecturers is echoed in the studies of Douglas, Douglas, and Barnes (2006), as well as Kember (2004).

The results showed that opportunities for growth provided by studies was determined mainly by studies that enabled one to feel that they can achieve, grow and develop, as well as having independent thought and action. If students can be provided with opportunities for independent thought and action, as well as for personal growth and development, and be made to believe that they can achieve something out of their studies, it can be expected that such students can achieve their academic goals. The importance of tasks that developed student creativity and talents were indicated by Brinkworth, McCann, Matthews, and Nordstrom (2009). The important role of the lecturers in enabling this growth is highlighted by Astin (1993), whose findings showed that student-lecturer interaction had positive correlations with every self-reported area of intellectual and personal growth.

Results also showed that peer support was determined by being able to count on fellow students for help when in need, as well as getting on well with them. Peer support has also been found to be an important resource in Steginga, Pinnock, Gardner, Gardiner, and Dunn's (2005) study. Peers are important as a resource for students in that they are seen as 'being in the same boat' and of the same age group, and therefore 'understanding the situation': the frustrations, problems and difficulties associated with the subject matter. The advantage of peers is that, not only are they able to assist in dealing with academic matters, they can also assist with social issues.

Accessibility to information associated with studies has been showed in this study to consist mainly of having an institution with a clear decision-making process; being kept adequately up-to-date about issues within the institution, as well as knowing as to whom to approach within the institution should specific problems associated with studies arise. Having readily

available information about their studies enables students to function well within the institution: knowing their rights and obligations, dos and don'ts, procedures to follow when problems arise, as well as whom to contact regarding specific problems and help needed. The importance of accessibility to information is also showed in Rothmann and Welsh's (2013) study where accessibility of information enabled individuals to plan their schedules and know where to go if problems arose.

Making information accessible by an institution paints a picture of a caring institution. If students believe that the institution cares about them by making information accessible, provide studies that provide opportunities for growth and development, besides having lecturers and peers that are supportive, it can be expected that students will enjoy their studies more and be more committed in their studies. In turn, these students can be expected to reach their academic goals, and consequently be satisfied with their lives.

Findings point to age not having a positive association with experiences of higher study demands. These findings are in contradiction with the findings of Barkhuizen, Roodt, and Schutte (2014) that older persons experienced a higher level of job demands than younger ones. Findings also point to age having a positive association with experiences of higher study resources. Experiences of higher study resources could be explained by the assumption that older persons have been found to be more motivated and better able to be involved in innovation-related behaviour (Ng & Feldman, 2013). A positive association was also established with age and life satisfaction. Life satisfaction has been found to be stable across the age groups despite a decline in resources (Diener, et al., 1999). The assumption could be that, as one matures, a person comes to accept imperfections in one's life, and comes up with different strategies of dealing with life challenges. Contradictory to Jankowski's (2012) findings, satisfaction with life was significantly related to age.

With regard to the relationships amongst study demands, study resources and satisfaction with life, results showed that a positive relationship between study resources and satisfaction with life, whilst a negative relationship between study demands and satisfaction with life existed. As studying at a university is regarded as a time of heightened psychological distress (Bewicka, Koutsopoulou, Miles, Slaa, & Barkham, 2010), the provision of abundant resources to support the students throughout their studies as well as the introduction of

effective interventions that can assist students to reach their academic goals, and in turn, be satisfied with their lives.

In order for students to succeed, students must be both challenged (provided with educational experiences that foster learning and personal development) and supported (provided with a campus climate that helps students learn and develop), Sanford (1962, in Ishler, 2003) suggests. If studies can provide opportunities for growth and development to students, important and relevant information related to their studies is accessible, support from both lecturers and peers are forthcoming, we can expect students to be satisfied with their lives. It can therefore be interpreted that the presence of relevant and important resources in one's life leads one to describe conditions of their life as excellent, having had the most important things that they want in their lives. Good lecturers encourage their students by being inspiring, enthusiastic, caring, supportive, and liberal with feedback besides continually asking students to articulate their thought processes, explain their reasoning as well as monitor their level of understanding (Wood & Tanner, 2012). If such resources are ample, study resources may be reduced (Fourie et al., 2008). A conclusion can therefore be drawn to the effect that the availability of study resources leads to satisfaction with life. This conclusion is in support of Mahanta and Aggarwal (2013), whose findings indicated that students with more social support, besides other resources, social support, the higher their satisfaction with life.

Having too much work to do, working under pressure, and having to work extra hard to complete tasks associated with studies without the necessary support from lecturers and peers, with no access to important and relevant information, whilst the studies themselves do not provide opportunities for growth and development, students cannot be expected to describe conditions of their life as excellent and/or close to being ideal. A conclusion can therefore be made that study demands are negatively related to satisfaction with life.

In line with COR theory (Hobfoll, 1989), given study demands, students use study resources to cope with their studies. Access to relevant and important information, opportunities for growth and development provided by the studies, lecturer and peer support enable first-year students to survive the rigors of university life. Students thus value these resources as they can also aid them to acquire other resources and enhance their satisfaction to life. As Muraven and Baumeister, (2000) indicate, resources thus allow students with more

opportunity to respond and regulate behaviours associated with their studies and to position themselves in ways that ensure success in achieving their academic goals.

The study is not without limitations. The study is quantitative and cross-sectional. An in-depth insight into first-year students' experiences could be provided by a qualitative study with regard to demands and resources related to their studies, and satisfaction with life. Universities could then provide custom-made solutions to negative student experiences, and therefore promote their subjective well-being.

Despite the limitations, this study's contribution to knowledge regarding first-year university student experiences is that a relationship exists amongst study demands, study resources and satisfaction with life; a positive relationship between study resources and satisfaction with life exists, while a negative relationship between study demands and satisfaction with life also exists. For students to be satisfied with their lives, they need institutions of higher learning to be sensitive to their need for nurturing lecturers, co-operative and supportive peers, module content that encourages independent thought and action, as well as opportunities for growth, in order to can cope with study demands associated with their studies.

Recommendations

Recommendations regarding study demands and resources, in relation to satisfaction with life are made. In this study, study demands have been referred to a state of 'having too much work to do' with associated time pressure, and having to work extra hard to complete tasks associated with studies'. It is therefore critical that programmes that are structured in a way that provides students with opportunities for independent thought and action, as well as for personal growth and development, are provided.

In view of lecturers being key to education, universities should coach lecturers on how to be supportive and nurturing to first-year students, especially under-prepared first generation students. This suggestion is in view of growth opportunities not existing in isolation. Effective lecturers provide opportunities for growth, independent thought and action, both within and out of classes, through interaction with their students. This is consistent with Buys and Rothmann's (2009) finding that growth opportunities correlated positively with support

experienced. Lewis (2001, in Hartman & Darab, 2012), Dean for the Undergraduate School at Harvard University, advocates that to extract the best from university life and to engage in creative thinking, students need to do less and to factor leisure in their activities. This suggestion promotes positive thoughts towards studies and satisfaction with life.

Social support is an essential ingredient for first-year university students. With regard to lecturer support as a critical resource, it is recommended that lecturers always ensure that their expectations at the onset of each semester are well stated, provide guidance and help whenever students meet with challenges arising from studies, besides getting on well with students. Orientation week should put more emphasis on study skills and academic achievement, as well as the promotion of study groups (McKenzie & Schweitzer, 2010). Peer support seems to be a positive factor in enabling students to cope with their studies. These suggestions are aimed at promoting positive thoughts towards studies and satisfaction with life. To conclude, it is therefore recommended that effective resources be provided in abundance in order to enable first-year students to withstand study demands associated with their studies, reach their academic goals, and in turn be satisfied with their lives.

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CHAPTER 4

MANUSCRIPT 3

A Structural Model of Student Well-Being

Abstract

The aim of this study was to test a structural model of study demands and resources, student burnout, engagement, health and satisfaction with life. A cross-sectional survey was used with first-year students in higher education institutions in South Africa ($N=936$). The Study Demands and Resources Questionnaire, Oldenburg Burnout Inventory, Health Questionnaire and Satisfaction with Life Scale were administered. The results showed that study demands and a lack of study resources (including the intrinsic nature of study tasks, relationships with lecturers and social support of peers) were positively associated with burnout. The availability of study resources was positively associated with psychological well-being and engagement. Burnout predicted psychological unwell-being symptoms, while engagement predicted satisfaction with life. Burnout partially mediated the relationship between a lack of study resources and psychological unwell-being, while engagement partially mediated the relationship between the availability of study resources and satisfaction with life.

Keywords: Study demands, study resources, burnout, engagement, health, satisfaction with life.

Positive higher education institutions require students who are healthy and well (Oades, Robinson, Green, & Spence, 2011). However, student life has been reported to be demanding, difficult, and time-and-effort intensive; a path strewn with competing demands and unrealised expectations (Offstein, Larson, McNeill, & Mwale, 2004). First-year students at universities are often underprepared for the demands of higher education (Kupfer, 2011). Not surprisingly, the first-year university student dropout rate in South Africa is 40% (Macgregor, 2007), while the graduation rate is 15% (Letseka & Maile, 2008). Students in their first year might face unfamiliar territory characterised by high study demands (Salanova, Schaufeli, Martinez, & Bresó, 2010) and when they lack resources, they might lack motivation and feel disconnected (Reeve, Shumaker, Yearwood, Crowell, & Riley, 2013).

Various studies have been conducted regarding the well-being of academics at higher education institutions (Barkhuizen & Rothmann, 2008; Barkhuizen, Rothmann, & Van de Vijver, 2014). However, studies on burnout and engagement of students as well as antecedents and outcomes thereof in the South African context are scarce (Aypay & Eryilmaz, 2011; Rostami, Abedi, & Schaufeli, 2012). It is important that first-year students' burnout and engagement be investigated to identify associating factors and to propose interventions to promote their well-being (Bakker, Albrecht, & Leiter, 2011). Institutions can play a positive role in the well-being of students by providing appropriate and timely support and resources; thereby minimising possibilities of student burnout and ill health, whilst increasing their engagement and satisfaction with life (Woosley & Miller, 2009; Woosley & Shepler, 2011). The aim of this study was to test a structural model that identifies relationships between study demands and resources, burnout, engagement, health and satisfaction with life for first-year students at higher education institutions.

The Study Demands-Resources Model

The Study Demands-Resources (SD-R) model can be used to understand the effects of study characteristics on the well-being of students. The SD-R model, which is based on the Job Demands-Resources model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), assumes that study characteristics may evoke two psychologically different processes, namely an energetic process of wearing out which high study demands exhaust students' energy, and a

motivational process in which lacking resources preclude dealing effectively with study demands and foster mental withdrawal.

Concerning the *energetic process*, mental fatigue is a response of the mind and body to the reduction in resources due to mental task execution. It warns of the increasing risk of performance failure (Schaufeli & Bakker, 2004). When a student is working under high levels of (perceived) workload and is already fatigued (e.g., at the end of a day), extra energy to compensate for fatigue has to be mobilised through mental effort in order to maintain study performance. The mobilisation of extra energy may result in more fatigue, and incomplete recovery from study demands may lead to chronic effects on students' health and well-being. The negative effects of study demands on students' energy levels are amplified when they lack resources.

Concerning the *motivational process*, a lack of study resources plays an important role in the reduction of motivation or withdrawal from studying (Schaufeli & Bakker, 2004). Such reduction in motivation can be an important self-protection mechanism that may prevent future frustration of not obtaining study-related goals. When the external environment lacks resources, individuals cannot reduce the potentially negative influence of study demands and they cannot achieve their study goals. In such a situation, students will experience a loss of resources or failure to gain an investment (Hobfoll, 1989, 2001). Moreover, in order to reduce this discomfort or stress, students will attempt to minimise losses. With the intention of achieving equity without further negative, personal consequences, they will most probably reduce their discretionary inputs. In contrast, the availability of resources will result in an increase in motivation and engagement in studies.

Study demands refer to study conditions that potentially evoke stress reactions when they overwhelm students' personal limits (Demerouti, Bakker, Nachreiner, & Schaufeli, 2000). Study demands encompass the 'work load' students have to contend with, which is accompanied by time pressure as deadlines have to be met to succeed with their study-related goals (Kember, 2004). Students who are challenged by study demands, but who do not feel overloaded, succeed in adjusting to higher education (Sommer & Dumont, 2011). The following factors contribute towards making students vulnerable in achieving their academic goals, namely the academic and social unpreparedness of many first-year students, a poor socio-economic background coupled with poor-quality schooling which denies them the

requisite social and academic skills for coping with higher education, and having to study in a medium of instruction which is not their home language (Jama, Mapesela, & Beylefeld, 2008; Maitland & Lemmer, 2011).

Study resources refer to those enabling factors that promote engagement of students and protect them against exhaustion and disengagement (Demerouti & Bakker, 2011). In both the energetic and motivational processes, resources are seen as the key to optimal human functioning (Bono, Glomb, Shen, Kim, & Koch, 2013). The role of study resources in students' health and well-being can be explained by Hobfoll's (2001) Conservation of Resources (COR) theory. Underlying this theory is the notion that people strive to attain and protect their resources (Morelli & Cunningham, 2012). This study focuses on three study resources which could affect the energy and motivation of students, namely the nature of the task, lecturer relations, and social support of peers.

The nature of tasks performed by students is an important resource that could affect their well-being. The amount of autonomy students have, performing a variety of tasks, having opportunities for personal growth, getting feedback regarding their results, and the significance of tasks could affect critical psychological states such as meaningfulness of tasks, responsibility and knowledge of results (Hackman & Oldham, 1980; Wrzesniewski, 2012). Individuals who perform challenging tasks experience more engagement (Grant, 2008).

Good lecturer-student relationships have a positive effect on integration into student life in a higher education institution (Kember, 2004; Ngidi, 2007). Van den Berg (2012) found that students need lecturers' academic leadership, guidance and presence. Reeve et al. (2013) reported that few students trust lecturers when they are in trouble, count on lecturers when they need help, and depend on lecturers when they feel stressed or depressed. These results show the importance of the availability of lecturers as sources of support and guidance (Chang, 2005). Lecturers should develop trusting relationships with students and serve as assets in their social support system (Reeve et al., 2013).

Higher educational institutions need to recognise the importance of social support of peers for managing the effects of stress and promoting the well-being of students (Jacklin & Le Riche, 2009; Reeve et al., 2013). Peer support is seen as one of the variables that promote the

academic and social integration of students in higher education (Tinto, 1997). Student-student relationships have positive effects in helping students cope with their work. Working together seems to provide the opportunity to help each other understand difficult concepts.

The SD-R model predicts that study demands and resources will affect the burnout and engagement of students. *Burnout* is a psychological syndrome in response to stressors related to tasks (Demerouti, Bakker, Nachreiner, & Ebbinghaus, 2002). Burnout is characterised by exhaustion and a cynical and detached attitude towards studies, associated with high study demands and a lack of resources (Aypay & Eryilmaz, 2011; Dahlin, Joneborg, & Runeson, 2007; Salanova et al., 2010). For institutions of higher learning, burnout is related to negative outcomes (e.g. depression, a sense of failure, fatigue, and a loss of motivation) for the individual first-year student, but also for the institution itself (e.g. dropouts and lower performance).

Engagement is defined as a positive, fulfilling state and consists of being energetic and dedicated towards studies (Schaufeli & Bakker, 2004). When students regard their studies as being interesting and providing fun, it can be reasonably expected that this intrinsically motivated behaviour should lead to the achievement of academic goals and the student-engagement experience (Stoeber, Childs, Hayward, & Feast, 2011). The concept *engagement* embodies the competency to do study-related tasks, and enthusiastically so, as well as the will to do so because of students' dedication to their studies. Research (e.g. Rothmann & Joubert, 2007; Rothmann & Rothmann, 2010) showed that engagement is strongly associated with the availability of (study) resources and not with demanding tasks.

Based on the above discussion, the following hypotheses are formulated:

Hypothesis 1: Study demands are positively associated with burnout.

Hypothesis 2: A lack of study resources is positively associated with burnout.

Hypothesis 3: The availability of study resources is positively associated with engagement.

Causal relationships between demands, a lack of resources, burnout and psychosomatic complaints have been found in study and work contexts (Aronsson & Gustafsson, 2005; Michie & Williams, 2003). A longitudinal study by Hakanen and Schaufeli (2012) showed that burnout leads to depressive symptoms, rather than vice versa. Burnout results from threats (e.g. perceived high demands and low resources). This affects a student's energetic

resources and/or actual loss of these resources after investing in studies without gains in return (Shirom, 2003). Initial resource loss might lead to loss spirals, i.e. to future losses of other resources and might spill over to physical ill health and psychological unwell-being (Hobfoll & Shirom, 2001). According to the SD-R model, study demands and a lack of study resources are directly associated with burnout and affect ill health indirectly via burnout.

Based on the above discussion, the following hypotheses are formulated:

Hypothesis 4: Burnout is positively associated with ill health.

Hypothesis 5: Study demands indirectly affect ill health via burnout.

Hypothesis 6: A lack of study resources indirectly affects ill health via burnout.

Satisfaction with life refers to a cognitive evaluation of the quality of one's life (Diener, Emmons, Larsen, & Griffin, 1985). According to Stubbe, Posthuma, Boomsama, and De Geus (2005), 38% of the variance of self-report responses on life satisfaction is attributable to heritability, while the remaining variance is attributed to environmental factors and measurement error. Feeling positive and engaged may be considered a surplus resource resulting from the availability of study resources. Those who possess resources are likely to gain more resources over time (Hobfoll, 2001). Engagement is associated with opportunities for students to apply their strengths and experience psychological meaningfulness, safety and self-efficacy (Kahn & Heapy, 2014; Rothmann & Welsh, 2013). Therefore, study engagement further increases context-free well-being by positively influencing life satisfaction. Previous research (Rothmann, 2013) showed that engagement is a strong predictor of life satisfaction. Hakanen and Schaufeli (2012) found that engagement predicted life satisfaction rather than vice versa.

Based on the above discussion, the following hypotheses are formulated:

Hypothesis 7: Engagement is positively associated with satisfaction with life.

Hypothesis 8: Study resources indirectly affect life satisfaction via engagement.

Method

Participants

A convenience sample of first-year students ($N = 936$) in three institutions, namely North-West University – Mafikeng Campus ($n = 581$), North-West University – Vaal Triangle Campus ($n = 122$), and University of Zululand ($n = 233$) participated in the study. The characteristics of the participants are provided in Table 1.

Table 1

Characteristics of the Participants

Item	Category	Frequency	Percentage
Gender	Female	602	64.31
	Male	308	32.90
	Missing	26	2.77
Age	20 years and younger	441	47.11
	21-25 years	313	33.44
	26-30 years	73	7.79
	31-35 years	43	4.59
	36 years and older	25	2.67
	Missing	41	4.38
Marital status	Single	865	92.41
	Married	58	6.19
	Widowed	1	0.11
	Divorced	7	0.74
	Missing	5	0.53

Instruments

An adapted version of the *Oldenburg Burnout Inventory* (OLBI; Halbesleben & Demerouti, 2005) was used to measure student burnout and engagement. The term “work” was replaced by the term “study” in the adapted OLBI. Burnout was measured by six items, e.g. “I feel tired when I get up in the morning and have to face another day at the university”. Engagement was measured by nine items, e.g. “I always find new and interesting aspects in

my studies”. A Likert scale ranging from 1 (*totally disagree*) to 4 (*totally agree*) was used. The OLBI has been found to be a reliable and valid measure of burnout and engagement in work context (Halbesleben & Demerouti, 2005). Mokgele (2014) found the following alpha coefficients for the scales of the OLBI: burnout = 0.68 and engagement = 0.80.

Three scales of the *Study Demands and Resources Questionnaire* (SDRQ; Mokgele, 2014) were used to investigate study demands and resources for participants. Study demands were measured by three items, e.g. “Do you have too much work to do?” Three study resources, namely lecturer support (eight items, e.g. “Can you count on your lecturer when you run into difficulties in your studies?”), peer support (three items, e.g. “Can you count on fellow students when you run into difficulties in your studies?”), and the intrinsic nature of the task (five items, e.g. “Do your studies offer you the opportunity for growth and development?”), were included in this study. A Likert scale ranging from 1 (*never*) to 4 (*always*) was used. Latent variable modelling confirmed the construct validity of the SDRQ (Mokgele, 2014). The following reliability coefficients were reported for the three scales: lecturer support = 0.73, peer support = 0.72 and intrinsic nature of the task = 0.72.

The *Health Questionnaire* (HQ; Jackson, Rothmann, & Van de Vijver, 2006) was used to determine health-related symptoms experienced by participants. This questionnaire consists of two scales, namely physical symptoms of stress (four items; e.g. “Over the last three months, have you experienced headaches?”) and psychological unwell-being because of stress-induced mental ill health (eight items; e.g. “Over the last three months, have you felt unable to cope?”). A Likert scale ranging from 1 (*never*) to 4 (*often*) was used. Jackson et al. (2006) found alpha coefficients of 0.78 and 0.88 for the physical ill health and psychological unwell-being scales respectively.

The *Satisfaction with Life Scale* (SWLS, Diener et al., 1985) was used to measure how satisfied participants were with their lives. The SWLS consists of five items (e.g. “In most ways, my life is close to my ideal”). The participants choose from a rating of 0 (*strongly disagree*) to 6 (*strongly agree*). According to Pavot and Diener (2008), various subsequent studies supported the one-factor solution for the SWLS. Studies confirmed the internal consistency of the SWLS, with alpha coefficients varying from 0.79 to 0.89 (Pavot & Diener, 2008).

Procedure

The sample of first-year students was drawn from mandatory first-year module classes in order to avoid duplication of participants. Self-reporting questionnaires were administered to those who presented themselves and agreed to participate in the study. Participants were fully informed regarding the procedure, goal and outcomes of the study. Participation was voluntary and informed consent was obtained. The research project was approved by the Ethics Committee of the North-West University.

Data Analysis

The analysis of the data was carried out by means of Mplus version 7.11 (Muthen & Muthen, 2012). Items of the questionnaires were defined as categorical and the weighted least squares with corrections to means and variances (WLSMV) were used as estimator. The following indices produced by Mplus were used in this study: a) absolute fit indices, including the chi-square statistic, which is the test of absolute fit of the model, and the Root-Means-Square Error of Approximation (RMSEA); b) incremental fit indices, including the Tucker-Lewis Index (TLI) and the Comparative Fit Index (CFI) (Hair, Black, Babin, & Andersen, 2010), and c) the Akaike Information Criterion (AIC) and Bayes Information Criterion (BIC). TLI and CFI values higher than 0.90, are considered acceptable. RMSEA values lower than 0.08 indicate an acceptable fit between the model and the data (Hair et al., 2010). The calculation of latent variable scores violates the assumption of tau equivalence (required for alpha coefficients). Therefore reliabilities (ρ) of scales were computed by means of a formula based on the sum of squares of standardised loadings and the sum of standardised variance of error terms (Wang & Wang, 2012).

Results

Next, the results are reported. First, the results of tests of competing measurement models are reported. Second, the results of tests of alternative structural models are reported.

Testing Measurement Models

Four measurement models were tested. Model 1 consisted of five latent variables, namely a) study demands (measured by three observed variables); b) study resources, consisting of three latent variables, namely intrinsic nature of the study (measured by five observed variables), peer support (measured by three observed variables) and lecturer relations (measured by nine observed variables); c) burnout (measured by six observed variables); engagement (measured by nine observed variables); d) ill health (measured by 12 observed variables), e) satisfaction with life (measured by five observed variables). All the latent variables in model 1 were allowed to correlate.

Models 2, 3, and 4 followed the same template; model 2 was specified with 17 observed variables measuring study resources (without the three first-order latent variables, namely intrinsic nature of the study, peer support and lecturer relations); model 3 was specified with 15 observed variables measuring study well-being (without the two first-order latent variables, namely burnout and engagement); model 4 was specified with a second-order latent variable for ill health consisting of two first-order latent variables, namely physical ill health (measured by four observed variables) and psychological unwell-being (measured by eight observed variables).

Table 2 presents the fit statistics of the various models.

Table 2

Fit Statistics for the Competing Measurement Models

Model	χ^2	<i>df</i>	CFI	TLI	RMSEA	AIC	BIC
Model 1	3168.60	1196	0.90	0.90	0.04	109844.89	111040.77
Model 2	4149.09	1209	0.86	0.85	0.05	110449.17	111582.10
Model 3	3450.37	1203	0.89	0.88	0.05	110223.14	111385.13
Model 4	2977.25	1200	0.91	0.91	0.04	109767.90	111002.51

Comparison of the fit indices indicates that model 4 fitted the data best. The χ^2 (1200, $n = 936$) = 2977.25 of the hypothesised model was statistically significant ($p < 0.001$), but the

other fit indices indicated good fit of the model to the data: CFI = 0.91, TLI = 0.91, RMSEA = 0.04. Standardised coefficients from items to factors ranged from 0.36 to 0.91. The results indicated that the relationship between each observed variable and its respective construct was statistically significant ($p < 0.01$).

Testing the Structural Model

Reliabilities of and correlations between study demands and resources, burnout, engagement, health and satisfaction with life are reported in Table 3.

Table 3

Reliabilities and Correlations of the Scales

Variable	ρ	1	2	3	4	5	6
1 Study demands	0.75	-	-	-	-	-	-
2 Study resources	0.92	0.08	-	-	-	-	-
3 Burnout	0.69	0.23**	-0.50**	-	-	-	-
4 Engagement	0.88	-0.02	0.67**	-0.62**	-	-	-
5 Satisfaction with life	0.83	-0.11**	0.48**	-0.33**	0.47**	-	-
6 Physical ill health	0.70	0.32**	-0.11*	0.17**	-0.11**	-0.25**	-
7 Psychological unwell-being	0.87	0.39**	-0.30**	0.45**	-0.34**	-0.35**	0.69**

* $p < 0.05$

** $p < 0.01$

Table 3 shows that the reliabilities of the constructs were acceptable, compared to the guideline of 0.70 (Wang & Wang, 2012). The reliability of the scale which measured burnout in this study was just below the recommended cut-off value of 0.70. The results regarding burnout should thus be interpreted with caution. Statistically significant ($p < 0.01$) relationships exist between all the variables, except study demands and engagement as well as study demands and resources.

The measurement model formed the basis of the structural model. The hypothesised relationships shown in the model were tested, using latent variable modelling as implemented by Mplus (Muthen & Muthen, 2012). An acceptable fit of the model to the data was found: $\chi^2 = 2966.20$, $df = 1203$, TLI = 0.91, CFI = 0.91, and RMSEA = 0.04. Table 4 shows the standardised regression coefficients estimated by Mplus for the structural model. Figure 4 shows the structural model.

Table 4

Standardised Regression Coefficients of the Variables

Variables	Estimate	SE	Est/SE	<i>p</i>
Burnout on				
Study demands	0.23	0.04	5.21	0.00**
Study resources	-0.50	0.04	-11.23	0.00**
Engagement on				
Study resources	0.68	0.03	22.41	0.00**
Physical ill health on				
Study demands	0.30	0.05	6.24	0.00**
Study resources	-0.08	0.06	-1.37	0.17
Student burnout	0.08	0.06	1.28	0.20
Psychological unwell-being on				
Study demands	0.32	0.04	8.43	0.00**
Study resources	-0.16	0.05	-3.09	0.00**
Burnout	0.34	0.05	6.61	0.00**
Satisfaction with life on				
Study demands	-0.06	0.05	-1.25	0.21
Study resources	0.28	0.06	4.34	0.00**
Burnout	0.06	0.07	0.83	0.41
Engagement	0.27	0.07	3.99	0.00**
Physical ill health	-0.10	0.07	-1.54	0.12
Psychological unwell-being	-0.12	0.07	-1.60	0.11

** $p < 0.01$

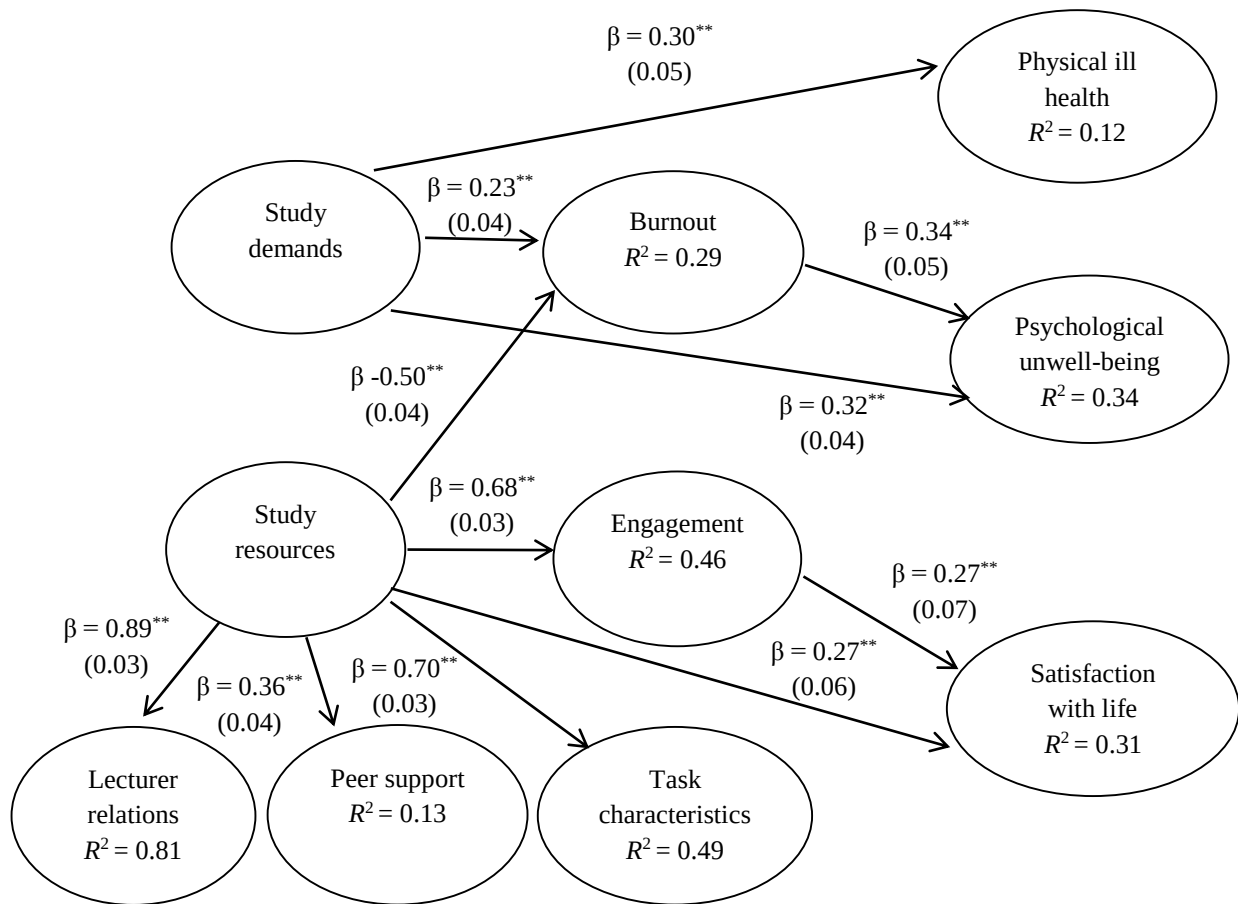
For the portion of the model predicting burnout, Table 4 indicates that the regression coefficient of study demands ($\beta = 0.23$, $p < 0.01$) was statistically significant and had the expected sign. Burnout had a positive relation with study demands. Furthermore, the regression coefficient of study resources ($\beta = -0.50$, $p < 0.01$) was statistically significant and had the expected sign. Burnout had a negative relation with study resources. The WLSMV-estimated equation accounted for a large proportion of the variance in burnout ($R^2 = 0.29$). Hypotheses 1 and 2 are supported.

For the portion of the model predicting engagement, Table 4 portrays that the regression coefficient of study resources ($\beta = 0.68$, $p < 0.01$) was statistically significant and had the

expected sign. Engagement had a positive relation with study resources. The WLSMV-estimated equation accounted for a large proportion of the variance in engagement ($R^2 = 0.46$). Hypothesis 3 is supported.

For the portion of the model predicting physical ill health, Table 4 reveals that the regression coefficient of burnout ($\beta = 0.08, p > 0.01$) was not statistically significant. However, study demands were positively related to physical ill health ($\beta = 0.30, p < 0.01$). The WLSMV-estimated equation accounted for a medium proportion of the variance in physical ill health ($R^2 = 0.12$). For the portion of the model predicting psychological unwell-being, Table 4 shows that the regression coefficients of burnout ($\beta = 0.34, p < 0.01$), study demands ($\beta = 0.32, p < 0.01$) and study resources ($\beta = -0.16, p < 0.01$) were statistically significant and had the expected signs. The WLSMV-estimated equation accounted for a large proportion of the psychological unwell-being ($R^2 = 0.34$). Hypothesis 4 is partially supported.

For the portion of the model predicting life satisfaction, Table 4 indicates that the regression coefficients of study resources ($\beta = 0.27, p < 0.01$) and engagement ($\beta = 0.27, p < 0.01$) were statistically significant and had the expected signs. Life satisfaction had positive relations with study resources and engagement. The WLSMV-estimated equation accounted for a large proportion of the variance in life satisfaction ($R^2 = 0.31$). Hypothesis 7 is supported.



$^{**} p < 0.01$.

Figure 1. A structural model of student well-Being

The model shows WLSMV estimates for the hypothesised model of student well-being (standardised solution). *Note:* Only statistically significant paths are included in the figure.

Indirect Effects

To determine whether any relationships in the model were indirectly affected by study demands and resources, the procedure explained by Hayes (2013) was used. Bootstrapping was used to construct two-sided bias-corrected 95% confidence intervals (CIs) so as to evaluate indirect effects. Lower and upper CIs are reported (see Table 5).

Table 5

Indirect Effects of Study Demands and Resources

Variable	Estimate	SE	95% BC CI	
			Lower	Upper
Study demands				
Physical ill health	0.02	0.02	-0.02	0.05
Psychological unwell-being	0.08*	0.02	0.03	0.12
Study resources				
Physical ill health	-0.04	0.04	-0.11	0.03
Psychological unwell-being	0.17*	0.02	-0.24	-0.09
Satisfaction with life	0.18*	0.05	0.08	0.28

Note: SE = standard error; 95% BC CI = 95% bias-corrected confidence intervals

$p < 0.01$

Regarding the indirect effects of study demands, the 95% CIs for psychological unwell-being did not include zero. Hypothesis 5 is partially supported: job demands impact psychological unwell-being via burnout. Regarding the indirect effects of study resources on psychological well-being and satisfaction with life, the 95% CIs did not include zeros. Therefore study resources indirectly affect psychological unwell-being via burnout, as well as satisfaction with life via engagement. Hypotheses 6 and 8 are supported.

The results suggest that the relationships posited in the model account for a substantial amount of the covariation in the data. The model accounts for 29% of the variance in burnout, 46% of the variance in engagement, 12% of the variance in physical ill health, 34% of the variance in psychological unwell-being, and 31% of the variance in satisfaction with life, lending more empirical support for the model's fit.

Discussion

The aim of this study was to test a structural model that identifies relationships amongst demands and resources, burnout, engagement, health and satisfaction with life for first-year students in higher education institutions. The results showed that study demands and lack of study resources were associated with burnout, while the availability of study resources was associated with engagement, psychological well-being and life satisfaction. Burnout

predicted psychological unwell-being symptoms, while engagement predicted satisfaction with life. Burnout partially mediated the relationship between study resources and psychological unwell-being, while engagement partially mediated the relationship between study resources and satisfaction with life.

In line with the predictions of the SD-R model, results showed that study demands (study conditions that evoke stress reactions when they overwhelm students' personal limits) were associated with burnout and physical ill health (Demerouti et al., 2001). Students who experience high study demands were more inclined to report physical ill health symptoms, such as headaches, feeling sick and muscle pains. Study demands are problematic, especially when students are academically and socially unprepared to participate in higher education, and when their coping skills have not been developed (Jama et al., 2008; Maitland & Lemmer, 2011). In line with findings of previous studies (e.g. Rothmann & Rothmann, 2010), demands and resources were not significantly related in this study. Therefore study demands might be associated with either high or low study resources.

Study demands and a lack of study resources were positively associated with burnout, which in turn, was positively associated with poor psychological well-being. Burnout mediated the relationship between study demands and resources and psychological unwell-being of students. Therefore students who experience high study demands and who lack study resources will become exhausted and cynical, which result in psychological unwell-being characterised by constant irritability, feeling unable to cope, avoiding contact with other people and mood swings (Sommer & Dumont, 2011). In line with the SD-R model, and COR theory (Hobfoll, 2001), study resources had a strong effect on the energy and motivation of students (Bono et al., 2013); the effect of study resources on burnout (i.e. the energetic process) was more than twice as strong as the effect of study demands. In addition, study resources were strongly associated with student engagement (i.e. the motivational process), while study demands were not statistically significantly related to student engagement.

Regarding specific study resources, supportive relationships with lecturers had the strongest effect on the energy and motivation of students. This was followed by the nature of study tasks, and the social support of peers. The relationship with a lecturer is an important resource for students (McGrath & Noble, 2010). If a student gets on well with his or her lecturers, knows what they expect, and can discuss problems with them, he or she will

experience less burnout and more engagement (Chang, 2005; Kember, 2004; Ngidi, 2007). However, given that lecturers themselves are at risk for developing burnout (Barkhuizen & Rothmann, 2008; Barkhuizen et al., 2014; Mostert, Rothmann, Mostert, & Nell, 2008), their relationships with students might suffer because they might distance themselves from their tasks and from students.

If students perceive that their study tasks are interesting and challenging and allow personal growth, they experience less burnout and more engagement (Hobfoll, 2001; Knoop, 2013). Task characteristics are associated with engagement in the sense that these characteristics affect immersion in study activities and fulfilment (Csikszentmihalyi, 1999). By structuring study tasks well, autonomy needs of students could be fulfilled (Deci & Ryan, 2008), and experiences of meaningfulness of tasks, responsibility and knowledge of results (Hackman & Oldham, 1980; Wrzesniewski, 2012) and intrinsic motivation, psychological well-being and engagement of first year students could increase (Klassen, Perry, & Frenzel, 2011).

Concerning social support of peers as a resource, the results showed that although it might be a useful resource, it did not make a strong contribution to resources (a second-order latent variable). Studies (e.g. Reeve et al., 2013; Rothmann, Jorgensen, & Marais, 2011) showed that social support is an important resource for preventing burnout and promoting engagement of most people. Despite the fact that social support of peers is an important resource for students, first year students might not be in a position to receive such support, because they are new to the university and their coping skills have not yet been developed well (Reeve et al., 2013).

Burnout was a strong predictor of psychological unwell-being in the structural model. The more exhausted and cynical students become, the less they are psychologically well. Furthermore, if students were disengaged, they experienced lower satisfaction with life (compared to their engaged fellow students). Engagement partially mediated the relationship between study resources and satisfaction with life.

In conclusion, the findings of this study confirm the important role played by resources in combating burnout and promoting psychological well-being, engagement and life satisfaction of first year students in higher education institutions. The availability of resources can promote student success in their studies, with consequential results of improving student

throughput in universities. Students who have appropriate resources and are engaged in their studies tend to be satisfied with their lives. If students do not know what their lecturers expect from them as far as their studies are concerned, do not know how their work will be assessed and cannot discuss their problems with lecturers, students will become less enthusiastic and increasingly talk negatively about their studies.

The study is not without limitations. A cross-sectional survey was used in this study, which makes it difficult to prove causal relationships between variables. However, support for the direction of the obtained relationships was found in various cross-sectional and longitudinal studies. Another limitation of the study was that the study relied exclusively on self-reports. Lastly, the sample used in this study was not representative of all students in higher education institutions.

Recommendations

Higher education institutions should provide workshops on stress-reducing skills and effective coping strategies, especially during students' orientation. They could promote the well-being of students and contribute to positive institutions by empowering lecturers to create challenging and engaging tasks and by promoting positive relationships between lecturers and students as well as among students (Reeve et al., 2013). There should also be follow-ups to these interventions during the year, in order to identify 'at-risk' students for timely remedial measures (Lowe & Cook, 2003). Lecturers should promote first year students' understanding of study demands and provide support and guidance to enhance their well-being. Lecturers should also discuss opportunities for autonomy and choice in assignments (Oades et al., 2011).

Longitudinal studies are needed to track the burnout and engagement of students over their study period. Studies are also needed on ways to build lecturer-student relationships and how to teach lecturers to encourage positive coping behaviours. Research is also needed to identify coping and savouring behaviours that work best for students.

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CHAPTER 5

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

The purpose of this chapter is to draw conclusions from this study. The aim of this study guided the conclusions drawn. Limitations of the study will be highlighted and recommendations made for improving student well-being, and for future research.

5.1 CONCLUSIONS

Various conclusions can be drawn, based on the results of this study.

Burnout and Engagement of First-year University Students

The first aim of this study was to investigate the burnout and engagement of first-year university students, and to assess the construct validity and reliability for a measure of burnout and engagement of students.

The study showed that the Oldenburg Burnout Inventory (OLBI) is a valid and reliable measure of first-year student burnout and student engagement. Engagement was reflected by the ‘vigour and dedication’ reported, burnout was reflected by ‘exhaustion and cynicism’. These results, although related to students and not employees, are in line with Qiao and Schaufeli’s (2011) findings. Although OLBI was originally designed to measure burnout, it has subsequently been validated as an instrument for measuring both burnout and engagement (Qiao & Schaufeli, 2011).

Results showed that students obtained higher mean scores on engagement than on burnout. This seems to be a positive step in view of the challenges of adjustment expected to be experienced by first-year students, especially those from socio-economically under-privileged backgrounds, as Herzog (2005) highlights the fact that freshmen today increasingly hail from first-generation, low-income, and ethnically diverse backgrounds. Furthermore, findings from this study regarding student engagement can be explained by Meyer, Spencer, and French’s (2009) qualitative study conducted by means of in-depth interviews with freshmen regarding their academic experience. The students reported that their initial perceptions exceeded their

actual experience. These perceptions could therefore be seen as having made these students to prepare and find ways to meet study demands to enable them to cope, and subsequently to increase their chances of experiencing engagement rather than burnout. As no other studies on first-year university student burnout and engagement measured by means of the Oldenburg Burnout Inventory could be traced for comparison, no support could be found or refute made from previous studies.

Parental socio-economic background and support played a role in the burnout and engagement of first-year university students. The ability of parents to pay for student residence and transport to and from university campus, the distance of which may dictate the frequency of home visits, is mainly related to the unemployment status of the parents. With South Africa's high level of unemployment which is said to be 25% in the first quarter of 2012, as well as the employment-to-population ratio of 40.9% (Statistics South Africa, 2012); the impact of parental support on university student burnout and student engagement, especially at first-year level, should be acknowledged and appreciated. This fact is highlighted by the Human Sciences Research Council's annual South African Social Attitudes Survey which indicates that the majority of South Africans report a lack of sufficient income to meet all their household needs (Davids, 2006).

Results showed that the place of residence for first-year students did not have a significant impact on student burnout and student engagement. Reasons that could explain the situation is that students from socio-economically under-privileged backgrounds may be so used to not having choices in many areas of their lives to such an extent that place of residence may be insignificant, as long as they have a roof over their heads and can achieve what they set out to do, i.e. availing themselves of the opportunity of studying at a university and thereby achieving the academic goals they have set for themselves. The adage that 'beggars can't be choosers' could be true regarding them. On the flipside, those students whose parents can be classified as the 'haves' will be able to afford to live at a place of their choice. Parental socio-economic background and support played a role in the burnout and engagement of first-year university students as results indicated that whom the person lives with during studies, distance between home and university campus, frequency of visits to home, and employment status of parents, had a significant effect on the combined variable burnout and engagement.

With whom one is living during one's studies is related to first-year students' burnout and engagement. Participants living with their parents and going home daily were found to be the least engaged. Such results could be explained by various reasons such as chores at home. Time and energy spent on household chores could overtake the time and energy needed for studies. Those living on their own enjoyed higher levels of engagement than those living with their parents. The situation could be explained by the autonomy (Bakker, Demerouti, & Euwema, 2005) that goes along with living on their own, thereby enabling them to concentrate only on their studies. They could have more time for their studies, and thus have more opportunities to immerse in and enjoy their studies.

Frequency of home visits contributed to burnout and engagement of first-year students. Students that went home only during recess experienced statistically significantly higher levels of engagement than those that went home daily. It can be inferred that students that went home during recess only, have more time to spend their energy working at their studies and have more opportunity to become more immersed in their studies without being distracted by home chores. It can therefore be inferred that those students living at home have chores to contend with when they reach home, besides their academic workload, and thereby spend less time and energy on their studies.

Distance between home and university had an impact on burnout and engagement of first-year students. Students whose homes are 120 km and further experienced statistically significantly higher levels of burnout while those living within the 30 km radius experienced statistically significant levels of engagement. If students live within the 30km radius of their campus, their chances of going home frequently are greater than those living beyond that perimeter, thereby being able to spend more time with family, the benefit of which could be support and motivation.

As was expected, the impact of university resources on burnout and engagement such as the adequacy of seating in lecture rooms and the frequency of library use during studies did not have a significant effect on the combined variable burnout and engagement in this study. Assumptions regarding these findings could be explained yet again by the disadvantaged socio-economic background and 'Basic Education' experiences, where having a chair to sit on alone could have been a privilege for some students on the one hand, whereas such facilities would always have been available to those coming from advantaged backgrounds,

on the other hand. Reynolds (2007) points to fairly high importance and satisfaction ratings given to the classrooms (i.e. lecture rooms), library, and technology facilities besides the facilities in a student's major, with regard to the choice of the institution for studies. It can therefore be inferred that the lecture rooms and libraries may play an important role in decision making with regard to institutional choice. Institutions of higher learning should therefore ensure that such facilities are adequate and effective in contributing towards student engagement.

Contrary to expectations, the frequency of library use had no effect on burnout and engagement of first-year students. In view of its pivotal role in the life of students, the library is expected to have an impact on student engagement and burnout. In any educational institution, the library provides students with information that enables them to contend with the demands in their studies. This finding could be explained by the easy access to information via the internet, thereby making "the need for and practical value of a physical repository for printed and other material less compelling" (Kuh & Gonyea, 2003, p. 256). With students being able to access journals, newspapers, magazines, study guides, notes, assignments, and can even communicate with their lecturers to seek help or clarification over the internet the frequent use of the library is compromised; it no longer holds a central position in the life of a student. Findings from Kuh and Gonyea's (2003) study conducted between 1984 and 2002 show that library experiences of undergraduates positively relate to educationally purposeful activities such as computing and information technology. They therefore concluded that students using the library frequently reflect a studious work ethic and engage in academically challenging tasks that require higher-order thinking. It can therefore be inferred that such students should experience engagement in their studies. There is unfortunately scarcity of studies with regard to what and how students' academic library experiences contribute to desired outcomes (Kuh & Gonyea, 2003).

Study Demands, Study Resources, and Life Satisfaction

The aim of this study was to validate a measure of study demands and resources for first-year students in higher education institutions in South Africa, as well as determine the relation among study demands, study resources and satisfaction with life. The study showed that the SDRQ is a valid and reliable measure of student demands and resources. The resource scales showed high internal reliabilities (> 0.70) whilst those for the demands scale were moderate

(0.61). Statistical significance was obtained in all variables. The results indicated that the relation between each observed variable and its respective construct was statistically significant ($p < 0.01$).

Findings also showed a positive relation between study resources and satisfaction with life, as well as a negative relation between study load and satisfaction with life. If job demands such as work pressure and workload contribute to psychological strain (Ramsden, 1979), students cannot be expected to be satisfied with their lives. Study demands, therefore, if perceived to be difficult, will be seen as a hurdle to academic goals and consequently, satisfaction with life.

Findings also found a positive relation between age, job resources and satisfaction with life. Although the relations were weak, perceptions of available job resources and life satisfaction seem to grow with age. The older students are, the more we can expect them to perceive job resources and to be satisfied with their lives. It can be assumed that maturity sets in and they come to terms with challenges in life and the available resources. These results are in line with Proctor, Linley, and Maltby's (2009) findings.

In the SDRQ, study load was strongly predicted by working under pressure, having too much work to do, and working extra hard. Working under pressure, having too much work to do, and working extra hard thus determine study load. It can therefore be expected that students would complain about study load when working under pressure, having too much work to do, and working extra hard. The findings are in support of Modipane's (2011) study, where findings point to too much work (study load). The more the first-year students work under pressure in their studies, have too much work to do and have to work extra hard to achieve study goals, the more they can be expected to perceive their study load to be heavy. If study demands are perceived to be difficult as a result of study load, they will be seen as a hurdle to academic goals. It can therefore be expected that such students will consequently not be satisfied with their lives.

Opportunities for growth provided by the studies was strongly predicted by studies that enabled one to feel that they can achieve, grow and develop, as well as to have independent thought and action. Growth provided by the studies also contributes to a nurturing climate that ensures that study goals are reached. These findings are in support of Brinkworth,

McCann, Matthews, and Nordstrom's (2009) findings. It is important for tasks associated with studies to develop student creativity and talents.

Peer support was strongly predicted by being able to count on fellow students when experiencing difficulties in one's studies, and asking for help from them when necessary. These findings are in support of Steginga, Pinnock, Gardner, Gardiner, and Dunn's (2005) study. Students' reliability on other students for help is based on the premise that they are in the same 'boat', and are therefore able to see challenges from the same perspective.

Lecturer support was strongly predicted by being able to discuss problems with the lecturer, being knowledgeable about lecturer expectations, and getting feedback on one's studies. These findings are in line with Douglas, Douglas, and Barnes (2006). Being guided by one's lecturers is central to the achievement of academic goals. If students know what lecturers expect of and from them, are informed of how they are performing with regard to their studies, are able to discuss ways of improving their work and how to overcome challenges facing them with their lecturers, it can then be concluded that lecturer support is available to such students.

Accessibility to information was strongly predicted by having an institution with a clear decision-making process; being kept adequately up-to-date about issues within the institution, as well as knowing as to whom to approach within the institution should specific problems associated with studies arise. These findings are in line with those of Rothmann and Welsh (2013). Accessibility to information enables individuals to plan their schedules and know where to go should problems arise. Students that are knowledgeable about how decisions are made and problems resolved, who the decision-makers are, as well as being able to keep abreast of developments regarding issues relevant to their studies should be regarded as being able to access information about their studies. Students would therefore know their rights and obligations: what, when, why, where and how. Students could therefore be expected to function well within the institution.

The study also showed that the Satisfaction with Life Scale (SWL) is a valid and reliable measure of life satisfaction for first-year university students. It was strongly predicted by students experiencing excellent conditions in one's life, being satisfied with one's life, as well as having the most important things in life. These findings are in line with those of

Diener, Emmons, Larsen, and Griffin (1985), as well as Pavot and Diener (1993). If students receive the necessary support from lecturers and peers, have access to information necessary for their studies, enjoy studies that provide opportunities for growth in order for them to face the demands presented by their studies, they can be expected to be satisfied with their lives.

Social support is imperative to academic success in education (Young, Johnson, Hawthorne, & Pugh, 2011). Positive relationships between lecturers and students should contribute to a nurturing climate that ensures that study goals are reached. It can therefore be concluded that resources enable first-year students to cope with the study demands facing them. It can therefore be expected that students can depend on lecturers for support during their studies as students will be informed of Lecturer expectations, and get feedback and information on matters related to their studies. Growth provided by the studies also contributes to a nurturing climate which ensures that study goals are reached. Information accessibility and being knowledgeable about rules, regulations, roles and expectations enables the students to be on top of their game. The study load faced by students can thus not be tackled without resources. The structural model developed and tested in this study showed the relation among study demands, study resources, and the life satisfaction of first-year university students, highlighting the importance of study resources in promoting life satisfaction.

The Student Well-being Model

The third aim of this study was to develop and test a structural model that identifies the relations among demands, resources, burnout, engagement, and health and life satisfaction for first-year university students. The model was conceptualized in order to assess the study demands and resources, burnout and engagement as possible mediators between these demands and resources, as well as the impact thereof on health and life satisfaction for first-year university students. The hypothesized relations were tested, using latent variable modelling as implemented in Mplus (Muthen & Muthen, 2012).

The results provided for a model in which study load impacted positively on physical ill health, psychological unwell-being, and burnout; burnout impacted positively on psychological unwell-being; study resources impacted negatively on burnout; study resources impacted positively on engagement, and life satisfaction; and engagement impacted positively on life satisfaction. An indirect positive relation was found between study load and

psychological unwell-being via burnout, while a negative relation existed between resources and psychological unwell-being via burnout. The results therefore confirm relations among demands, resources, burnout, engagement, and health and life satisfaction. Study demands and resources affect first-year university students' well-being and ability to cope with their studies.

Findings in this study emphasize the important role resources play regarding the well-being of first-year university students. The availability of resources was positively associated with student psychological well-being, students that experienced engagement, and were satisfied with their lives. For the model, resources focused on included the lecturer and peer support, as well as the nature of the task (i.e. studies that are interesting, offered variety as well as opportunities for personal growth and development). The lack of resources contributed to burnout and psychological unwell-being.

Resources had a strong effect on the engagement of these students. Student engagement was found to be positively predicted by student resources. A strong positive relation between job resources and engagement in this study is supported by the findings from studies by Bakker, Hakanen, Demerouti, & Xanthapoulou, 2007; Jackson, Rothmann, & van de Vijver, 2006; Mauno, Kinnunen, & Ruokolainen, 2007; Rothmann & Jordaan, 2006). The presence of required study resources matching the study load enabled students to experience engagement. It can therefore be concluded that for students to be immersed and energized in their studies, universities must provide relevant resources needed. Such action should translate to engaged students that will not drop out of their studies. Students therefore need an abundance of study resources in their studies in order to experience engagement. The benefit for the students as well as the institution is that engaged students have a sense of energetic and effective connection with their studies, and it can be expected that they also see themselves as being able to deal with their study demands, as is the position with employees (Schaufeli, Bakker, & Salanova, 2006).

If students receive adequate support from lecturers and peers, besides experiencing intrinsic motivation from the nature of the task (i.e. studies that are interesting, offer a variety of tasks and opportunities for personal growth and development), they can be expected to experience engagement in their studies, in line with Hobfoll's (2001) COR theory on 'caravan of resources'. Such students can indeed be expected to cope well with the pressure of their

studies and manage their load efficiently. Lecturers are one of the most important resources in a student's life. If students can get on well with their lecturers for support and can count on them; know what their lecturers expect from them and how their work is assessed as well as being able to discuss their problems with them; are well informed on important issues regarding their studies, they can be expected to experience engagement in their studies. Furthermore, if students have friendly, approachable lecturers that are available to assist and guide them in and out of the lecture halls, such action should motivate them to 'pay back' by performing excellently (Social Exchange Theory; Cropanzano & Mitchell, 2005) and subsequently experience engagement. This suggestion is in line with Demerouti and Bakker's (2011) findings that resources have the motivational potential, leading to high engagement.

Peer support as an important resource also impacted positively on engagement in this study. Peers, as they are seen as being in the same boat as themselves, can be expected to boost student morale. They can be able to share their fears, problems, understanding and successes; use them as sounding boards; most importantly use languages other than the medium of instruction (e.g. 'millennial-speak' or 'street-lingo') and thereby make the learning materials easier to understand. The important role of peers as a study resource in this study is supported: the student's peer group is the single most potent source of influence on growth and development during the undergraduate years (Barefoot, 2000).

The nature of the task (i.e. task characteristics) plays a critical role in student well-being as a resource. If students can find their tasks to be meaningful, they will be intrinsically motivated; in turn, intrinsically motivating tasks lead to engagement (Knoop, 2013). As resources have been found to have the motivational potential, leading to high engagement (Demerouti & Bakker, 2011), it can therefore be expected that the students' well-being should be enhanced by interesting studies that offer variety along with promoting growth and development.

The findings in this study emphasize the important relation between resources, engagement and life satisfaction. Interesting tasks that provide opportunities for personal growth and development while having good relationships with their lectures and peers leads to intrinsically motivated and dedicated students that can achieve their academic goals and be successful in their studies. Students can therefore be expected to be fulfilled in their studies and consequently be satisfied with their lives. The availability of resources therefore leads to

engagement, while engagement promotes positive student well-being (Steele & Fullagar, 2009). The importance of availability and abundance of resources for students is highlighted by the direct and indirect relation with life satisfaction as found in this study.

Demands predicted burnout and psychological unwell-being in this study. Findings pointed to demands (reflecting study load) having a positive effect on burnout whilst study resources had a negative effect on burnout. Burnout is therefore predicted by the presence of study overload and absence or lack of resources. Findings are in line with the results of studies conducted by Maslach et al. (2001); Bakker, Demerouti and Schaufeli (2003); Rothmann and Essenko (2007): burnout is a response to overload. If students have too much work to do (i.e. studies-related tasks), are working under time pressure and have to work extra hard, they may not cope well with their studies to such an extent that they will not usually feel energized when studying and will not be enthusiastic about their studies; subsequently being more inclined to lose interest in their studies. In turn, students could subsequently abandon their studies. Universities therefore need to provide students with appropriate, adequate and timely resources to buffer the impact of burnout. If not, students can subsequently suffer from psychological unwell-being. Although findings show that burnout predicted psychological unwell-being, it did not predict physical ill health. Findings are in line with Rothmann and Essenko's (2007) findings whereby burnout predicted psychological health problems but not physical ill health. Psychological unwell-being has also been found to be predicted by load via burnout. This finding is in line with Maslach et al's (2001) finding that perceived stressors lead to emotional reactions, which in turn lead to psychological ill health. Conversely, students with a manageable load and abundant resources should not be prone to suffer from burnout and subsequently, psychological unwell-being.

The negative role played by overload is highlighted in this study. When students have lots of tasks to do within a short period of time, they are most likely to experience related symptoms of ill health, either directly or indirectly through burnout. Besides study load predicting psychological unwell-being via burnout, load also directly predicted both psychological unwell-being and physical ill health. If students have heavy loads, tight deadlines and have to work extra hard to complete their tasks, they can be expected to be constantly tired and have difficulty in concentrating or being sleepy as a result. In turn, they may find it difficult to cope and consequently suffer from headaches, panic attacks and lack of appetite. When students experience such exhaustion and negative state of mind accompanied by distress and

decreased motivation, as well as dysfunctional attitudes towards their studies, they are bound to suffer from ill health. These findings support Voltmer, Rosta, Aasland, and Spahn's (2010) findings. Early interventions should be made when problems arise due to students being overwhelmed by their studies. Student burnout is not desirable as it is associated with dropout (Deary, Watson, & Hogston, 2003),

Results in this study showed that demands impact psychological unwell-being via burnout, thereby supporting Michie and Williams' (2003) findings that demands such as workload and pressure, and poor support from one's superiors are the most common factors associated with psychological ill health. If students are faced with an overload of tasks which are not interesting and are not seen to provide an opportunity for personal growth and development and they receive very little or no support from lecturers, students can be expected to suffer from psychological unwell-being. The situation could also be compounded by lack of support from academic development and by career guidance officers and counsellors not providing the necessary support and guidance.

Study resources have been found to indirectly affect psychological unwell-being via burnout. When students have the necessary study resources, they are most likely to remain in good health. When students have enough variety in their studies and their studies have sufficient demands on their skills and capacities, when they have good relationships with the lecturers and peers, receive counselling and guidance from academic development officers when necessary, are provided with libraries and computer facilities, they can be expected to have a sense of fulfillment in their studies, thus making them less likely to experience burnout and subsequently, ill health. In turn students could be expected to be competent in doing their study-related tasks and enthusiastically so, leading them to a fulfilling life. Life satisfaction is thus an indicator of general wellness and positive functioning (Stewart & Suldo, 2011).

5.2 LIMITATIONS

This study had various limitations. The cross-sectional nature of this study has limitations as it allows identification of relation between variables at one point only. Cross-sectional data were used to examine presumed causal relations between the variables in the student well-being model. Therefore the present findings need to be supported by studies using longitudinal designs. Longitudinal studies are needed to prove causality. An annual follow-

up of the participants until they finished their studies would provide a rounded picture of burnout and engagement of university students from the start of their studies to the end. A trend with regard to the phenomena per year level could thereby be established by such studies. Findings from such studies should enable university planners and authorities to adequately and timely provide appropriate resources per year level. Qualitative studies could also provide more in-depth insight into the burnout and engagement of first-year students. Future research on student well-being should include other year levels of participants, so that a total picture of the well-being of university students could be attained.

The study used self-reported data, which raises questions regarding a common method variance (Spector & Jex, 1991) as findings are based upon one source of information, namely the participants. Although the sample is not representative of all first-year students in South Africa, the study provides an indication of how study load and availability or absence of resources affects the engagement or burnout of these students. The homogenous nature of the sample, as only South African subjects were used, limits the generalization of the findings. Although these limitations are highlighted, they do not negate the findings in this study, which were basically in line with our hypotheses and consistent with previous research (Demerouti et al., 2001).

5.3 RECOMMENDATIONS

5.3.1 Recommendations to solve the research problems

To solve the research problem of assessing the relation among study demands, study resources, student burnout, student engagement, student health and student life satisfaction for first-year students, the following recommendations are made:

- As in previous studies, this study confirmed that study demands have a positive effect on burnout and study resources had a negative effect on burnout; while student engagement has been found to be positively predicted by student resources. Study resources specific to each study program should be investigated to be able to provide the necessary adjustment and interventions timeously. Such action should improve student well-being, and consequently reduce first-year university drop-outs. When students have the necessary

study resources and experience engagement in their studies, they are most likely to remain in good health. These findings confirm Hakanen and Schaufeli's (2012) findings that work engagement predicts life satisfaction.

- Findings from the study indicate that student ill health is predicted by study load. Student burnout and study load need to be kept to a minimum in order to promote student well-being. Such status could be achieved through the enhancement of study resources and student engagement. Universities need to be on the lookout for burnout among first-years in particular as the “fire could be put out, the spirit rekindled and positive results achieved” (Freudenberger, 1977, p. 27). A ‘warning system’ can be introduced in academic programs in order to identify ‘at-risk students’. These students can then be given extra attention by their lecturers. The lecturers could further refer them for counselling and academic development programs for customized attention. Such interventions should promote psychological well-being, and thereby reduce burnout created by load associated with their studies.
- Students need an abundance of study resources in their studies in order to experience engagement. Comprehensive support in terms of appropriate and timely resources, especially from the universities, should be provided to first-year students. Such support should lead the students to experience engagement rather than burnout. Most importantly, social support is imperative for academic success in education (Young, et al., 2011). Should the study-wellness of these students be improved, South Africa's first-year university student drop-out rate of 40% (Macgregor, 2007) could be reduced and its university graduation rate of 15% (Letseka & Maile, 2008) improved.
- Study resources buffer the effect of study demands. As study resources are expected to be instrumental to study-related goals, universities rich in study resources should foster study-related goals. Universities should timeously provide an abundance of appropriate and needed resources to enable first-year students to experience engagement in their studies, and thereby reach their study-related goals. Rothmann (2003) found that increasing job resources would eventually lead to more engagement at the job.
- Team-teaching by lecturers with librarians (Kuh & Gonyea, 2003) should be introduced in all universities, the aim being to promote better coordination of information-seeking

related to tasks (such as assignments) associated with university education. This practice could enable the Librarian to know exactly what types of resources first-year students need, and give related guidance and assistance. Consequently, more student engagement rather than burnout could be experienced.

5.3.2 Recommendations for future research

The following recommendations are made for future research:

- Studies on student well-being should include not only first-year students, but all levels of students in order to develop a global picture.
- Studies on student well-being should also be specific to study programs as each one has its unique challenges.
- Longitudinal studies should be conducted for students not only during their first year but also for the duration of their studies in order to shed more light with regard to their well-being, as it is affected by study demands, study resources and consequent burnout, engagement, health and life satisfaction until they graduate.
- Studies should be undertaken to determine what makes ‘interesting tasks’ for students in different disciplines. Various methods of instruction could be introduced during these studies so that enabling resources could be determined.
- Studies could also be undertaken to determine how relationships between students and lecturers could be optimized since this relationship seems to be one of the major resources that enhances student well-being. The investigations could include approaches that could bring about the opening up of students to lecturers and of them enquiring more about their studies; and methods that could be used by lecturers to prompt students to be active participants in their studies.
- Studies also need to determine the best ways of fostering the peer relationships. Effective ways of nurturing these relationships are important as the social support

from peers has been found to contribute to students' confidence and 'I-am-not-alone-in-this-thing feeling' among students.

- The person-environment fit could be explored for students in the form of studies. Career guidance officers and counsellors could be involved in these studies in order to determine the fit in view of the importance of students choosing the right field of studies leading to careers that fit their personalities and potential.
- On-going investigations could also be done regarding the determination of a balance between 'study load' and resources by institutions of higher learning, and to check the relevance of both 'study load' and resources in terms of the current changes in the related workplaces.
- Studies should also be conducted to determine how burnout and psychological unwell-being could be prevented.

These recommendations are based on the findings that the availability of study resources is positively associated with psychological well-being and engagement. While load associated with studies and lack of study resources are positively associated with burnout.

5.4 CONTRIBUTION OF THE STUDY TO KNOWLEDGE IN INDUSTRIAL/ ORGANISATIONAL PSYCHOLOGY

The study contributes towards first-year students in higher education institutions' well-being in the following manner:

This is the first study to investigate the burnout and engagement of first-year students in higher education institutions in South Africa, using the Oldenburg Burnout inventory (OLBI). The OLBI as a measure of burnout and engagement has now been validated for first-year student use in South Africa. As in the case of employees, students can experience a positive, fulfilling state of mind in relation to their studies which is characterized by vigour and dedication to their studies when provided with the necessary resources for their studies. Students can also experience an intensive physical, affective and cognitive strain as a result of having too much work in their studies, having to work extra hard and under pressure while

lacking study resources, distancing themselves from their studies, and developing negative attitudes towards their studies. Universities can therefore benefit from providing students with the necessary resources. The study thus adds to knowledge on the importance of enabling resources for first-year students to achieve their academic goals.

The study developed and tested a model that identifies relations among demands and resources, burnout, engagement, health and satisfaction with life of first-year students in higher education institutions in the South African context. The model showed that the presence of study demands and absence of study resources leads to burnout, and subsequently to psychological unwell-being, while having the necessary resources leads to engagement, and subsequently to satisfaction with life. Study demands, on their own, also cause physical ill health, while study resources on their own lead to satisfaction with life. A negative relation therefore exists between study resources and burnout.

The most important resources for students highlighted in the Student Demands and Resources Questionnaire are lecturer and peer support, studies that provide opportunities for growth and accessibility to information relevant to studies. Studies that offer students an opportunity to apply their minds believe that they can achieve something, grow and develop as individuals, and are motivational towards the achievement of study goals. Resourceful lecturers inform students about their expectations, discuss and guide students through any problems encountered and provide performance feedback. Peers that can be relied upon when one experiences difficulties are an important resource in a student's life. Being kept abreast of information regarding one's studies is critical to students' well-functioning: deadlines, power structures and protocol to be observed are important. Students that lack information relevant to studies, lecturer and peer support; and whose studies do not provide opportunities for growth will have a slim chance of reaching their academic goals. Study resources thus buffer the effects of study demands.

An inference could therefore be drawn from findings in this study with regard to factors that may contribute to first-year university student academic goal achievement, and subsequently well-being. The more universities have engaged students, the lower the drop-out rates will be. The lower the drop-out rates, the higher the student retention rates. The higher the student retention rates, the higher the throughput rates. More graduates can thus enter the job market and start to contribute to the knowledge economy. Higher education institutions will also

benefit from more funding from the Department of Higher Education and Training. The situation thus provides a good example of a ‘caravan of resources’ (Hobfoll, 2001; COR Theory). Higher education institutions must therefore strive to have engaged rather than ‘burnt-out’ students, as engaged students are bound to be healthy and satisfied with their lives. The well-being of first-year students in higher education institutions is the foundation of a win-win situation both for students and their institutions.

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