

BURNOUT AND ENGAGEMENT OF STUDENT LEADERS IN A HIGHER EDUCATION INSTITUTION

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FOR THE READER'S ATTENTION

The reader is reminded of the following:

- The references as well as the editorial style as prescribed by the *Publication Manual (5th edition)* of the American Psychological Association (APA) were followed in this dissertation. This practice is in line with the policy of the Programme in Industrial Psychology of the PU for CHE to use APA style in all scientific documents as from January 1999.
- The mini-dissertation is submitted in the form of a research article. The editorial style specified by the *South African Journal of Industrial Psychology* (which agrees largely with the APA style) is used, but the APA guidelines were followed in constructing tables.
- Each chapter of this mini-dissertation has its own reference list.

PREFACE

I would like to express my gratitude to the following for their contributions to this research:

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SUMMARY

Title: Burnout and engagement of student leaders in a higher education institution.

Key words: Burnout, engagement, students, student leaders, higher education, optimism, work stress, commitment.

Extensive research on burnout in different occupational fields has taken place internationally. However, no studies on students at higher education institutions in South Africa have been performed. The objective of this research was to standardise the Maslach Burnout Inventory–Student Survey (MBI-SS) and the Utrecht Work Engagement Scale–Student Survey (UWES-SS) for student leaders in a South African university. Further objectives included empirically determining the relationships between burnout and engagement on the one hand, and work stress, optimism, individual and organisational commitment on the other. In so doing the researchers would be able to advise higher education institutions on how they could help with preventing burnout in student leaders, as well as enhancing the work engagement of these student leaders.

A cross-sectional survey design was used. The entire population of student leaders were involved ($N=196$). The population of student leaders consisted of student leaders of 22 different House Committees and the Students' Representative Council. The Maslach Burnout Inventory–Student Survey and the Utrecht Work Engagement Scale–Student Survey, Life Orientation Test Revised, Attitudes Towards Your Organisation Survey and Position Characteristics Survey were administered. Descriptive and inferential statistics were used to analyse the data.

The results obtained for MBI-SS proved this measuring instrument to be reliable and valid. By using the structural equation modelling approach a three-dimensional factor structure for burnout among student leaders emerged which supported earlier conceptions in this regard. The same applies to the UWES-SS.

The results showed that for the Burnout model Emotional Exhaustion was best predicted by Overload, Cynicism by Job Demands and Professional Efficacy by Resources. For the

Engagement model Absorption was best predicted by Resources and Dedication and Vigour were best predicted by Optimism.

Recommendations for future research were made.

OPSOMMING

Titel: Uitbranding en begeestering van studenteleiers binne 'n hoërondewysinstelling

Sleutelwoorde: Uitbranding, begeestering, studente, studenteleiers, hoërondewys, optimisme, werkstres, commitment.

Breedvoerige navorsing oor uitbranding in verskillende beroepsvelde het al op internasionale vlak plaasgevind. Nietemin is geen studies onder studente by hoërondewysinstellings in Suid-Afrika uitgevoer nie. Die doelstelling van hierdie navorsing was om die Maslach Uitbradingsvraelys-Studente-Opname (MBI-SS) en die Utrecht Werksbegeesteringskaal-Studente-Opname (UWES-SS) te standaardiseer vir studenteleiers by 'n Suid-Afrikaanse universiteit. Verdere doelstellings sluit in die bepaling van verhoudings tussen uitbranding en werksbegeestering aan die een kant, en werkstres, optimisme, individuele en organisasie-verbintenis aan die ander kant. Dit sal die navorsers in staat stel om hoërondewysinstellings te adviseer oor hoe hierdie instellings kan help om uitbranding by studenteleiers te voorkom, asook dié studenteleiers se werksbegeestering te verbeter.

'n Dwarsdeursnee-ontwerp is gebruik. Die hele populasie van studenteleiers ($n=196$) is gebruik. Die populasie is saamgestel uit studenteleiers van 22 verskillende koshuise en die Studenteraad. Die Maslach Uitbradingsvraelys-Studente-Opname, Utrecht Werksbegeesteringskaal-Studente-Opname, Hersiende Lewensoriëntasie Toets, Houdings Teenoor Jou Organisasie Opname en Posisie Karaktertrekke Opname is geadministreer. Beskrywende en inferensiële statistiek is gebruik om die data te analiseer.

Die resultate vir die MBI-SS toon aan dat dié meetinstrument betroubaar en geldig is. Uit die benutting van die gestruktureerde gelykstelling-modelleringsbenadering het 'n driedimensionele faktorstruktuur vir uitbranding by studenteleiers na vore gekom – wat met vroeëre voorstellings ooreenstem. Dieselfde geld vir die UWES-SS

Die resultate het getoon dat vir die Uitbrandingsmodel word Emosionele Uitputting die beste voorspel deur Oorlading, Sinisme deur Taakvereistes en Professionele

Doeltreffendheid deur Hulpbronne. Vir die Begeesteringsmodel is Absorpsie die beste voorspel deur Hulpbronne en Toewyding en Energie die beste voorspel deur Optimisme.

Aanbevelings vir toekomstige navorsing is gemaak.

CHAPTER 1

INTRODUCTION

This mini-dissertation deals with burnout and engagement of student leaders in a higher education institution. In Chapter 1 the motivation for the research is discussed in terms of the problem statement and aims of the research. Thereafter the research method and division of chapters are discussed.

1. PROBLEM STATEMENT

Burnout as a problem for workers has been studied for over 30 years with research being done as far back as the early 1970's (Freudenberger, 1974). The concept of burnout itself only gained more recognition and acceptance in the 1980's (Cherniss, 1980; Edelwich & Brodsky, 1980; Maslach, 1982). The concept of burnout, that was initially linked closely to the human services such as health care, education and social work where people do 'people' work of some kind, has been expanded to all other professions and occupational groups (Maslach & Jackson, 1981).

The environment, in which student leaders are presently functioning in, demands more from them than ever before. Burnout as phenomenon is also relevant to student leaders at the Potchefstroom University for Christian Higher Education. Due to general restructuring in the higher education sector, the university is currently in a transformation phase, merging with the University of Northwest, in the former homeland of Bophuthatswana. The demanding economic times and prevailing market conditions, which include limited opportunities for employment, also necessitate higher academic standards from students. According to the South African Survey 2002/2003, 29% of South Africans are unemployed and about 12% of people with education higher than Grade 12, are unemployed (Kane-Berman, Henderson, Morton, Dimant & Ericsson, 2003).

Student leaders not only have studies to attend to, but also carry extra responsibilities due to the roles they play in the structuring of organised university and university's hostel activities like sport, cultural activities and general campus-life. This multiplicity of tasks could lead to a

draining of the individual's resources. The activities are becoming more and more diverse while the competition between the different residences (hostels) adds to the pressure on House Committee members. This competition ranges from being the best in sport and cultural activities, to fundraising during rag, recruitment of prospective new students and academic performance. Those who are members of the Students' Representative Council (SRC) also experience the same kind of pressure because they do not only have to handle all their portfolio work, but also need to take a neutral stance in the many disputes that arise from the aforementioned competition. It was previously believed that students cannot experience burnout but this belief has proven to be invalid (Balogun, Helgemoe, Pellegrini & Hoerberlein, 1996; Gold & Michael, 1985). Because this belief was proved to be invalid, Schaufeli, Leiter, Maslach and Jackson (1996) developed a modified version of the MBI-GS, namely the Maslach Burnout Inventory-Student Survey (MBI-SS), to be used in assessing student burnout.

Schaufeli and Enzman (1998) define burnout as "a persistent, negative, work-related state of mind in 'normal' individuals that is primarily characterised by exhaustion, which is accompanied by distress, a sense of reduced effectiveness, decreased motivation, and the development of dysfunctional attitudes and behaviours at work". Maslach (1982, 1993), Maslach, Jackson and Leiter (1996) and Maslach, Schaufeli and Leiter (2001), describe burnout as a syndrome consisting of three dimensions, namely feelings of emotional exhaustion, depersonalisation (cynicism) and reduced personal accomplishment.

Burnout among students refers to feeling exhausted because of study demands, having a cynical and detached attitude towards one's studies and feeling incompetent as a student. Because student burnout is considered to lead to an erosion of academic engagement, it is expected that all burnout and engagement scales be at least moderately negatively related (Schaufeli, Martínez, Pinto, Salanova & Bakker, 2002). College students may in fact experience the burnout phenomenon due to learning conditions that demand excessively high levels of effort and do not provide supportive mechanisms that would facilitate effective coping (Neuman, Finaly-Neuman & Reichel, 1990).

Student burnout may be the key to understanding a wide range of student behaviours during university years. Student burnout may also influence students' future relationships with their university. The phenomenon of student burnout may affect the university's general

attractiveness for new students with potential ramifications for present and future enrolment. Students' burnout can therefore be an important aspect of university effectiveness that may have distinct policy implications for institutions of higher learning (Neuman et al., 1990).

Considerable evidence exists that particular work stressors influence burnout (Burke, 1993). According to Schaufeli and Enzmann (1998), organisational stressors can be divided into two groups, namely Job Demands and a Lack of Job Resources. Various studies confirm the relationship between burnout, job demands and resources. In a proposed process model of burnout, Leiter (1991, 1993) found that Job Demands are more strongly related to Exhaustion, while a Lack of Job Resources is more strongly related to Cynicism and Professional Efficacy. Taris, Schreurs and Schaufeli (1999) found by using the MBI-GS, that Job Demands were more strongly related to Exhaustion, while Cynicism and Professional Efficacy were related to the resource variables. Peeters and Le Blanc (2001) found that organisational demands relate only to exhaustion. It could therefore be expected that job demands will associate strongly with exhaustion, while a lack of resources will be strongly associated with lower professional efficacy.

The new trend in burnout research seems to shift towards its opposite: Engagement or job engagement. Researchers recently extended their interest to the positive pole of employees' well being, instead of looking exclusively to the negative pole. Seen from this perspective, burnout is rephrased as an erosion of engagement with the job (Schaufeli, Salanova & Bakker, in press). This development indicates an emerging trend towards 'positive' psychology that focuses on human strengths and optimal functioning rather than on weaknesses and malfunctioning (Seligman & Csikszentmihalyi, 2000).

Engaged employees see themselves as competent in dealing with the demands of their jobs, they are energetic and have a sense of effective connection with their work activities. Engagement is therefore defined as a positive, fulfilling, work-related state of mind that is characterised by three dimensions, namely Vigour, Dedication, and Absorption (Schaufeli, Salanova, Gonzáles-Romá & Bakker, 2002). Vigour refers to having high energy levels, resilience regarding work activities, investing effort in one's work and persistence in difficult circumstances. Dedication includes a sense of significance, enthusiasm, inspiration, pride and challenge, while absorption is characterised by full concentration on and engrossment in one's work and finding it difficult to detach oneself from work (Schaufeli, Salanova et al., 2002). In

order to measure engagement in students, Schaufeli et al. (in press) developed the Utrecht Work Engagement Scale-Student Survey (UWES-SS) from the original UWES questionnaire.

Reker and Wong (1988) have proposed that the cognitive appraisals of stressful situations and the coping patterns of optimistic individuals differ from those of individuals who are pessimistic or lacking in optimism. Reker and Wong (1988) demonstrated that optimists, as compared with pessimists, appraised situations of stress in a more positive light and made more extensive use of a variety of coping styles. Persons lacking in optimism experienced in contrast, greater negative stress and used more restricted patterns of active withdrawal to cope with anticipated stressful events. Optimism as a personality attribute, serves therefore to moderate the psychological effects of stress, as reflected in physical symptoms, loss of self-esteem, and burnout. Optimism has been identified as an important factor in physical health, especially for people experiencing stress (Cassidy, 2000). Fry (1995) found evidence that optimism significantly moderates the relationship between daily hassles and self-esteem maintenance, burnout and physical illness. Dispositional optimism can be defined as a person's positive outlook towards life events (Ebert, Tucker & Roth, 2002; Scheier, Carver & Bridges, 1994). Optimism is furthermore also associated with improved immune functioning and lower neuroticism scores (Ebert et al., 2002; Scheier et al., 1994; Segerstrom, Taylor, Kemeny & Fahey, 1998; Shea, Burton & Girgis, 1993). A number of researchers described this personality trait as a psychological resistance factor, which could be used to conceptualise individual differences and are related to more positive outcomes (Ebert et al., 2002). Positive outcomes being predicted by optimism, include, 1) coping with major life stresses, 2) adjusting to major life transitions, and 3) responses to more minor stresses (Hasan & Power, 2002).

Two approaches can be followed when defining organisational commitment (Blau & Boal, 1987): In the first approach, commitment is seen as a behaviour during which the individual is viewed as committed to an organisation because it is too costly for him or her to leave; in the second approach the individual is committed to the organisation because of shared goals and the wish to maintain membership (Blau & Boal, 1987). Organisational commitment has recently been identified as a significant moderator of stress (Siu, 2002) and was linked to work engagement (Lee, Carswell, & Allen, 2000). Siu's (2002) results show that organisational commitment is not only related to most of the physical and psychological outcomes among workers, but also to the moderating effects on the stressor-health relationship. Organisational

commitment interacts therefore with sources of stress at work to determine the outcomes thereof. Sui (2002) argued that this indirect or moderating effect of commitment protects individuals from the negative effect of stress, due to the fact that it enables them to attach direction and meaning to their work. Organisational commitment can also provide people with stability and a feeling of belonging. However, the opposite can also be true. Being too committed to your organisation can inhibit personal growth and prevent one from recognising the organisation's faults and possibly results in group thinking.

This conception of commitment consists of three facets, namely an acceptance of the organisation's goals, a willingness to work hard for the organisation, and a desire to stay with the organisation. Organisational commitment has recently been identified as a significant moderator of work stress (Begley & Cazjka, 1993). Begley and Cazjka (1993) tested empirically the moderating effects of organisational commitment, and concluded that commitment buffered the relationship between stress and job displeasure. Stress therefore increased job displeasure only when commitment was low.

No research has so far been done on burnout and engagement of student leaders in South Africa. The objective of this research is therefore to determine whether student leaders experience burnout and engagement, and to what extent. The information will give the Dean of Students important insight into the functioning of student leaders. It also will provide information about whether preventative measures must be taken to enhance the optimal functioning of student leaders in performing of their various responsibilities.

The following research questions emerge from the problem statement:

- How are burnout, engagement, work stress, optimism and individual and organisational commitment as pertaining to student leaders, conceptualised in the literature?
- How valid and reliable are the MBI-SS and UWES-SS for student leaders?
- How reliable and valid are measures of work stress, optimism and commitment in a sample of student leaders?
- How is the relationship between burnout, engagement, work stress, optimism, individual and organisational commitment conceptualised empirically?
- Can work stress, optimism, individual and organisational commitment be used to predict burnout and engagement of student leaders?

2. AIM OF THE RESEARCH

Arising from the problem statement described above, the following general and specific aims are set for this research.

2.1 General aim

The general aim of this research is to standardise the Maslach Burnout Inventory-Student Survey (MBI-SS) and the Utrecht Work Engagement Scale-Student Survey (UWES-SS) for student leaders in South Africa and to test whether optimism, work stress, individual and organisational commitment could be used to predict burnout and engagement of student leaders.

2.2 Specific objectives

- To conceptualise burnout, engagement, work stress, optimism, individual and organisational commitment as pertaining to student leaders from the literature.
- To determine the validity and reliability of the MBI-SS and UWES-SS for student leaders.
- To determine the reliability and validity of measures of work stress, optimism and commitment in a sample of student leaders.
- To conceptualise the relationship between burnout, engagement, work stress, optimism, individual and organisational commitment empirically.
- To determine whether work stress, optimism, individual and organisational commitment can be used to predict burnout and engagement of student leaders.

3. RESEARCH METHOD

The research method consists of the literature review and empirical study.

3.1 Phase 1: Literature review

In phase 1 a complete literature review regarding the following is obtained: burnout, engagement, work stress, optimism, individual and organisational commitment of student leaders, and the relationship between work stress, optimism and commitment and burnout and engagement of student leaders.

3.2 Phase 2: Empirical Study

Phase 2 consists of the empirical study and comprises the research design, the study population, measuring battery and statistical analysis.

3.2.1 Research design

A survey will be utilised to obtain the research objectives. The entire population of student leaders in a higher education institution will be contacted to participate in this research. The specific design is a cross-sectional design, whereby a sample is drawn from a population at one time (Shaughnessy & Zechmeister, 1997). Information collected is used to describe the population at that time. The design can be used also to assess interrelationships among variables within the population. According to Shaughnessy and Zechmeister (1997) this design is ideal to address the descriptive and predictive functions associated with correlation research.

3.2.2 Study population

The study population will consist of all the student leaders ($N=196$) who are members of the different House Committees and of the Students' Representative Council (SRC) at a higher education institution.

3.2.3 Measuring battery

The Maslach Burnout Inventory-Student Survey (Schaufeli et al., 1996), the Utrecht Work Engagement Scale-Student Survey (Schaufeli et al., in press), the Position Characteristics Survey (PCS), the Life Orientation Test-Revised (LOT-R) (Scheier et al., 1994), and the Attitudes Towards Your Organisation Survey (Cartwright & Cooper, 2002) will be used to reach the objectives set for this study.

- The *Maslach Burnout Inventory-Student Survey* (Schaufeli et al., 1996). Burnout will be assessed by the use of the modified version of the MBI-GS that was adapted for the use in student samples. The MBI-SS consists of sixteen items that constitute the three scales, Exhaustion, Cynicism and Efficacy. All items are scored on a 7-point frequency rating scale, ranging from 0 (never) to 6 (always). High levels on exhaustion and cynicism and low scores on efficacy indicate burnout. Schaufeli, Martínez, et al. (2002) report alpha values above 0,60.
- The *Utrecht Work Engagement Scale-Student Survey* (Schaufeli et al., in press) will be used to measure the levels of engagement among student leaders. Work engagement is a concept that includes three dimensions: Vigour, Dedication and Absorption. High levels of vigour and dedication characterise engaged workers, and they are immersed in their jobs. The UWES consists of seventeen items and is scored on a seven-point frequency rating scale, varying from 0 (never) to 6 (always). The alpha coefficients for the three subscales varied between 0,68 and 0,91. The alpha coefficient could be improved by eliminating a few items without substantially decreasing the scale's internal consistency. For a study with university students, Schaufeli, Martínez, et al. (2002) report alpha values above 0,60.
- The *Position Characteristics Survey* (PCS). The Position Characteristics Scale will be developed for the purpose of this study. Various demands and resources in the organisation will be identified and measured on a 5-point scale, ranging from 1 (strongly disagree) to 6 (strongly agree). The internal consistency and construct validity of the scale will be determined. Interviews with selected members of house committees, and the author's own experience as member of a house committee, will lead to the development of this measuring instrument, consisting of items that are typical stressors in the environment under study.
- *The Life Orientation Test-Revised* (LOT-R) (Scheier et al., 1994). This is a ten-item measure used to measure dispositional optimism. Six items contribute to the optimism score and four items are fillers. The original Life Orientation Test (Scheier & Carver, 1985) as a two-factor structure (optimism and pessimism) was questioned (Harju &

Bolen, 1998). Follow-up analysis have demonstrated a one-factor structure, indicating that the LOT-R is measuring a continuum of high, average and low optimism/pessimism (Scheier et al., 1994). The LOT-R is measured on a five-point Likert Scale, ranging from 5 (I strongly agree) to 1 (I strongly disagree). The LOT-R has been shown to have adequate internal consistency (Cronbach's alpha is 0,78) and excellent convergent and discriminant validity (Scheier et al., 1994). Based on a sample of 204 college students, Harju and Bolen (1998) obtained a Cronbach alpha coefficient of 0,75.

- *The Attitudes Towards Your Organisation Survey*. This questionnaire is concerned with the measurement of commitment. It consists of nine items divided into two scales: commitment of the organisation to the employee and commitment of the employee to the organisation. This questionnaire is therefore reflecting the non-economic reciprocal obligations, which exists between employer and employee. Employees expect to be trusted and respected and expect to feel that it is worth "going the extra mile" for the organisation. The *commitment of the organisation to the employee* subscale measures the extent to which individuals feel that their organisation is committed to them. Employers expect their employees to do their job as best they can and expect them to be loyal and dedicated to the organisation. The *commitment of the employee to the organisation* subscale measures the extent to which this commitment exists. The scale was developed by Carthwright and Cooper (2002).

3.2.4 Statistical Analysis

The statistical analysis will be carried out with the help of the SAS-program (SAS Institute, 2000). Cronbach alpha coefficients, inter-item correlation coefficients and exploratory and confirmatory factor analysis will be utilised to assess the reliability and validity of the measuring instruments (Clark & Watson, 1995).

Descriptive statistics (e.g. means, standard deviations, range, skewness and kurtosis) and inferential statistics will be used to analyse the data. Pearson correlation coefficients will be computed to determine the relationship between variables. In the case where the distribution of scores is skew, Spearman correlation coefficients will be computed. A cut-off point of $p = 0,05$ will be set for the statistical significance of the results. Effect sizes (Cohen, 1988) will be

used to decide on the practical significance of the findings. A cut-off point of 0,30 (medium effect, Cohen, 1988) will be set for the practical significance of correlation coefficients.

Structural equation modelling (SEM) methods as implemented by AMOS (Arbuckle, 1997), will be used to test the factorial model of the MBI and UWES, using the maximum likelihood method. Before performing SEM, the frequency distributions of the MBI and UWES will be checked for normality and multivariate outliers be removed. SEM is a statistical methodology that takes a confirmatory (i.e. hypothesis-testing) approach to the analysis of a structural theory bearing on some phenomenon (Byrne, 2001). Several aspects of SEM set it apart from the older generation of multivariate procedures (Byrne, 2001). Firstly, it takes a confirmatory rather than an exploratory approach to data analysis. Furthermore, by demanding that the pattern of inter-variable relations be specified, a priori, SEM lends itself well to the analysis of data for inferential purposes. Secondly, while traditional multivariate procedures are incapable of either assessing or correcting for measurement error, SEM provides precise estimates of these error variance parameters. Thirdly, SEM procedures can incorporate both unobserved (latent) and observed variables.

Hypothesised relationships are tested empirically for goodness-of-fit with the sample data. The χ^2 statistic and several other goodness-of-fit indexes summarise the degree of correspondence between the implied and observed covariance matrixes. Jöreskog and Sörbom (1993) suggest that the χ^2 value may be considered more appropriately as a badness-of-fit, rather than as a goodness-of-fit measure in the sense that a small χ^2 value is indicative of good fit. However, because the χ^2 statistic equals $(N - 1)F_{min}$, this value tends to be substantial when the model does not hold and the sample size is large (Byrne, 2001). A large χ^2 relative to the degrees of freedom indicates a need to modify the model to better fit the data. Researchers have addressed the χ^2 limitations by developing goodness-of-fit indexes that take a more pragmatic approach to the evaluation process. One of the first fit statistics to address this problem was the χ^2 /degrees of freedom ratio (CMIN/DF) (Wheaton, Muthén, Alwin & Summers, 1977). These criteria, commonly referred to as "subjective" or "practical" indexes of fit, are typically used as adjuncts to the χ^2 statistic.

The Goodness-of-Fit Index (GFI) indicates the relative amount of the variances/co-variances in the sample predicted by the estimates of the population. It usually varies between 0 and 1,

and a result of 0,90 or above, indicates a good model fit. In addition, the Adjusted Goodness-of-Fit Index (AGFI) is given. The AGFI is a measure of the relative amount of variance accounted for by the model, corrected for the degrees of freedom in the model relative to the number of variables. The GFI and AGFI can be classified as absolute indexes of fit because they basically compare the hypothesised model with no model at all (Hu & Bentler, 1995). Although both indexes range from zero to 1,00, the distribution of the AGFI is unknown; therefore no statistical test or critical value is available (Jöreskog & Sörborn, 1986). The Parsimony Goodness-of-Fit Index (PGFI) addresses the issue of parsimony in SEM (Mulaik et al., 1989). The PGFI takes into account the complexity (i.e., number of estimated parameters) of the hypothesised model in the assessment of overall model fit and provides a more realistic evaluation of the hypothesised model. Mulaik et al. (1989) suggested that indexes in the 0,90's accompanied by PGFI's in the 0,50's are not unexpected, however, values bigger than 0,80 are considered to be more appropriate (Byrne, 2001).

The Normed Fit Index (NFI) is used to assess global model fit. The NFI represents the point at which the model being evaluated falls on a scale running from a null model to perfect fit. This index is normed to fall on a 0 to 1 continuum. Marsh, Balla and Hau (1996) suggest that this index is relatively insensitive to sample sizes. The Comparative Fit Index (CFI) represents the class of incremental fit indexes in that it is derived from the comparison of a restricted model (i.e., one in which structure is imposed on the data) with that of an independence (or null) model (i.e., one in which all correlations among variables are zero) in the determination of goodness-of-fit. The Tucker-Lewis Index (TLI) (Tucker & Lewis, 1973), is a relative measure of covariation, explained by the model that is specifically developed to assess factor models. For these fit indexes (NFI, CFI and TLI), it is more or less generally accepted that a value of less than 0,90 indicates that the fit of the model can be improved (Hoyle, 1995), although a revised cut-off value close to 0,95 has recently been advised (Hu & Bentler, 1999).

To overcome the problem of sample size, Browne and Cudeck (1993) suggested using the Root Mean Square Error of Approximation (RMSEA) and the 90% confidence interval of the RMSEA. The RMSEA estimates the overall amount of error; it is a function of the fitting function value relative to the degrees of freedom. The RMSEA point estimate should be 0,05 or less and the upper limit of the confidence interval should not exceed 0,08. Hu and Bentler (1999) suggested a value of 0,06 to be indicative of good fit between the hypothesised model

and the observed data. MacCallum, Browne and Sugawara (1996) recently elaborated on these cut-off points and noted that RMSEA values ranging from 0,08 to 0,10 indicate mediocre fit, and those greater than 0,10 indicate poor fit.

Moderated regression analyses will be carried out to assess the contribution of the independent variables (Work stress, Optimism, Commitment) to Burnout and Engagement scores. According to Tabachnick and Fidell (2001), the correlation between an independent variable and a dependent variable, reflects variance shared with the dependent variable, but some of the variance may be predictable from other independent variables. The unique contribution of an independent variable to predicting a dependent variable, can be assessed by semipartial correlation. Squared semipartial correlation (sr_i^2) expresses the unique contribution of the independent variable to the total variance of the dependent variable. In standard multiple regression (sr_i^2) for an independent variable, it is the amount by which R^2 is reduced if that independent variable is deleted from the regression equation. The difference between R^2 and the sum of all independent variables, represents shared variance, variance that is contributed to R^2 by two or more independent variables. Effect sizes will be calculated with the following formula (Steyn, 1999):

$$f^2 = \frac{sr_i^2}{1 - R^2}$$

Steyn (1999) suggested the following guidelines in terms of effect size, namely $f^2 = 0,01$ (small effect), $f^2 = 0,15$ (medium effect) and $f^2 = 0,35$ (large effect). In the present study, a cut-off point of 0,15 (medium effect) was set for the practical significance of f^2 .

4. RESEARCH PROCEDURE

The measuring battery will be compiled. In cooperation with the office of the Dean of Students, a letter, explaining the background of and the motivation for the empirical research, and requesting their participation, will be sent to all the student leaders. At meetings with the SRC and the combined House Committees, the ethical questions regarding the research will be discussed with the participants. At these meetings the measuring battery will be handed to the respondents for completion.

5. CHAPTER DIVISION

Chapters will be divided as follows:

Chapter 1: Introduction

Chapter 2: Research article

Chapter 3: Conclusion, limitations and recommendations

6. CHAPTER SUMMARY

In this chapter the problem statement and motivation for the research was discussed. The purpose of the research was formulated, the methodology of the research is outlined and the methods used for the statistical analysis are described.

A research article on the relationship between burnout and engagement and work stress, optimism and commitment of student leaders in a higher education institution, is presented in Chapter 2.

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CHAPTER 2

RESEARCH ARTICLE

BURNOUT AND ENGAGEMENT OF STUDENT LEADERS IN A HIGHER EDUCATION INSTITUTION

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ABSTRACT

Extensive research on burnout in different occupational fields has taken place internationally. However, no studies have been performed on students in higher education institutions in South Africa. The objective of this research was to standardise the Maslach Burnout Inventory–Student Survey (MBI-SS) and the Utrecht Work Engagement Scale–Student Survey (UWES-SS) for student leaders in a South African university. Further objectives included determining the relationships between burnout and engagement on the one hand, and work stress, optimism, individual and organisational commitment on the other. A cross-sectional survey design was used. The entire population of student leaders were involved ($N=196$). The Maslach Burnout Inventory–Student Survey and the Utrecht Work Engagement Scale–Student Survey, Life Orientation Test Revised, Attitudes Towards Your Organisation Survey and Position Characteristics Survey were administered. The results showed that for the Burnout model, Emotional Exhaustion was best predicted by Overload, Cynicism by Job Demands and Professional Efficacy by Resources. For the Engagement model, Absorption was best predicted by Resources and Dedication, and Vigour was best predicted by Optimism.

OPSOMMING

Breedvoerige navorsing oor uitbranding in verskillende beroepsvelde het al op internasionale vlak plaasgevind. Nietemin is geen studies onder studente by hoër-
onderwysinstellings in Suid-Afrika uitgevoer nie. Die doelstelling van hierdie navorsing was om die Maslach Uitbradingsvraelys-Studente-Opname en die Utrecht Werksbegeesteringskaal-Studente-Opname te standaardiseer vir studenteleiers by 'n Suid-Afrikaanse universiteit. Verdere doelstellings sluit in die bepaling van verhoudings tussen uitbranding en werksbegeestering aan die een kant, en werkstres, optimisme,

individuele en organisasie-verbintenis aan die ander kant. 'n Dwarsdeursnee-ontwerp is gebruik. Die hele populasie van studenteiers (N=196) is gebruik. Die Maslach Uitbrandingsvraelys-Studente-Opname, Utrecht Werksbegeesteringskaal-Studente-Opname, Hersiende Lewensorientasie Toets, Houdings Teenoor Jou Organisasie Opname en Posisie Karaktertrekke Opname is administreer. Die resultate het getoon dat vir die Uitbrandingsmodel word Emosionele Uitputting die beste voorspel deur Oorlading, Sinisme deur Taakvereistes en Professionele Doeltreffendheid deur Hulpbronne. Vir die Begeesteringsmodel is Absorpsie die beste voorspel deur Hulpbronne en Toewyding en Energie die beste voorspel deur Optimisme.

Extensive research on burnout in different occupational fields, and specifically human resource burnout in service professions, including teachers, has taken place. However, although students at tertiary education institutions are often involved with some kind of “people work”, only one study focussing on this specific population has taken place (Schaufeli, Martínez, Pinto, Salanova & Bakker, 2002). Specifically student leaders, and members of Students’ Representative Councils are expected to deal with student affairs and consult to students as clients in general.

It was previously believed that students cannot experience burnout, but this belief has proven to be invalid (e.g., Balogun, Helgemoe, Pellegrini & Hoerberlein, 1996; Gold & Michael, 1985). Burnout among students, refers to feeling exhausted because of study demands, having a cynical and detached attitude towards one’s studies, and feeling incompetent as a student. Student burnout can be considered to be an erosion of academic engagement (Schaufeli, Martínez, et al., 2002). Burnout among students could therefore have a negative impact on their academic performance, and far-reaching consequences for their personal and professional development.

University students may in fact experience the burnout phenomenon due to learning conditions that demand excessively high levels of effort and do not provide supportive mechanisms that would facilitate effective coping (Neuman, Finaly-Neuman & Reichel, 1990). Student burnout may be the key to understanding a wide range of student behaviours during their university years. Student burnout may also influence students’ future relationships with their university. The phenomenon of student burnout may affect the general attractiveness of the university for new students with potential ramifications for present and future enrolment. Therefore, students’ burnout can be an important aspect of university effectiveness that may have distinct policy implications for institutions of higher learning (Neuman et al., 1990).

Burnout among students in higher education institutions in South Africa, has never been researched. South Africa is a uniquely multi-cultural country and therefore students in South Africa will probably experience different stressors than their overseas counterparts. The impending mergers between different universities, as part of the restructuring of higher education in South Africa, make students feel uncertain about how these mergers are going to

affect them and their future studies. This situation makes for fertile breeding ground for student burnout. Rothmann (2002) stressed the need for burnout research in South Africa in stating that serious limitations of burnout research in South Africa include poorly designed studies (i.e. small sample size), a lack of sophisticated statistical analyses (i.e. confirmatory factor-analytical analysis by means of structural equation modelling) and poorly controlled studies.

Burnout, a negative work-related psychological state that is primarily characterised by mental exhaustion, has been intensively studied during the past 25 years (Schaufeli & Buunk, in press.). Maslach (1982, 1993), Maslach, Jackson and Leiter (1996) and Maslach, Schaufeli and Leiter (2001), describe burnout as a syndrome consisting of three dimensions, namely feelings of emotional exhaustion, depersonalisation (cynicism) and reduced personal accomplishment. *Emotional exhaustion*, the individual stress dimension of burnout, refers to feelings of depleted physical and emotional resources and prompts actions in the individual to distance him-/herself emotionally and cognitively from his/her work, presumably as a way to cope with work overload. The interpersonal context dimension is represented by *Depersonalisation*, which entails negative, callous and cynical attitudes or excessively detached responses towards the recipients of service and care, reducing the recipient to an impersonal object. These two dimensions are generally considered to be the core symptoms of burnout (Demerouti, Bakker, Nachreiner & Schaufeli, 2001). The third dimension, *Lack of Professional Accomplishment* (Demerouti et al., 2001), represents the self-evaluation dimension of burnout and refers to feelings of insufficiency (Schaufeli & Buunk, 1996), incompetence, lack of achievement, as well as feelings of unproductiveness (Maslach et al., 2001).

Empirical studies revealed that some individuals, regardless of high job demands and long working hours, do not develop burnout in comparison to others, but seem to find pleasure in hard work and dealing with job demands (Schaufeli & Bakker, 2001). Consequently, theoretical and empirical studies commenced on the concept of engagement, theoretically viewed as an antithesis of the burnout construct.

Development of the engagement construct took two different, but related paths. Firstly Maslach and Leiter (1997) rephrased burnout as an “erosion of engagement with the job”. Subjective experiences of work that started out as important, meaningful and challenging

become unpleasant, unfulfilling and meaningless. Engagement, according to these authors, is characterised by energy, involvement and efficacy, the direct opposites of burnout, namely exhaustion, cynicism and lack of professional efficacy respectively. Engagement could therefore be theoretically measured with the Maslach Burnout Inventory-Student Survey (MBI-SS) (Schaufeli, Leiter, Maslach & Jackson) with a high score on professional efficacy and low scores on exhaustion and cynicism.

The second path was taken by Schaufeli and his colleagues, agreeing in part with the description of engagement proposed by Maslach and Leiter (1997), with the difference that engagement should be measured with a different instrument worthy of operationalisation in its own right (Schaufeli, Salanova, Gonzáles-Romá & Bakker, 2002). They further argue that the simultaneous empirical investigation of burnout and engagement would be impossible with one instrument. Based on a theoretical analysis, burnout and engagement were conceptually related to each other, resulting in two work-related dimensions of well-being, being identified, namely (1) *activation*, ranging from exhaustion to vigour, and (2) *identification*, ranging from cynicism to dedication (Schaufeli & Bakker, 2001). Professional accomplishment and absorption were also included in the burnout and engagement constructs respectively, but not in an antithetical manner. It was argued that professional accomplishment was added only afterwards in the development of the Maslach Burnout Inventory when a third factor was discovered during a factor-analysis of a preliminary version of the MBI (Maslach, 1993).

Engagement is identified as a positive, fulfilling, work-related state of mind that is characterised by Vigour, Dedication and Absorption. It is furthermore not a momentary and specific state, but a more persistent and pervasive affective-cognitive state, which is not focussed on a particular object, event, individual or behaviour (Schaufeli, Salanova, et al., 2002). *Vigour* is characterised by high levels of energy and mental resilience while working, as well as a willingness to exert effort and to persist even through difficult times. *Dedication* is characterised by a sense of significance in one's work, feeling enthusiastic, inspired, and proud, and by viewing it as a challenge. *Absorption* comes close to the concept of "flow", an optimal state of experience where focussed attention, a clear mind, unison of body and mind, effortless concentration, complete control, loss of self-consciousness, distortion of time, and intrinsic enjoyment is experienced (Csikszetmihalyi, 1990).

Engagement, can therefore be distinguished but not divorced from burnout in terms of its structure and operationalisation. Engagement is theoretically viewed as the opposite end of the continuum from burnout, but cannot be measured effectively by the Maslach Burnout Inventory (MBI), but with its own instrument, the Utrecht Work Engagement Scale (UWES) (Schaufeli, Salanova, et al., 2002).

Since the development of the UWES by Schaufeli, Salanova, et al. (2002), only a couple of studies could be found in the literature regarding work engagement. Schaufeli, Martinez, et al. (2002) conducted a cross-national study amongst students from three different countries. Only one study regarding the UWES, which failed to confirm the hypothesised 3-factor structure, could be found in South Africa (Storm & Rothmann, 2003). As a result, information is lacking regarding the internal consistency, construct validity and comparability for South African populations of the UWES, which is of special importance in the multicultural South African context.

According to Schaufeli and Bakker (2002), any occupation can be viewed from a stress perspective in terms of two elements, namely job demands and job resources. Job demands are those physical, psychological, social or organisational aspects of the job, which require sustained physical and/or psychological (i.e. cognitive or emotional) effort and as a consequence, are associated with physiological costs, e.g. work overload, personal conflicts, and emotional demands such as demanding clients. Although these demands are not necessarily negative, they can turn into stressors when trying to meet them. Consequently, they become associated with negative responses in the long run, such as depression, anxiety, or burnout. Job resources, on the other hand, refer to those physical, psychological, social or organisational aspects of the job that: (1) reduce the job demands and therefore the associated physiological and psychological costs or, (2) are functional in the achievement of work goals or, (3) stimulate personal growth, learning and development through, for example, social support, autonomy, feedback and job security.

Within positive psychology, researchers have started to investigate a host of positive psychological factors over the last decade. Factors like optimism, spirituality and social support have shown to influence well-being. Optimism in particular is linked to desirable outcomes such as good morale, achievement, improved health and coping with adversity (Carver et al., 1993; Chang, 1996; Lin & Peterson, 1990). Dispositional optimism can be

referred to as the degree to which individuals holds positive expectancy for their future (Scheier & Carver, 1987). Dispositional optimism may help students deal with stressful situations better by getting them to use their resources more effectively (Baldwin, Chambliss & Towler, 2003). Optimism, conceptualised as an individual difference, may influence the cognitive appraisal of an event as stressful (Peterson, 2000). An optimistic student leader will therefore be someone who will expect a positive outcome for the effort he/she puts in as a student leader. Baldwin et al. (2003) hypothesized in their study that optimistic students would report less stress than their pessimistic counterparts.

Optimism is furthermore associated with improved immune functioning and lower neuroticism scores (Ebert, Tucker & Roth, 2002; Scheier, Carver & Bridges, 1994; Segerstrom, Taylor, Kemeny & Fahey, 1998; Shea, Burton & Girgis, 1993). Fry (1995) found evidence that optimism significantly moderates the relationship between daily hassles and self-esteem maintenance, burnout and physical illness. Dispositional optimism can be defined as a person's positive outlook towards life events (Ebert et al., 2002; Scheier et al, 1994). A number of researchers described this personality trait as a psychological resistance factor, which could be used to conceptualise individual differences and are related to more positive outcomes (Ebert et al., 2002). Positive outcomes being predicted by optimism, include, 1) coping with major life stresses, 2) adjusting to major life transitions, and 3) responses to more minor stresses (Hasan & Power, 2002).

Harju and Bolen (1998) argued that there is significant support that an optimistic viewpoint helped to construe outcomes as feasible, while persistence is maintained despite the fact that the task is perceived as difficult. According to Hasan and Power (2002), "optimistic people make stable-global-internal attributions for positive events and unstable-specific-external attributions for negative events, where as pessimistic people do just the opposite". However, it seems as if optimistic people are better equipped to handle stress. They (optimists) rely more on strategies that could help to control or modify aspects of stressors, they normally seek information, and are more involved in planning and positive re-framing (Jackson, Weiss & Lundquist, 2001). Pessimists on the other hand, tend to employ strategies such as negative coping, cognitive or behavioural avoidance, denial, disengagement and/or substance abuse (Harju & Bolen, 1998; Jackson et al., 2001). As a result, optimism has mostly been linked to active, persistent, health-oriented coping, while pessimism is more likely to be linked with emotional distress, health concerns and negative coping (Harju & Bolen, 1998). Scheier and

Carver (1992) also found in their study that optimists became significantly less stressed, depressed and lonely over time compared to their pessimistic counterparts in their adaptation to tertiary education.

According to Cartwright and Cooper (2002), organisational commitment has two dimensions. On the one hand it entails the extent to which individuals feel that their organisation is committed to them. On the other hand, employers also expect their employees to do their job the best they can, and expect them to be loyal and dedicated to the organisation. Blau and Boal (1987) also propagate this two-dimensional approach to organisational commitment. In the first approach, commitment is seen as a behaviour during which the individual is viewed as committed to an organisation because it is too costly for him or her to leave. In the second approach the individual is committed to the organisation because of shared goals and the wish to maintain membership (Blau & Boal, 1987).

Recently, organisational commitment has been identified as a significant moderator of stress (Begley & Cazjka, 1993; Siu, 2002) and was linked to work engagement (Lee, Carswell, & Allen, 2000). Siu's (2002) results showed that organisational commitment was not only related to most of the physical and psychological outcomes among workers, but also to the moderating effects on the stressor-health relationship. Organisational commitment interacts therefore with sources of stress at work to determine the outcomes thereof. Sui (2002) argued that this indirect or moderating effect of commitment protects individuals from the negative effect of stress, due to the fact that it enables them to attach direction and meaning to their work. Begley and Cazjka (1993) tested empirically the moderating effects of organisational commitment, and concluded that commitment buffered the relationship between stress and job displeasure. Stress therefore only increased job displeasure when commitment was low. Organisational commitment can also provide people with stability and a feeling of belonging. However, the opposite can also be true. Being too committed to one's organisation can inhibit personal growth and prevent one from recognising the organisations' faults and possibly results in group thinking.

No research thus far has been done on burnout and engagement of student leaders in South Africa. The objective of this research was therefore to determine the construct validity and reliability of the constructs of burnout and engagement among student leaders. Further objectives included the identification of work stressors specific to the tertiary education

context, as experienced by student leaders. Whether student leader burnout and engagement can be predicted by variables like commitment, optimism and work stress, will give important insights into the functioning of student leaders. Also it will provide information about whether preventative measures must be taken to enhance the optimal functioning of student leaders in the performance of their various responsibilities.

RESEARCH METHOD

Research design

A survey was utilised to obtain the research objectives. The entire population of student leaders at a higher education institution was contacted to participate in this research. The specific design is a cross-sectional design, whereby a sample is drawn from a population at one time (Shaughnessy & Zechmeister, 1997). Information collected is used to describe the population at that time. The design can also be used to assess interrelationships among variables within the population.

Study Population

All members of the Students' Representative Council (SRC) and members of the House Committees of all the hostels of the university, received questionnaires ($N=196$), but only 154 questionnaires were returned and were suitable for statistical analysis. The student leaders came from 22 different house committees from the different male and female hostels on campus. The Students' Representative Council (SRC) was also included in this study because it is the overall governing body, elected by the students themselves. Each SRC member deals with a different portfolio, for example sport, cultural activities, or community service. Table 1 gives the particulars of the study population.

Table 1

Demographic Characteristics of the Participants

Item	Category	Percentage
In which hostel are you?	Hostel 1	3,23
	Hostel 2	5,16
	Hostel 3	3,87
	Hostel 4	5,81
	Hostel 5	3,87
	Hostel 6	3,87
	Hostel 7	2,58
	Hostel 8	3,87
	Hostel 9	5,16
	Hostel 10	5,16
	Hostel 11	3,87
	Hostel 12	3,87
	Hostel 13	1,29
	Hostel 14	5,16
	Hostel 15	2,58
	Hostel 16	4,52
	Hostel 17	4,52
	Hostel 18	3,87
	Hostel 19	5,18
	Hostel 20	3,23
	Hostel 21	4,52
	Hostel 22	5,16
Gender	SRC	9,03
	Male	42,86
Amount of alcoholic drinks taken per week	Female	57,14
	0 – 4 drinks per week	74,84
	5 – 7 drinks per week	10,97
	8 – 14 drinks per week	5,16
Do you smoke?	15 or more drinks per week	9,03
	Yes	23,38
Amount of cigarettes smoked per day	No	76,62
	1 - 10 cigarettes per day	32,50
	11 - 20 cigarettes per day	55,00
	21 - 30 cigarettes per day	7,50
	More than 30 cigarettes per day	5,00

The sample consisted of 88 females, while 66 were male. Most of the participants (41%) were 21 years old. Generally speaking, most of the student leaders had satisfactory academic

records (academic year and historical year corresponded in most cases). Approximately 74,68% of the students have been serving on the Students' Representative Council or House Committee for only one year, while 3,25% of the students were serving their third year. Around 75% of the participants take zero – four alcoholic drinks per week, whereas 9% take more than fifteen alcoholic drinks per week. Approximately 23% of the students smoke, of which 55% smoke 11 – 20 cigarettes per day. More than 80% (81,29%) of the student leaders self-rated their performance as student leaders (on a five-point scale), as 4 (good) or 5 (very good).

Measuring instruments

The Maslach Burnout Inventory-Student Survey (Schaufeli et al., 1996), the Utrecht Work Engagement Scale-Student Survey (Schaufeli, Salanova & Bakker, in press), the Position Characteristics Survey (PCS), the Life Orientation Test-Revised (LOT-R) (Scheier et al., 1994), and the Attitudes Towards Your Organisation Survey (Cartwright & Cooper 2002) were used to reach the objectives set for this study.

- The *Maslach Burnout Inventory-Student Survey* (Schaufeli et al., 1996). Burnout was assessed by the use of the modified version of the Maslach Burnout Inventory-General Survey (MBI-GS) that was adapted for the use in student samples. The MBI-SS consists of sixteen items that constitute the three scales, Exhaustion, Cynicism and Efficacy. All items are scored on a 7-point frequency rating scale ranging from 0 (never) to 6 (always). High levels on exhaustion and cynicism and low scores on efficacy indicate burnout. Schaufeli, Martínez, et al. (2002) report alpha values above 0,60.
- The *Utrecht Work Engagement Scale-Student Survey* (Schaufeli et al., in press) will be used to measure the levels of engagement among student leaders. Work engagement is a concept that includes three dimensions: Vigour, Dedication and Absorption. High levels of vigour and dedication characterise engaged workers, and they are immersed in their jobs. The UWES consists of seventeen items and is scored on a 7-point frequency rating scale, varying from 0 (never) to 6 (always). The alpha coefficients for the three sub-scales varied between 0,68 and 0,91 for the three sub-scales. The alpha coefficient could be improved by eliminating a few items without decreasing the scale's internal consistency

substantially. For a study with university students. Schaufeli, Martínez, et al. (2002) report alpha values above 0,60.

- The *Position Characteristics Survey* (PCS). The Position Characteristics Scale was developed for the purpose of this study. Various demands and resources in the organisation, was identified and measured on a 5-point scale, ranging from 1 (strongly disagree) to 6 (strongly agree). The internal consistency and construct validity of the scale was determined. Interviews with selected members of house committees, and the author's own experience as member of a house committee, led to the development of this measuring instrument, consisting of 38 items that are typical stressors in the environment under study.
- *The Life Orientation Test-Revised* (LOT-R) (Scheier et al., 1994). This is a 10-item measure used to measure dispositional optimism. Six items contribute to the optimism score and four items are fillers. The original Life Orientation Test (Scheier & Carver, 1985), as a two-factor structure (optimism and pessimism), was questioned (Harju & Bolen, 1998). Follow-up analysis have demonstrated a 1-factor structure, indicating that the LOT-R is measuring a continuum of high, average and low optimism/pessimism (Scheier et al., 1994). The LOT-R is measured on a 5-point Likert Scale, ranging from 5 (I strongly agree) to 1 (I strongly disagree). The LOT-R has been shown to have adequate internal consistency (Cronbach's alpha is 0,78) and excellent convergent and discriminant validity (Scheier et al., 1994). Based on a sample of 204 college students, Harju and Bolen (1998) obtain a Cronbach alpha coefficient of 0,75.
- *The Attitudes Towards Your Organisation Survey*. This questionnaire is concerned with the measurement of commitment. It consists of nine items divided into two scales: commitment of the organisation to the employee and commitment of the employee to the organisation. This questionnaire therefore reflects the non-economic reciprocal obligations, which exists between employer and employee. Employees expect to be trusted and respected and expect to feel that it is worth "going the extra mile" for the organisation. The *commitment of the organisation to the employee* subscale, measures the extent to which individuals feel that their organisation is committed to them. Employers expect their employees to do their job the best they can and expect them to be loyal and

dedicated to the organisation. The *commitment of the employee to the organisation* subscale, measures the extent to which this commitment exists. The scale was developed by Cartwright and Cooper (2002).

Statistical analysis

The statistical analysis was carried out with the help of the SAS-program (SAS Institute, 2000). Cronbach alpha coefficients, inter-item correlation coefficients and exploratory and confirmatory factor analysis was utilised to assess the reliability and validity of the measuring instruments (Clark & Watson, 1995).

Descriptive statistics (e.g. means, standard deviations, range, skewness and kurtosis) and inferential statistics were used to analyse the data. Pearson correlation coefficients were computed to determine the relationships between variables. In the case where the distribution of scores was skew, Spearman correlation coefficients was computed. A cut-off point of $p = 0,05$ was set for the statistical significance of the results. Effect sizes (Cohen, 1988) were used to decide on the practical significance of the findings. A cut-off point of 0,30 (medium effect, Cohen, 1988) was set for the practical significance of correlation coefficients.

Structural equation modelling (SEM) methods as implemented by AMOS (Arbuckle, 1997), were used to test the factorial model of the MBI and UWES, using the maximum likelihood method. Because this study is a first in terms of exploring the dimensions of the burnout and engagement constructs among South African students, both one- and three-factor models were tested. Before performing SEM, the frequency distributions of the MBI and UWES were checked for normality and multivariate outliers were removed. SEM is a statistical methodology that takes a confirmatory (i.e. hypothesis-testing) approach to the analysis of a structural theory bearing on some phenomenon (Byrne, 2001). Several aspects of SEM set it apart from the older generation of multivariate procedures (Byrne, 2001). Firstly, it takes a confirmatory rather than an exploratory approach to data analysis. Furthermore, by demanding that the pattern of inter-variable relations be specified, a priori, SEM lends itself well to the analysis of data for inferential purposes. Secondly, while traditional multivariate procedures are incapable of either assessing or correcting for measurement error, SEM provides precise estimates of these error variance parameters. Thirdly, SEM procedures can incorporate both unobserved (latent) and observed variables.

Hypothesised relationships are tested empirically for goodness-of-fit with the sample data. The χ^2 statistic and several other goodness-of-fit indexes summarise the degree of correspondence between the implied and observed covariance matrixes. Jöreskog and Sörbom (1993) suggest that the χ^2 value may be considered more appropriately as a badness-of-fit, rather than as a goodness-of-fit measure in the sense that a small χ^2 value is indicative of good fit. However, because the χ^2 statistic equals $(N - 1)F_{\min}$, this value tends to be substantial when the model does not hold and the sample size is large (Byrne, 2001). A large χ^2 relative to the degrees of freedom, indicates a need to modify the model to better fit the data. Researchers have addressed the χ^2 limitations by developing goodness-of-fit indexes that take a more pragmatic approach to the evaluation process. One of the first fit statistics to address this problem, was the χ^2 /degrees of freedom ratio (CMIN/DF) (Wheaton, Muthén, Alwin & Summers, 1977). These criteria, commonly referred to as "subjective" or "practical" indexes of fit, are typically used as adjuncts to the χ^2 statistic.

The Goodness-of-Fit Index (GFI) indicates the relative amount of the variances/co-variances in the sample predicted by the estimates of the population. It usually varies between 0 and 1, and a result of 0,90 or above indicates a good model fit. In addition, the Adjusted Goodness-of-Fit Index (AGFI) is given. The AGFI is a measure of the relative amount of variance accounted for by the model, corrected for the degrees of freedom in the model relative to the number of variables. The GFI and AGFI can be classified as absolute indexes of fit because they basically compare the hypothesised model with no model at all (Hu & Bentler, 1995). Although both indexes range from zero to 1,00, the distribution of the AGFI is unknown, therefore no statistical test or critical value is therefore available (Jöreskog & Sörbom, 1993). The Parsimony Goodness-of-Fit Index (PGFI) addresses the issue of parsimony in SEM (Mulaik, et al., 1989). The PGFI takes into account the complexity (i.e., number of estimated parameters) of the hypothesised model in the assessment of overall model fit and provides a more realistic evaluation of the hypothesised model. Mulaik et al. (1989) suggested that indexes in the 0,90's accompanied by PGFI's in the 0,50's are not unexpected; however, values larger than 0,80 are considered to be more appropriate (Byrne, 2001).

The Normed Fit Index (NFI) is used to assess global model fit. The NFI represents the point at which the model being evaluated, falls on a scale running from a null model to perfect fit.

This index is normed to fall on a 0 to 1 continuum. Marsh, Balla and Hau (1996) suggest that this index is relatively insensitive to sample sizes. The Comparative Fit Index (CFI) represents the class of incremental fit indexes in that it is derived from the comparison of a restricted model (i.e., one in which structure is imposed on the data) with that of an independence (or null) model (i.e., one in which all correlations among variables are zero) in the determination of goodness-of-fit. The Tucker-Lewis Index (TLI) (Tucker & Lewis, 1973), which is a relative measure of covariation explained by the model, was specifically developed to assess factor models. For these fit indexes (NFI, CFI and TLI), it is more or less generally accepted that a value of less than 0,90 indicates that the fit of the model can be improved (Hoyle, 1995), although a revised cut-off value close to 0,95 has recently been advised (Hu & Bentler, 1999).

To overcome the problem of sample size, Browne and Cudeck (1993) suggested using the Root Mean Square Error of Approximation (RMSEA) and the 90% confidence interval of the RMSEA. The RMSEA estimates the overall amount of error; it is a function of the fitting function value relative to the degrees of freedom. The RMSEA point estimate should be 0,05 or less, and the upper limit of the confidence interval should not exceed 0,08. Hu and Bentler (1999) suggested a value of 0,06 to be indicative of good fit between the hypothesised model and the observed data. MacCallum, Browne and Sugawara (1996) recently elaborated on these cut-off points and noted that RMSEA values ranging from 0,08 to 0,10 indicate mediocre fit, and those greater than 0,10 indicate poor fit.

Moderated regression analyses were carried out to assess the contribution of the independent variables (Work stress, Optimism, Commitment) to Burnout and Engagement scores. According to Tabachnick and Fidell (2001), the correlation between an independent variable and a dependent variable reflects variance shared with the dependent variable, but some of the variance may be predictable from other independent variables. The unique contribution of an independent variable to predicting a dependent variable can be assessed by semipartial correlation. Squared semipartial correlation (sr_i^2), expresses the unique contribution of the independent variable to the total variance of the dependent variable. In standard multiple regression (R^2) for an independent variable it is the amount by which R^2 is reduced if that independent variable is deleted from the regression equation. The difference between R^2 and the sum of all independent variables, represents shared variance, variance that is contributed

to R^2 by two or more independent variables. Effect sizes were calculated with the following formula (Steyn, 1999):

$$f^2 = \frac{SR_i^2}{1 - R^2}$$

Steyn (1999) suggested the following guidelines in terms of effect size, namely $f^2 = 0,01$ (small effect), $f^2 = 0,15$ (medium effect) and $f^2 = 0,35$ (large effect). In the present study a cut-off point of 0,15 (medium effect) was set for the practical significance of f^2 .

RESULTS

Table 2 shows the Goodness-of-fit statistics of the hypothesised MBI-SS model (1 Factor) of the student leaders.

Table 2

Goodness-of-fit Statistics for the Hypothesised MBI-SS Model (1 Factor)

Model	χ^2	χ^2/df	GFI	AGFI	PGFI	NFI	TLI	CFI	RMSEA
Model 1	406,99	3,91	0,70	0,61	0,54	0,52	0,54	0,58	0,14
Model 2	389,20	4,32	0,70	0,60	0,52	0,53	0,51	0,58	0,15
Model 3	317,04	4,11	0,74	0,64	0,54	0,58	0,57	0,63	0,14
Model 4	223,53	3,02	0,81	0,73	0,57	0,70	0,72	0,77	0,12
Model 5	163,62	2,31	0,87	0,80	0,59	0,78	0,82	0,86	0,09
Model 6	154,50	2,21	0,87	0,81	0,58	0,79	0,83	0,87	0,09

Table 2 shows that the statistically significant χ^2 value of 406,99 ($df = 3,91$; $p = 0,00$) revealed a relatively poor overall fit of the hypothesised 1-factor MBI model. However, both the sensitivity of the likelihood ratio test to sample size and its basis on the central χ^2 distribution, which assumes that the model fits perfectly in the population, have been reported to lead to problems of fit (Jöreskog & Sörborn, 1993). Furthermore, the hypothesised model (Model 1) was also not that good from a practical perspective. The PGFI value lower than 0,80, NFI, TLI and CFI values lower than 0,95 and RMSEA value higher than 0,05 is indicative of failure to confirm the hypothesised model. It is therefore apparent that some modification in specification is needed in order to determine a model that better represents the sample data.

To pinpoint possible areas of misfit, standardised residuals values were examined. Standardised residuals are fitted residuals divided by their asymptotically (large sample) standard errors (Jöreskog & Sörbom, 1986). In essence, they represent estimates of the number of standard deviations that the observed residuals are from the zero residuals that would exist if model fit were perfect (Byrne, 2001). Values larger than 2,58 are considered to be large (Jöreskog & Sörbom, 1986).

Post hoc analyses

Given rejection of the initially postulated 1-factor model, the focus shifted from model testing to model development (exploratory factor analysis). Considering the high-standardised residuals of one item, it was decided to re-specify the model with Item 13 deleted. All subsequent analyses are now based on the 15-item revision, which is labelled here as Model 2. The fit statistics are presented in Table 2.

In Model 3, error variances of single items within the particular Burnout scale were permitted to correlate. Correlations were found between Item 1 and Item 2, between Item 2 and Item 6, and also between Item 8 and Item 9. Error variances of single items within the particular Burnout scale, were again allowed to correlate in Model 4. Correlations were then found between Item 1 and Item 6, between Items 11 and 12, and also between Item 10 and Item 16. This adaptation constitutes Model 5, still showing unacceptable fit. After allowing error variances of single items within this particular Burnout scale to correlate, a correlation was also found between Item 2 and Item 4 in Model 6. The fit of the 1-factor model improved by allowing correlations of these error variances. Table 2 summarises the goodness-of-fit statistics of Model 6.

The fit statistics for Model 6 in Table 2 still indicate poor fit for the re-specified model. None of the Goodness-of-fit statistics reached the critical cut-off points. It was therefore concluded that the burnout construct is not well defined by a 1-factor solution, and analysis proceeded to the testing of a 3-factor solution.

Table 3 gives the Goodness-of-fit statistics of the hypothesised MBI-SS model (3-Factor) of the student leaders.

Table 3

Goodness-of-fit Statistics for the Hypothesised MBI-SS Model (3 Factor)

Model	χ^2	χ^2/df	GFI	AGFI	PGFI	NFI	TLI	CFI	RMSEA
Model 1	195,26	2,24	0,86	0,808	0,62	0,76	0,82	0,85	0,09
Model 2	145,29	1,96	0,89	0,84	0,63	0,79	0,86	0,89	0,08
Model 3	135,08	1,85	0,89	0,85	0,62	0,81	0,87	0,90	0,04
Model 4	120,82	1,67	0,91	0,87	0,62	0,83	0,90	0,92	0,06
Model 5	115,23	1,62	0,91	0,87	0,61	0,83	0,91	0,92	0,06

The statistically significant χ^2 value of 195,26 ($df = 2,24; p = 0,00$) revealed a relatively poor overall fit of the hypothesised 3-factor MBI model. The hypothesised model (Model 1) was not that good from a practical perspective. The PGFI value lower than 0,80, NFI, TLI and CFI values lower than 0,95 and RMSEA value higher than 0,05 is indicative of failure to confirm the hypothesised model. It is therefore apparent that some modification in specification is needed in order to determine a model that better represents the sample data.

To pinpoint possible areas of misfit, standardised residuals values were examined. Values bigger than 2,58 are considered to be large (Jöreskog & Sörbom, 1986), and indicate items that should be removed from analysis.

Post hoc analyses

Given rejection of the initially postulated 3-factor model, the focus shifted to exploratory factor analysis and model development. Considering the high-standardised residuals of items 4 and 13, it was decided to re-specify the model with these deleted. All subsequent analyses are now based on the 14-item revision, which is labelled here as Model 2. The fit statistics are presented in Table 3. Although the various fit indexes for this model are substantially improved compared to those for the initial model, there is still some evidence of misfit in the model. For example, the $\chi^2 (73) = 145,29$ ($p < 0,00$) was still statistically significant, while the PGFI and RMSEA values were not acceptable.

In Model 3, error variances of single items within the particular Burnout scale were permitted to correlate. Correlations were found between Item 10 and Item 16. Error variances of single items within the particular Burnout scale were again allowed to correlate in Model 4. Correlations were then found between Item 1 and Item 3. A further adaptation is presented in Model 5, where a correlation was found between Items 14 and 15. The fit of the 3-factor model improved by allowing correlations of error variances. Table 3 summarises the goodness-of-fit statistics of Model 5.

The fit statistics in Table 3 indicate a good fit for the re-specified model. Although the χ^2 value ($df = 71; p = 0,00$) is still high, it is considerably lower than in Model 1. All the other fit statistics indicate acceptable fit of the measurement model to the data. Since this model fit was satisfactory and the results agreed with the theoretical assumptions underlying the structure of the MBI, no further modifications of the model were deemed necessary. The correlations between the three burnout dimensions are as follows: PE and CY show the highest correlation of -0,60, followed by EX and CY with a correlation of 0,31, and EE and PE with a correlation of -0,19, respectively.

Table 4 shows the Goodness-of-fit statistics of the hypothesised UWES-SS model (1-Factor) of the student leaders at the PUK.

Table 4

Goodness-of-fit Statistics for the Hypothesised UWES Model (1-Factor)

Model	χ^2	χ^2/df	GFI	AGFI	PGFI	NFI	TLI	CFI	RMSEA
Model 1	196,59	2,21	0,85	0,79	0,63	0,81	0,87	0,89	0,09
Model 2	180,40	2,05	0,86	0,81	0,63	0,83	0,88	0,90	0,08

Table 4 shows that the statistically significant χ^2 value of 196,59 ($df = 89; p = 0,00$) revealed a relatively poor overall fit of the original hypothesised MBI model. Furthermore, the hypothesised model (Model 1) was also not that good from a practical perspective. The PGFI value lower than 0,80, NFI, TLI and CFI values lower than 0,95 and RMSEA value higher than 0,05 is indicative of failure to confirm the hypothesised model. It is therefore apparent

that some modification in specifications is needed in order to determine a model that better represents the sample data.

To pinpoint possible areas of misfit, standardised residuals values were examined. Values larger than 2,58 are considered to be large (Jöreskog & Sörbom, 1986). No items showed a standardised residual value high enough to be deleted from analysis.

Post hoc analyses

In Model 2, error variances of single items within the particular subscales, were then permitted to correlate. A correlation was found between Item 1 and Item 4. A correlations was also found between Item 9 and Item 14 in Model 2. The fit of the 1-factor model was improved by allowing correlations of these error variances. Table 4 summarises the goodness-of-fit statistics of Model 2.

The fit statistics for Model 2 in Table 4 still indicate poor fit for the re-specified model. No further correlations were allowed, even when adjusting the threshold for modification indices. None of the Goodness-of-fit statistics reached the critical cut-off points. It was therefore concluded that the engagement construct is not well defined by a 1-factor solution, and analysis proceeded to the testing of a three-factor solution of the engagement construct.

Table 5 shows the Goodness-of-fit statistics of the hypothesised UWES-SS model (3-Factor) of the student leaders.

Table 5

Goodness-of-fit Statistics for the Hypothesised UWES-SS Model (3-Factor)

Model	χ^2	χ^2/df	GFI	AGFI	PGFI	NFI	TLI	CFI	RMSEA
Model 1	159,05	1,93	0,88	0,83	0,64	0,85	0,91	0,92	0,07
Model 2	133,34	1,55	0,90	0,86	0,64	0,87	0,94	0,95	0,06

The statistically significant χ^2 value of 159,05 (df = 87; $p = 0,00$) revealed a relatively poor overall fit of the originally hypothesised MBI model. The hypothesised model (Model 1) was also not that good from a practical perspective. The PGFI value lower than 080, NFI, TLI and

CFI values lower than 0,95 and RMSEA value higher than 0,05 is indicative of failure to confirm the hypothesised model. It is therefore apparent that some modification in specifications is needed in order to determine a model that better represents the sample data.

To pinpoint possible areas of misfit, standardised residuals values were examined. Standardised residuals are fitted residuals divided by their asymptotically (large sample) standard errors (Jöreskog & Sörbom, 1986). In essence, they represent estimates of the number of standard deviations that the observed residuals are from the zero residuals that would exist if model fit were perfect (Byrne, 2001). Values larger than 2,58 are considered to be large (Jöreskog & Sörbom, 1986).

Post hoc analyses

The fit statistics for Model 1 in Table 5 indicate poor fit for the re-specified model; error variances of single items within the particular subscales were permitted to correlate in Model 2. Correlations were then found between Item 1 and Item 2. The fit of the 3-factor model improved by allowing correlations of these error variances. Table 5 summarises the goodness-of-fit statistics of Model 2.

The fit statistics in Table 5 indicate acceptable fit for the re-specified model. Although the χ^2 value ($df = 89; p = 0,00$) is still high, it is considerably lower than in Model 1. The χ^2/df , TLI and CFI indicate reasonable fit of the respecified model. Since this model fit was satisfactory and the results agreed with the theoretical assumptions underlying the structure of the UWES, no further modifications of the model were deemed necessary.

Table 6 shows factor loadings, communalities, percentage variance and covariance for principal factor extraction and Varimax rotation of the items of the Position Characteristics Survey.

Table 6

Factor Loadings, Communalities (h^2), Percentage Variance and Covariance for Principal Factor Extraction and Varimax Rotation of the Position Characteristic Survey.

Item	F ₁	F ₂	F ₃	F ₄	h^2
I have little or no influence over my performance targets.	0,67	0,00	0,00	0,00	0,55
I am set unrealistic deadlines.	0,67	0,00	0,00	0,00	0,48
My work is dull and repetitive.	0,67	0,00	0,00	0,00	0,45
I am not adequately trained to do many aspects of my work.	0,64	0,00	0,00	0,00	0,55
I do not enjoy my work.	0,64	0,00	0,00	0,00	0,41
I feel isolated at work e.g. working on my own or lack of social support from others.	0,62	0,00	0,00	0,00	0,45
I am not sure what my management expect of me.	0,60	0,00	0,00	0,00	0,44
My relationship with my colleagues are poor.	0,59	0,00	0,00	0,00	0,50
I am given unmanageable workloads.	0,59	0,00	0,00	0,00	0,43
My ideas or suggestions about my work are not taken into account.	0,59	0,00	0,00	0,00	0,48
My primaria/student council chairperson is forever finding fault with what I do.	0,55	0,00	0,00	0,00	0,40
I am not involved in decisions affecting my work.	0,54	0,00	0,00	0,00	0,43
Others take credit for what I achieve.	0,51	0,00	0,00	0,00	0,35
My Primaria/ student council chairman behaves in an intimidating and bullying way towards me.	0,46	0,00	0,00	0,00	0,22
I work unsocial hours e.g. weekends.	0,00	0,73	0,00	0,00	0,57
I sometimes have to sacrifice personal time in order to get my work done.	0,00	0,72	0,00	0,00	0,53
My work interferes with my home and personal life.	0,00	0,68	0,00	0,00	0,54
I work longer hours than I choose or want to	0,00	0,60	0,00	0,00	0,38
I sometimes need to write things down to ensure I remember to do it.	0,00	0,52	0,00	0,00	0,37
Sometimes I have so many things to take care of that I just forget to do some things	0,00	0,52	0,00	0,00	0,46
I do not have enough time to do my work as well as I would like.	0,00	0,48	0,00	0,00	0,42
I do not feel informed about what is going on in this institution.	0,00	0,00	0,55	0,00	0,32
Important decisions and schedules are not adequately communicated to me.	0,00	0,00	0,54	0,00	0,39
I do not get important information soon enough.	0,00	0,00	0,51	0,00	0,33
I am never told if I am doing a good job.	0,00	0,00	0,47	0,00	0,32
My leadership bursary (honorarium) is enough for the amount of work I do.	0,00	0,00	0,00	0,61	0,41
I am provided with the logistics support (office computer) to do a good job.	0,00	0,00	0,00	0,61	0,39
I have sufficient opportunities to follow training courses.	0,00	0,00	0,00	0,57	0,33
Squared Multiple Correlations	0,89	0,86	0,76	0,76	
Percentage Variance	16,26	9,29	7,40	5,70	
Percentage Covariance	43,85	25,05	15,47	15,59	

Factor labels: F1: Job Demands, F2: Overload, F3: Communication, F4: Resources

Inspection of Table 6 shows that four factors were extracted, accounting for 38,65% of the total variance in the data. As indicated by the SMC's, all factors were internally consistent and well defined by the variables. Variables were also reasonably well defined by this factor solution. Communality values, as seen in Table 6, tend to be moderate. With a cut-off of 0,45 for inclusion of a variable in interpretation of a factor, 10 of 38 variables did not load on the

four factors. The items that did not load on the factors included the following; I have little control over many aspects of my work; My work has a negative effect on my personal relationships; My performance is closely monitored; I do not get the support from others that I would like; My institution is constantly changing for change's sake; Other people are not pulling their weight; I have to deal with difficult students; I do not have proper equipment or resources to do my work; I have enough contact with colleagues when I am working; and I need more money to do my work properly.

Items loading on the first factor relate to Job Demands in the environment of student leaders. It deals with, amongst other things, personal time, personal responsibility, the unpleasant nature of administrative tasks, and the time spent doing work. The second factor seems to address Overload, and includes long hours and too much work. The third factor constitutes Communication and includes things like lack of information and receiving information too late. The fourth factor related to Resources and items that loaded on this factor relate to the opportunities for training, adequate pay and availability of support.

Table 7 shows the descriptive statistics, mean, inter-item correlation coefficients and alpha coefficients of the MBI, UWES, PCS, LOT-R and ATYOS.

Table 7

Descriptive Statistics, Mean, Inter-Item Correlation Coefficients and Alpha Coefficients of the Measuring Instruments of the Student Leaders (N = 154)

Variable	<i>M</i>	<i>SD</i>	Skewness	<i>Kurtosis</i>	<i>r</i> Mean	α
MBI						
Emotional Exhaustion	12,97	4,71	0,15	-0,51	0,48	0,79
Cynicism	9,94	4,92	-0,01	-0,26	0,39	0,73
Professional Efficacy	18,62	5,15	-0,21	-0,66	0,38	0,76
UWES						
Vigour	13,76	5,09	0,01	-0,48	0,40	0,77
Dedication	22,87	6,80	-0,19	-0,80	0,49	0,85
Absorption	12,74	4,13	-0,14	-0,40	0,28	0,60
PCS						
Job Demands	32,90	10,73	0,67	0,58	0,39	0,90
Overload	29,98	6,04	-0,64	1,05	0,38	0,80
Communication	12,19	3,73	0,46	0,64	0,36	0,69
Resources	9,36	3,44	0,21	-0,54	0,45	0,70
LOT-R						
Optimism	32,95	11,43	0,49	-0,25	0,27	0,64
ATOYS						
Organisational Commitment	19,76	3,32	-1,27*	2,78*	0,46	0,76
Individual Commitment	20,27	3,38	-1,49*	3,04*	0,66	0,89

*High skewness and kurtosis

Table 7 shows that Cronbach alpha coefficients varying from 0,60 to 0,90 were obtained for the scales. Especially the factors of Communication (0,69), and Optimism (0,64) show low alpha values. These values can however, still be regarded as acceptable (Nunnally & Bernstein, 1994). The values for factors of the developed MBI and UWES factors, were acceptable. Confirmatory factor analysis of the LOT-R and ATYOS resulted in factors with acceptable reliability and validity. The mean inter-item correlations of all the scales are also acceptable ($0,15 \leq r \leq 0,50$, Clarke & Watson, 1994). It is evident from Table 7 that the scores on the various measuring instruments are relatively normally distributed, with low skewness and kurtosis. The exceptions are Organisational Commitment and Individual Commitment, which show relatively high skewness and kurtosis. In conclusion, it can be said that all instruments showed sufficient reliability and validity to be used for subsequent analysis.

Table 8 shows a statistically significant correlation (practically significant, large effect) between Emotional Exhaustion and Overload and Communication. Emotional Exhaustion shows statistically significant positive correlations with Cynicism and Optimism, and statistically significant negative correlations with Vigour, Dedication and Resources. Cynicism shows a statistically significant negative correlation (practically significant, large effect) with Dedication and a statistically significant negative correlation (practically significant, medium effect) with Professional Efficacy and Vigour. Cynicism shows statistically significant positive correlations with Job Demands, Overload, Communication and (somewhat surprisingly) with Optimism. Cynicism also shows a statistically significant negative correlation with Absorption. Professional Efficacy shows a statistically significant positive correlation (practically significant, large effect) with Vigour, Dedication and Absorption. Professional Efficacy shows statistically significant positive correlations with

* Statistically significant: $p \leq 0,05$
 + Practically significant: $r > 0,30$ (medium effect)
 ++ Practically significant: $r > 0,50$ (large effect)

EF=Emotional Exhaustion; CY = Cynicism; PE=Professional Efficacy; VI=Vigour; DE=Dedication; AB=Absorption; J_D=Job Demands; O_L=Overload; C=Communication; R=Resources; O=Optimism Total; OC=Organisational Commitment; IC=Individual Commitment.

Item	EE	CY	PE	VI	DE	AB	J_D	O_L	C	R	O	OC	IC
EE													
CY	0.29*												
PE	-0.42	0.65*											
VI	0.79**	0.62**											
DE	-0.21*	0.65**	0.72**										
AB	-0.07	0.65**	0.63**										
J_D	0.09	0.21*	-0.15	-0.08									
O_L	0.59**	0.22*	-0.14	-0.06	0.13								
C	0.80**	0.28*	-0.06	0.00	0.49*	0.14							
R	-0.24*	-0.13	0.17*	0.21*	0.22*	0.04	-0.20*	-0.19*					
O	0.23*	0.16*	-0.27*	-0.26*	-0.21*	0.25*	0.25*	0.05*	0.24*				
OC	0.01	-0.14	0.27*	0.16*	0.23*	-0.48*	0.00	-0.37*	0.05	-0.41*			
IC	0.08	-0.12	0.25*	0.10	0.19*	0.06	-0.48*	0.09*	-0.25*	0.04	-0.44*		0.75**

Table 8
 Correlation Coefficients between the MBI, UWES, LOT-R, PCS, and ATYOS

The product-moment correlation coefficients between the factors of the MBI, UWES, LOT-R, PCS and ATYOS are reported in Table 8. In the case of correlations between Organisational Commitment and Individual Commitment and other constructs, Spearman correlation coefficients were computed because of the skewed distribution of the scores.

Resources and Individual and Organisational Commitment and statistically significant negative correlations with Job Demands and Optimism. Vigour shows statistically significant correlation (practically significant, large effect) with Dedication and Absorption. Vigour shows statistically significant positive correlations with Resources and Organisational commitment and statistically significant negative correlations with Optimism. Dedication shows a statistically significant correlation (practically significant, large effect) with Absorption. Dedication shows statistically significant positive correlations with Organisational and Individual Commitment and a statistically significant negative correlation with Optimism. Absorption shows a statistically significant positive correlation with Resources and a statistically significant negative correlation with Optimism. Job Demands shows a positive correlation (practically significant, medium effect) between Job Demands and Communication and negative correlations (practically significant, medium effect) with Organisational and Individual Commitment. Job Demands shows a statistically significant positive correlation with Optimism. Overload shows a statistically significant positive correlation with Individual Commitment and a statistically significant negative correlation with Resources. Communication shows a negative correlation (practically significant, medium effect) with Organisational Commitment. Communication shows a statistically significant positive correlation with Optimism. Communication also shows statistically significant negative correlations with Resources and Individual Commitment. Resources show a statistically significant positive correlation with Optimism. Optimism shows negative correlations (practically significant, medium effect) with Organisational and Individual Commitment. Organisational commitment shows a statistically significant positive correlation (practically significant, large effect) with Individual Commitment.

Table 9 gives the results of a moderated regression analysis with Emotional Exhaustion, Cynicism and Professional Efficacy as dependent variables and Job Demands, Overload, Communication, Resources, Total Optimism, Individual Commitment and Organisational Commitment as independent variables.

Table 9

Moderated Regression with Emotional Exhaustion, Cynicism and Professional Efficacy as Dependent Variables (DV) and Job Demands, Overload, Communication, Resources, Optimism, Individual Commitment and Organisational Commitment as Independent Variables (IV)

Variable	Parameter	SE	T	P	sr ² _i
DV = Emotional Exhaustion; IV = Job Demands, Overload, Communication, Resources, Optimism, Individual Commitment and Organisational Commitment F = 14,76 R ² = 0,42 Σsr ² _i = 0,3894					
Intercept	-1,91	3,61	-0,53	<.0001	-
Job Demands	0,01	0,04	0,40	0,6882	0,00065
Overload	0,42	0,05	7,71	<.0001*	0,24034
Communication	-0,13	0,10	-1,26	0,2101	0,00641
Resources	-0,15	0,09	-1,57	0,1179	0,01001
Optimism	0,10	0,03	3,17	0,0018	0,04074
Organisational Commitment	-0,19	0,16	-1,19	0,2344	0,00577
Individual Commitment	0,26	0,16	1,60	0,1123	0,01032
DV = Cynicism; IV = Job Demands, Overload, Communication, Resources, Optimism, Individual Commitment and Organisational Commitment F = 2,90 R ² = 0,13 Σsr ² _i = 0,0808					
Intercept	1,37	4,62	0,30	0,0073	-
Job Demands	0,04	0,05	0,87	0,3841	0,00464
Overload	0,14	0,07	1,98	0,0493	0,02392
Communication	0,25	0,13	1,98	0,0492	0,02394
Resources	-0,08	0,12	-0,64	0,5261	0,00246
Optimism	0,03	0,38	0,77	0,4440	0,00359
Organisational Commitment	0,07	0,21	0,35	0,7254	0,00075
Individual Commitment	-0,08	0,20	-0,40	0,6895	0,00097
DV = Professional Efficacy; IV = Job Demands, Overload, Communication, Resources, Optimism, Individual Commitment and Organisational Commitment F = 2,99 R ² = 0,13 Σsr ² _i = 0,0844					
Intercept	16,11	4,76	3,38	0,0058	-
Job Demands	-0,08	0,05	-1,79	0,0759	0,01938
Overload	-0,04	0,07	-0,53	0,5987	0,00169
Communication	0,20	0,13	1,53	0,1271	0,01428
Resources	0,25	0,12	2,03	0,0447	0,02487
Optimism	-0,07	0,04	-1,85	0,0660	0,02081
Organisational Commitment	0,13	0,21	0,60	0,5488	0,00219
Individual Commitment	0,07	0,21	0,34	0,7348	0,00069

*Statistically significant – $p < 0,0001$

Table 9 shows that the independent variables predicted 38,94 % of the variance in overall Emotional Exhaustion. The independent variables contributed respectively to the variance in Emotional Exhaustion as follows; Job Demands 0,06% ($sr_i^2 = 0,00065$), Overload 24,03%

($sr_i^2 = 0,24034$), Communication 0,64% ($sr_i^2 = 0,00641$), Resources 1,00% ($sr_i^2 = 0,01001$), Optimism 4,07% ($sr_i^2 = 0,04074$), Organisational Commitment 0,57% ($sr_i^2 = 0,00577$), Individual Commitment 1,03% ($sr_i^2 = 0,01032$). The unique variances explained by the independent variables were not practically significant. Given that 38,94% of the variance in Emotional Exhaustion was explained in total by these independent variables ($R^2 = 0,3894$), and that sr_i^2 adds up to 0,31424 (31,42%), it is clear that the remaining 7,52% of the variance can be attributed to interaction between the independent variables.

Regarding Cynicism, the independent variables predicted 8,08 % of the variance in overall Cynicism. The independent variables contributed respectively to the variance in Cynicism as follows; Job Demands 4,64% ($sr_i^2 = 0,00464$), Overload 2,39% ($sr_i^2 = 0,02392$), Communication 2,39% ($sr_i^2 = 0,02394$), Resources 0,24% ($sr_i^2 = 0,00246$), Optimism 0,35% ($sr_i^2 = 0,00359$), Organisational Commitment 0,07% ($sr_i^2 = 0,00075$), Individual Commitment 0,09% ($sr_i^2 = 0,00097$). The unique variances explained by the independent variables were not practically significant. Given that 8,08% of the variance in Cynicism was explained in total by these independent variables ($R^2 = 0,0808$), and that sr_i^2 adds up to 0,06027 (6,02 %), it is clear that the remaining 2,06% of the variance can be attributed to interaction between the independent variables.

For Professional Efficacy, the independent variables predicted 8,44 % of the variance in overall Professional Efficacy. The independent variables contributed respectively to the variance in Professional Efficacy as follows; Job Demands 1,94% ($sr_i^2 = 0,01938$), Overload 0,17% ($sr_i^2 = 0,00169$), Communication 1,43% ($sr_i^2 = 0,01428$), Resources 2,49% ($sr_i^2 = 0,02487$), Optimism 2,08% ($sr_i^2 = 0,02081$), Organisational Commitment 0,22% ($sr_i^2 = 0,00219$), Individual Commitment 0,06% ($sr_i^2 = 0,00069$). The unique variances explained by the independent variables were not practically significant. Given that 8,44% of the variance

in Professional Efficacy was explained in total by these independent variables ($R^2 = 0,0844$), and that sr_i^2 adds up to 0,0839 (8,39 %), it is clear that the remaining 0,05% of the variance can be attributed to interaction between the independent variables.

Table 10 gives the results of a moderated regression analysis with Absorption, Dedication and Vigour as dependent variables and Job Demands, Overload, Communication, Resources, Optimism, Individual Commitment and Organisational Commitment as independent variables.

Table 10

Moderated Regression with Absorption, Dedication and Vigour as Dependent Variables (DV) and Job Demands, Overload, Communication, Resources, Optimism, Individual Commitment and Organisational Commitment as Independent Variables (IV)

Variable	Parameter	SE	T	P	sr_i^2
DV = Absorption: IV = Job Demands, Overload, Communication, Resources, Optimism, Individual Commitment and Organisational Commitment					
Commitment		$F = 2,29$	$R^2 = 0,10$	$\sum sr_i^2 = 0,0566$	
Intercept	11,06	3,93	2,81	0,0302	-
Job Demands	-0,04	0,04	-1,01	0,3165	0,00631
Overload	0,02	0,06	0,32	0,7461	0,00066
Communication	0,17	0,11	1,56	0,1215	0,01516
Resources	0,26	0,10	2,59	0,0106	0,04189
Optimism	-0,07	0,03	-2,03	0,0445	0,02566
Organisational Commitment	0,24	0,18	1,34	0,1812	0,01128
Individual Commitment	-0,23	0,17	-1,31	0,1924	0,01072
DV = Dedication: IV = Job Demands, Overload, Communication, Resources, Optimism, Individual Commitment and Organisational Commitment					
Commitment		$F = 2,41$	$R^2 = 0,10$	$\sum sr_i^2 = 0,0612$	
Intercept	21,51	6,43	3,34	0,0234	-
Job Demands	-0,08	0,06	-1,28	0,2012	0,01025
Overload	-0,05	0,10	-0,55	0,5819	0,00189
Communication	0,33	0,18	1,85	0,0670	0,02118
Resources	0,20	0,17	1,19	0,2370	0,00877
Optimism	-0,13	0,05	-2,40	0,0178	0,03571
Organisational Commitment	0,24	0,29	0,82	0,4115	0,00422
Individual Commitment	-0,03	0,29	-0,12	0,9082	0,00008
DV = Vigour: IV = Job Demands, Overload, Communication, Resources, Optimism, Individual Commitment and Organisational Commitment					
Commitment		$F = 3,00$	$R^2 = 0,13$	$\sum sr_i^2 = 0,0849$	
Intercept	9,77	4,73	2,07	0,0057	-
Job Demands	0,06	0,05	1,36	0,1750	0,01126
Overload	-0,10	0,07	-1,44	0,1509	0,01264
Communication	0,07	0,13	0,55	0,5854	0,00181
Resources	0,22	0,12	1,77	0,0781	0,01908
Optimism	-0,09	0,04	-2,30	0,0229	0,03207
Organisational Commitment	0,38	0,21	1,79	0,0749	0,01950
Individual Commitment	-0,12	0,21	-0,59	0,5590	0,00208

*Statistically significant – $p < 0,0001$

Table 10 shows that the independent variables predicted 5,66% of the variance in overall Absorption. The independent variables contributed respectively to the variance in Absorption as follows; Job Demands 0,63% ($sr_i^2 = 0,00631$), Overload 0,06% ($sr_i^2 = 0,00066$), Communication 1,51% ($sr_i^2 = 0,01516$), Resources 4,19% ($sr_i^2 = 0,04189$), Optimism 2,56%

($sr_i^2 = 0,02566$), Organisational Commitment 1,13% ($sr_i^2 = 0,01128$), Individual Commitment 1,07% ($sr_i^2 = 0,01072$). The unique variances explained by the independent variables were not practically significant. Given that 5,66% of the variance in Absorption was explained in total by these independent variables ($R^2 = 0,0566$), and that sr_i^2 adds up to 0,11168 (11,16 %), it is clear that the difference of 5,50% of the variance can be attributed to the fact that there is very little interaction between the independent variables in predicting Absorption.

Regarding Dedication, the independent variables predicted 6,12% of the overall variance. The independent variables contributed respectively to the variance in Dedication as follows; Job Demands 1,02% ($sr_i^2 = 0,01025$), Overload 0,18% ($sr_i^2 = 0,00189$), Communication 2,11% ($sr_i^2 = 0,02118$), Resources 0,87% ($sr_i^2 = 0,00877$), Optimism 3,57% ($sr_i^2 = 0,03571$), Organisational Commitment 0,42% ($sr_i^2 = 0,00422$), Individual Commitment 0% ($sr_i^2 = 0,00008$). The unique variances explained by the independent variables were not practically significant. Given that 6,12% of the variance in Dedication was explained in total by these independent variables ($R^2 = 0,0612$), and that sr_i^2 adds up to 0,0821 (8,21 %), it is clear that the difference of 2,09% of the variance can be attributed to the fact that there is very little interaction between the independent variables in predicting Dedication.

Table 10 shows that the independent variables predicted 8,49% of the variance in overall Vigour. The independent variables contributed respectively to the variance in Vigour as follows; Job Demands 1,12% ($sr_i^2 = 0,01126$), Overload 1,26% ($sr_i^2 = 0,01264$), Communication 0,18% ($sr_i^2 = 0,00181$), Resources 1,90% ($sr_i^2 = 0,01908$), Optimism 3,20% ($sr_i^2 = 0,03207$), Organisational Commitment 1,95% ($sr_i^2 = 0,01950$), Individual Commitment 0,20% ($sr_i^2 = 0,00208$). The unique variances explained by the independent variables were not practically significant. Given that 8,49% of the variance in Vigour was explained in total by these independent variables ($R^2 = 0,0849$), and that sr_i^2 adds up to 0,09844 (9,84 %), it is clear that the difference of 1,35% of the variance can be attributed to the fact that there is very little interaction between the independent variables in predicting Vigour.

DISCUSSION

This study firstly set out to determine the applicability of the theoretical models of burnout and engagement to South African student leaders. Reliability analysis revealed that the three subscales of burnout were sufficiently internally consistent. The results obtained by using the structural equation modelling approach, supported a three-dimensional factor structure for burnout among student leaders. This 3-factor solution has also consistently been found for various other samples, occupational groups and countries (Taris, Schreurs & Schaufeli, 1999). The validity analysis revealed that all the alpha scores were acceptable. It can therefore be concluded that the MBI-SS, as developed in this research, is a reliable and valid measuring instrument for student leaders.

The UWES-SS's psychometric properties were also investigated in this study. The results obtained using the structural equation modelling approach, supported a three-dimensional factor structure for engagement among student leaders. It was found through reliability analysis that all three subscales were internally consistent and valid. Therefore the UWES-SS, as developed in this research, is a reliable and valid measuring instrument of the engagement construct for student leaders. These results deviate from a previous South African finding (Storm & Rothmann, 2003), which failed to confirm the 3-factor solution of the engagement construct in a national South African sample of police officers.

Consistent with the tests developers (Scheier et al., 1994), the confirmatory factor analysis of the LOT-R resulted in a single Optimism factor. The factor showed an adequate inter-item correlation and alpha score. This instrument was therefore also shown to be valid and reliable for student leaders. The Attitudes Toward Your Organisation Survey consists of two factors, namely Organisational and Individual Commitment. Confirmatory factor analysis showed that these factors have adequate inter-item correlations and alpha scores. This instrument was therefore also shown to be valid and reliable for student leaders.

The Position Characteristics Survey (PCS) was developed by the researchers to clarify the stress dimensions that student leaders typically experience in a tertiary education setting. Factor extraction with a Varimax rotation resulted in a 4-factor structure underlying the PCS. The four factors were identified as Job Demands, Overload, Communication and Resources. All of these factors had acceptable alpha values as well as inter-item correlations, confirming

the reliability and validity of the measuring instrument. *Job demands* in the student leader environment deals with, amongst other things, unrealistic deadlines, a lack of participation in decision-making and the strain caused by unhealthy work relationships. This factor can therefore be described as the demands placed on the student leader by a lack of involvement, recognition and support, and also includes the demands caused by external time frames imposed on the individual. *Overload* includes items relating to long hours and too much work. The factor can further be described as the demands placed on student leaders' personal time in order to complete work assignments, and an amount of tasks that is such that it overloads the individual cognitively. *Communication* includes things like a lack of information regarding performance, and a lack of information regarding on goings in the institution and schedules. *Resources* included items that related to the opportunities for training, adequate pay and enough logistical support. This factor deals therefore with forms of resources (financial, training and logistic) that enable the student leader to perform successfully in his/her job.

Comparing these factors to the model of job demands and job resources (Schaufeli & Bakker, 2002), the factors of Job Demands and Overload can be classified under the rubric of job demands, while the factors of Communication and Resources would constitute job resources. Job Demands and Overload can be theoretically related to burnout, because the dimension of job demands is usually related to burnout. Communication and Resources can be related to work engagement, because adequate job resources are usually necessary for people to be engaged in their work. A lack of the latter factors usually results in strain for the individual, and contributes to burnout.

Cynicism was negatively related to dedication. The student leader who shows high levels of dedication is therefore likely not to experience cynical attitudes toward their job and fellow students/student leaders. Student leaders who hold cynical attitudes are also less likely to experience dedication towards their jobs. Cynicism also shows a negative relationship with vigour. Student leaders that are vigorous in their job, will therefore probably not be cynical about their job. Cynical attitudes could also prevent a vigorous approach to work by student leaders. Professional efficacy showed positive relationships with vigour, dedication and absorption. A student leader, who is vigorous, dedicated and absorbed in what he/she are doing, will most likely also have positive beliefs about his/her efficacy in completing tasks. A student leader who has positive beliefs about his/her professional efficacy, will more likely

become absorbed in what he/she is doing, be vigorous and show high levels of dedication. The factors of the UWES also showed practically large inter-factor correlations.

Regarding the interaction of burnout and engagement, it was evident that cynicism showed a negative relationship with vigour and dedication. A possible interpretation of this finding is that, as a student leader becomes more cynical, his/her dedication decreases, thereby negatively affecting his/her vigour. As dedication and vigour decrease, the student leader could start to self-doubt and question his/her personal effectiveness in performing his/her multiple tasks. Professional efficacy is positively related to vigour, dedication and absorption. People who have high scores on professional efficacy will in theory be more engaged, and therefore student leaders with these characteristics will be effective, vigorous, dedicated and absorbed in their work as student leaders. An exciting but tentative conclusion to be drawn from this finding, is that high feelings of engagement could lead to increased perceptions of professional efficacy. An even more plausible explanation is that persons who perceive themselves to have high levels of efficacy, will naturally experience work engagement. This is consistent with the thinking around the construct of self-efficacy, as put forward by Schwarzer (1993; 1999). According to Schwarzer, the person with high levels of self-efficacy has the expectation that he or she possesses the ability to perform tasks successfully in a variety of achievement situations (Eden & Zuk, 1995; Schwarzer, 1993). In terms of acting, people with a high self-efficacy choose to perform more challenging tasks. They set higher goals for themselves and stick to them. Once an action has been taken, persons with a high self-efficacy invest more effort and persist longer than those who are low in self-efficacy. When setbacks occur, they recover more quickly and maintain committed to their goals (Schwarzer, 1999).

Vigorous student leaders can be described as people with high levels of energy and will be mentally resilient while working. These will also be people who will put in extra effort and will continue through difficult times. Vigorous student leaders will therefore also be dedicated and absorbed in what they do. Dedication shows a positive relationship with absorption. A possible explanation can be that because persons who are dedicated to their work, will also focus strongly on what they are doing and they will become easily absorbed.

Job demands show a positive relationship with communication and a negative relationship with organisational and individual commitment. A possible interpretation of this finding can

be that the experience of high job demands can be exasperated by inadequate communication. When student leaders don't get correct information timeously, it could lead to the missing of appointments and classes, and inability to cope with other responsibilities. Another aspect of job demands is that high demands could lead to one feeling that there is not enough time to check one's e-mail or answer a phone. The direction of the relationship in this study, indicates however that communication (of which the items describe a lack thereof) contributes to an increase in the experience of job demands. As job demands increase, so the experience of the individual's commitment towards the institution, and his/her perceptions of commitment from the side of the institution toward the employee decrease. The student leaders who are faced with high job demands and experiences communication as inadequate, could therefore hold perceptions that the university/hostel is not committed to them, while they themselves experience dwindling commitment toward the university/hostel.

Optimism was negatively related to organisational and individual commitment. Optimism can be thought of as a characteristic of the individual, while commitment rather describes the interaction between the individual and his/her environment (institution). It could therefore be expected that these constructs could be unrelated. The negative relationship indicates however that optimism increases as commitment decreases. Considering the age of the participants (21, meaning that most students would be in their third year of study, and ending their studies soon), a possible explanation for this finding is put forth as follows: The student leaders who are preparing to leave university will be experiencing increased levels of optimism as they draw nearer to entry into the labour market. They are however, in a phase of transition from the world of tertiary studies to the world of work, and therefore experience wavering commitment towards their current organisation (university). The positive relationship between individual and organisational commitment can be expected, because a certain level of expected reciprocity underlies these perceptions.

In this study, an attempt was also made to determine if job demands and a lack of job resources, could predict burnout and engagement of student leaders. Overload and lack of communication, contributed to the exhaustion dimension of burnout. There is also a negative association between exhaustion and resources. The student leader, who experiences overload cognitively, or in terms of responsibilities, is therefore more prone to burnout. The availability of resources (training, financial and logistic) could be said to prevent the development of exhaustion among student leaders.

Cynicism was positively related to the demands made by the job of student leaders, the overload they experience in terms of tasks and responsibilities and inadequate communication. All these factors will exacerbate student leaders' cynical attitudes toward the university and fellow students/student leaders. The availability of resources was positively related to perceptions of professional efficacy. Therefore, when the student leaders have the necessary financial and logistic resources, and training to deal with problems, they are likely to emerge with higher perceptions of their personal efficacy.

Vigour was positively related to the availability of resources. Again, the availability of financial and logistic support, as well as training, enhances feelings of vigour when student leaders have to perform their multiple tasks. It was also shown that the demands placed on student leaders by the job, and overload experienced on a cognitive level could decrease their dedication. When a student leader has too much to do, to such an extent that he/she become forgetful and absent-minded, his/her dedication to the task at hand is likely to decrease. Absorption was also positively related to the availability of resources. The more readily student leaders have access to financial, logistic and training support, the more likely they are to be absorbed in what they are doing.

This study also investigated whether individual and organisational commitment could predict burnout and engagement of student leaders. Results indicate that a positive relationship exists between individual commitment and personal efficacy and dedication. The individual who feels him-/herself committed to his/her organisation, or in this case university, is someone who will have positive views about his/her own capabilities, and will work in a dedicated and committed fashion. Organisational commitment is related to personal efficacy, vigour and dedication. If student leaders perceive that the university is committed to them, their personal perceptions of efficacy increase, while they also show more vigour, and a higher level of dedication to their tasks. Commitment can therefore be said to influence the positive aspect of burnout (professional efficacy), and some of the dimensions of engagement.

Emotional Exhaustion was best described by the independent variable of overload. This finding can be explained in terms of the fact that if one has too many things to attend to, one will become exhausted in trying to keep up with and doing everything. Because overload has to do with too much work and too long hours, the combination of the two can be a contributor

to getting emotionally exhausted. Cynicism was best described by job demands. A possible explanation for this can be that the student leader who constantly has to deal with high job demands, in the forms of dealing with students' problems and having to work under pressure, becomes more cynical. Student leaders might become more cynical because they have too much to do and experience pressure to do things right. The dependent variable of professional efficacy was best described by the independent variable of resources. The reason for this can be that if one has adequate resources at one's disposal, one can be effective in one's job and contribute maximally to it. In conclusion, it can be said that the student leader who is likely to experience burnout, is someone who is experiencing a lot of job demands, overload, is not getting correct and useful information in timeous fashion, and does not have adequate resources to do his/her job properly.

The best predictor of student leaders' levels of absorption was described by their experiences of availability of resources. Resources in this study, were defined as opportunities for training, adequate pay and availability of support. If you have enough resources, you can do your work without unnecessary considerations of budgets or worrying about personal levels of skill. The focus shifts therefore to the task at hand, and not securing the necessary resources to complete the task. Ample resources would therefore facilitate absorption in work. The dependent variables of dedication and vigour were both best described by the student leaders' levels of optimism. This can be explained by the fact that optimistic people construe outcomes as feasible, while persistence is maintained despite the fact that the task is perceived as difficult (Harju & Bolen, 1998). Optimism has also been linked to desirable outcomes such as good morale, achievement, improved health and coping with adversity (Chang, 1996). In conclusion, it can be said that the student leader who is dedicated to and vigorous in what he/she does, will experience high levels of engagement with his/her working environment and studies.

RECOMMENDATIONS

This study was only the second study in the world to investigate the psychometric properties of student versions of the Maslach Burnout Inventory and Utrecht Work Engagement Scale. The need for future studies among students, and especially student leaders, is obvious. It is postulated here that student leaders experience an even wider range of stressors than students

in general, because of the extra responsibilities they have as members of House Committees and the Students' Representative Council.

The study population was also very homogeneous. Out of the final sample of 154 student leaders, only two students were not from the white population group and Afrikaans speaking. Future studies should take into consideration the multi-cultural society that is modern-day South Africa. This necessitates the need to study the constructs of burnout and engagement for other student populations from different cultural groups, and to prove the construct equivalence and the absence of item bias for these groups. The population which supplied questionnaires that were suitable for statistical analysis, was also relatively small. Future studies should also include larger sample sizes.

The fact that Emotional Exhaustion was best predicted by overload, is a warning to the institution to beware of not giving student leaders too much work, because not only could this lead to emotionally exhausted student leaders, but it can, over a long period of time, develop student leader burnout. Cynicism was best described by job demands. The institution must try to involve, recognise and support the efforts of student leaders, while realistic time frames for projects should be set. A failure to do this could result in the creation of cynical student leaders. Professional Efficacy was best predicted by resources, so if the institution wants its student leaders to do their work effectively, it must provide them with adequate resources. The necessary financial, logistic and training support, would heighten student leaders' perceptions of their own efficacy, and could improve their general performance in this role.

Absorption was best predicted by resources, again indicating that ample support in terms of finances, logistics and support allows student leaders to become absorbed in what they are doing. Vigour and Dedication was best predicted by optimism, which means that if student leaders are optimistic they will be dedicated and vigorous in their work as student leaders. Unfortunately an institution does not really have any influence on people's levels of optimism. It is postulated from the discussion above that the availability of resources could have a significantly impact on student leaders' optimism.

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CHAPTER 3

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

The purpose of this chapter is to provide an analysis and discussion of the literature and empirical results of the study. Conclusions are made with the regard to the set research objectives. The first part of the chapter answers the research questions put forth in the first chapter. The limitations of the current study will be pointed out. Finally, recommendations for the organisation and future research are made.

3.1 CONCLUSIONS

Conclusions are made in the following sections in respect of the specific objectives and the empirical findings obtained in the present study.

- *To conceptualise burnout, engagement, work stress, optimism, individual and organisational commitment as pertaining to student leaders from the literature.*

Burnout is described as “a persistent, negative, work-related state of mind in ‘normal’ individuals that is primarily characterised by exhaustion, which is accompanied by distress, a sense of reduced effectiveness, decreased motivation, and the development of dysfunctional attitudes and behaviours at work” (Maslach, 1982, 1993). Maslach, Schaufeli and Leiter (2001), describe burnout as a syndrome consisting of three dimensions, namely feelings of emotional exhaustion, depersonalisation (cynicism) and reduced personal accomplishment. Burnout among students refers to feeling exhausted because of study demands, having a cynical and detached attitude towards one’s studies, and feeling incompetent as a student.

Engagement is identified as a positive, fulfilling, work-related state of mind that is characterised by Vigour, Dedication and Absorption. Furthermore, it is not a momentary and specific state, but a more persistent and pervasive affective-cognitive state, which is not focussed on a particular object, event, individual or behaviour (Schaufeli, Salanova, Gonzáles-Romá & Bakker, 2002). An engaged student leader can be described as someone

who is enthusiastic about his/her work, does the work with high levels of energy and experiences intrinsic enjoyment in doing the work as a student leader.

Work stress can be viewed from a stress perspective in terms of two elements, namely job demands and job resources. Job demands are those physical, psychological, social or organisational aspects of the job, which require sustained physical and/or psychological (i.e. cognitive or emotional) effort and as a consequence are associated with physiological costs, e.g. work overload, personal conflicts, and emotional demands such as demanding clients. Although these demands are not necessarily negative, they can turn into stressors when trying to meet them. Although no previous research regarding the stressors specifically experienced by student leaders could be found, this study is the first in identifying four factors of student leader stress, labelled here as Job demands, Overload, Communication and Resources.

Dispositional optimism can be referred to as the degree to which an individual has a positive expectation for his/her future (Scheier & Carver, 1987). Dispositional optimism may help students to deal with stressful situations better by getting them to use their resources more effectively (Baldwin, Chambliss & Towler, 2003).

Organisational commitment has two dimensions. On the one hand it entails the extent to which individuals feel that their organisation is committed to them. On the other hand, employers also expect their employees to do their job as best they can and expect them to be loyal and dedicated to the organisation. Blau and Boal (1987) also propagate this two-dimensional approach to organisational commitment. In the first approach, commitment is seen as a behaviour during which the individual is viewed as committed to an organisation because it is too costly for him or her to leave. In the second approach, the individual is committed to the organisation because of shared goals and the wish to maintain membership (Blau & Boal, 1987).

- *To determine the validity and reliability of the MBI-SS and UWES-SS for student leaders.*

The results obtained using the structural equation modelling approach supported a three-dimensional factor structure for burnout among student leaders. This 3-factor solution is consistent with various previous studies done with other samples, occupational groups and countries (Taris, Schreurs & Schaufeli, 1999). The validity analysis revealed that all the alpha

scores were acceptable. It can therefore be concluded that the MBI-SS as a 3-factor model, as developed in this research, is a reliable and valid measuring instrument for student leaders.

For the UWES, the results obtained using the structural equation modelling approach, supported a three-dimensional factor structure for engagement among student leaders. It was found, through reliability analysis, that all three subscales were internally consistent and valid. Therefore the UWES-SS, developed as a 3-factor model in this research, is a reliable and valid measuring instrument of the engagement construct for student leaders. This study differed from previous South African research (Storm & Rothmann, 2003), which failed to confirm the 3-factor structure of the UWES in South Africa.

- *To determine the reliability and validity of measures of work stress, optimism and commitment in a sample of student leaders.*

The Position Characteristics Survey (PCS) was developed by the researchers to clarify the stress dimensions that student leaders typically experience in a tertiary education setting. A 4-factor structure was shown to underlie the PCS. The four factors were identified as Job Demands, Overload, Communication and Resources. All of these factors had acceptable alpha values as well as mean, inter-item correlations, confirming the reliability and validity of the measuring instrument

Consistent with the tests developers (Scheier, Carver & Bridges, 1994), the confirmatory factor analysis of the LOT-R resulted in a single Optimism factor. The factor showed an adequate mean, inter-item correlation and alpha score. Therefore this instrument was also shown to be valid and reliable for student leaders.

The Attitudes Toward Your Organisation Survey consists of two factors, namely Organisational and Individual Commitment. Confirmatory factor analysis showed that these factors have adequate mean, inter-item correlations and alpha scores. Therefore this instrument was also shown to be valid and reliable for student leaders.

- *To conceptualise the relationship between burnout, engagement, work stress, optimism, individual and organisational commitment empirically.*

Regarding the interaction of burnout and engagement, it was shown that cynicism showed a negative relationship with vigour and dedication. A possible interpretation of this finding is that as a student leader becomes more cynical, his/her dedication decreases, thereby affecting his/her vigour negatively. As dedication and vigour decrease, the student leader could start to self-doubt and question his/her personal effectiveness in performing his/her multiple tasks. Professional efficacy is positively related to vigour, dedication and absorption. People who have high scores on professional efficacy will in theory be more engaged, and student leaders with these characteristics will therefore be effective, vigorous, dedicated and absorbed in their work as student leaders. An exiting but tentative conclusion to draw from this finding, is that high feelings of engagement could lead to increased perceptions of professional efficacy. An even more plausible explanation is that the person who perceives him-/herself to have high levels of efficacy, will naturally experience work engagement.

In this study, an attempt was also made to determine if job demands and a lack of job resources could predict burnout and engagement of student leaders. Regarding the exhaustion dimension of burnout, overload and a lack communication contributed to this. There is also a negative association between exhaustion and resources. Therefore, the student leader who experiences overload cognitively, or in terms of responsibilities, is more prone to burnout. The availability of resources (training, financial and logistic) could be said to prevent the development of exhaustion among student leaders.

This study also investigated whether individual and organisational commitment could predict burnout and engagement of student leaders. Results indicate that a positive relationship exists between individual commitment and personal efficacy and dedication. The individual who commits him or her to an organisation, or in this case university, is someone who will have positive views about his/her own capabilities, and will work in a dedicated and committed fashion. Organisational commitment is related to personal efficacy, vigour and dedication. If student leaders perceive that the university is committed to them, their personal perceptions of efficacy increase, while they also show more vigour, and a higher level of dedication to their tasks. Commitment can therefore be said to influence the positive aspect of burnout (professional efficacy), and some of the dimensions of engagement.

Optimism was negatively related to organisational and individual commitment. Optimism can be thought of as a characteristic of the individual, while commitment rather describes the interaction between the individual and his/her environment (institution). It could therefore be expected that these constructs could be unrelated. The negative relationship indicates however that optimism increases as commitment decreases. Considering the age of the participants (21, meaning that most students would be in their third year of study, and ending their studies soon) a possible explanation for this finding is put forth as such: The student leader who is preparing to leave university will be experiencing increased levels of optimism as he/she draws nearer to entry into the labour market. He/she is however in a phase of transition from the world of tertiary studies to the world of work, and therefore experiences wavering commitment towards his/her current organisation (university). The positive relationship between individual and organisational commitment can be expected, because a certain level of expected reciprocity underlies these perceptions.

- *To determine whether work stress, optimism, individual and organisational commitment can be used to predict burnout and engagement of student leaders.*

Emotional Exhaustion was best described by the independent variable of overload. This finding can be explained in terms of the fact that if one has too many things to attend to, one will tend to become exhausted by trying to keep up with and doing everything. Because overload has to do with too much work and too long hours, the combination of the two can be a contributor to getting emotionally exhausted. Cynicism was best described by job demands. A possible explanation for this can be that the student leader who constantly has to deal with high job demands, in the forms of dealing with students' problems and having to work under pressure, becomes more cynical. Student leaders might become more cynical because they have too much to do and experience pressure to do things right. The dependent variable of professional efficacy was best described by the independent variable of resources. The reason for this can be that if one has adequate resources, one can be effective in one's job and contribute maximally to it. In conclusion it can be said that the student leader who is likely to experience burnout is someone who is experiencing a lot of job demands and overload, is not getting correct and useful information in timeous fashion, and does not have adequate resources to do his/her job properly.

and make them feel more effective. Adequate resources will also help student leaders get more absorbed in their work, and will lead to greater feelings of professional efficacy.

3.3.2 Recommendations for future research

Further investigations of the psychometric properties of student versions of the Maslach Burnout Inventory and Utrecht Work Engagement Scale are deemed necessary. Studies should be undertaken among students, and especially student leaders from different universities in South Africa and abroad.

The study population was very homogeneous. Future studies should take into consideration the multi-cultural society of South Africa and prove the construct equivalence of the burnout and engagement constructs, and the absence of item bias for the different cultural groups.

The Position Characteristic Survey could be administered to other groups of student leaders. There is also an investigational need to focus on the construct equivalence of the extracted stress factors for student leaders from different cultural groups. It is also possible that student leaders from different universities are exposed to different work-related stressors.

Future studies should also include larger sample sizes.