WHEN THINGS GET TOUGH, THE TOUGH GET GOING: UNIVERSITY STUDENTS' PERCEIVED STRESS AND COPING MECHANISMS

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─**Abstract** ─

Stress has become an inevitable part of life for students in a university environment due to various factors, such as increased pressure, competition, decreased resources, inadequate family support and the increased use of drugs and alcohol. Moreover, the transition from adolescence to adulthood for university students is a difficult journey, filled with various risks, rapid changes and seemingly endless choices when placed within a university environment. This study examines perceived stress and coping strategies among university students. A cross-sectional survey involving 334 students at a university in Gauteng, South Africa was undertaken using validated perceived stress and coping scales. The prevalence of stress among university students seems to be high. Through a factor analysis procedure, two primary dimensions of stress were identified, namely perceived helplessness and low self-efficacy and five primary coping strategies are used by students, namely negativism and denial, emotional support, introspection and veneration, substance abuse, and humour. Female students seem to experience higher levels of stress compared to their male counterparts. The

results point toward the need to develop a training module to promote proactive coping strategies and the improvement of the general self-efficacy of university students. Furthermore, these results have implications for designing stress reduction workshops with the assistance of the student support and counselling department in the university. Limitations and implications for further research are discussed.

Key Words: *Stress, coping, self-efficacy, university students*

JEL Classification: I10

1. INTRODUCTION

University years in a student's life are a momentous period, marked with numerous unfamiliar experiences, challenges and life events. During this transitional period, university students acquire more independence, experience changes in social systems and gain important life skills (for example, problem solving and time management skills). For some, university experiences may be a positive change of pace and self-fulfilment; for others, these experiences could be a recipe for disaster, particularly if they have difficulty in coping with new pressures in an unfamiliar environment (Stoliker & Lafreniere, 2015). In addition, the significance of initially perceived stress accentuates the importance of minimising students' initial feelings of being overwhelmed at the outset of their university experience (Wintre & Yaffe, 2000).

1.1 Stress

Stress can be described as any feature arising internally or externally, which makes adaptation to an environment difficult and which induces increased effort on the part of the individual to maintain a state of balance with the external environment (Humphrey, Yow & Bowden, 2000). From a student's perspective, stress is a physical and mental state in reaction to the everyday demands within a university environment. While a certain amount of stress among university students is considered normal, too much stress can cause physical and mental health problems, reduce self-esteem and may affect students' academic achievement (Sharma & Kaur, 2011). There is also growing consensus that stress arises from an imbalance between the individuals' perception of situational demands, such as the university environment and their competence to cope with the demand (Mimura & Griffiths, 2004). It becomes evident that the experience of stress results from the interaction between the individual and internal/external stressors. When placed within a university environment, students are subjected to different kinds of stressors such as pressures from academics to succeed, an uncertain future and difficulties of integrating into a university system (Sharma & Kaur, 2011).

Stress among university students may surface due to overextended workloads, problems with time management, challenges with interpersonal relationships, preparations for assessments and fear of academic failure (Pierceall & Keim, 2007; Stoliker & Lafreniere, 2015). Students may also face social, emotional,

physical and family problems, which may affect their learning ability and academic performance at a university (Sharma & Kaur, 2011). Al-Dubai, Al-Naggar, Alshagga and Rampal (2011) concur that excessive stress could affect students physically and mentally and lead to reduced health, self-esteem issues and academic failure (Al-Dubai, Al-Naggar, Alshagga & Rampal, 2011).

1.2 Coping and coping strategies

Coping strategies are specific attempts that individuals engage in to manage stress, which trigger negative events, crises and challenges in life that are unavoidable and evoke a plethora of human responses (Al-Dubai et al., 2011). Some individuals adapt while others fail to cope with stressful experiences. Maintaining personal well-being requires skills and resources to overcome negative events (Gerber, Brand, Feldmeth, Lang, Elliot, Holsboer-Trachsler & Pühse, 2013). Since students face numerous challenges throughout their university life that impact on the fulfilment of their goals, it is important to understand how they will or will not manage those challenges (Struthers, Perry & Menec, 2000). Higher education literature on academic stress and coping among students reveals that students' coping methods are diverse, reflecting personal influences on their coping styles (Kausar, 2010). At any given phase of a stressful encounter, there are substantial individual differences in emotion and these largely reflect individual differences in cognitive appraisal and coping (Folkman & Lazarus, 1985).

Coping is often characterised by change. A student may initially engage in avoidance or denial-like strategies to ward off the consequences of an event and then decide to engage head-on with the problem; or at the stressful outset a student may cope by avoiding contact with others but later seek emotional support from friends or family members. Moreover, stress implies a disturbed person-environment relationship and coping is meant to change that behaviour. Unless students focus on change, they are unable to learn to manage stressful events (Folkman & Lazarus, 1985). Students may cope with stressful events in complex ways, by combining problem-focused coping with multiple forms of emotion-focused coping at each stage of an encounter. Shaban, Khater and Akhu-Zaheya's (2012) study revealed that students sometimes use combined strategies of coping that include problem solving and avoidance behaviours. Reeve, Shumaker, Yearwood, Crowell and Riley (2013) advocate the use of positive coping mechanisms in order to avoid the negative impacts of stress. Sheu, Lin and

Hwang (2002) affirm that when students appraise the stressful event as negative, they perceive the stress to be threatening, challenging or hurtful, which results in the need to seek adjustment to the stress in order to counter the negative effects through positive coping strategies. When effective coping strategies are used, emotions can be adjusted and the stressful situation can be resolved. In other words, the use of effective coping strategies facilitates the return to a balanced state, which reduces the negative effects of stress. However, improper coping behaviours increase the negative effects of stress. Therefore, coping behaviours play a vital role in the process of stress adjustment and reduction.

2. PURPOSE OF THE STUDY

The study examines the prevalence of stress and coping strategies of university students at a university of technology in southern Gauteng, South Africa. In addition, the study examines whether there are any significant differences in coping strategies between male and female students.

3. METHODOLOGY

The study is located within a quantitative positivist research paradigm. A positivist approach was used so that university students could be studied in their natural university environment (Mertens, 2005).

3.1 Sample

Participants in the study were 334 university students enrolled in the Faculty of Management Sciences in the Department of Human Resource Management at a university of technology. The biographical data indicated that the majority of students were females (n=222; 66.5%) and the majority of the students (n=176; 53%) were in the age group 18-22 years.

3.2 Instruments and data collection

The questionnaire was divided into three sections. Section A gathered biographical information. In Section B, the Perceived Stress Scale-10 (PSS-10) (Cohen & Williamson, 1988) was used to assess students' stress. Section C gathered information on ways of coping through the Brief COPE scale (Carver, 1997). The internal consistency (reliability) for the perceived stress and the coping scales were found reliable (>0.70) in previous studies (Cohen & Williamson,

1988; Carver, 1997). The primary researcher distributed the questionnaire to the students who completed it during their normal class time. Students were informed of the general nature of the study and that participation in the exercise was voluntary.

4. RESULTS AND DISCUSSION

Descriptive analysis was used to analyse the data. The reliability of the scales for perceived stress and coping strategies were assessed. In addition, exploratory factor analysis was used to establish the stress and coping dimensions.

4.1 Descriptive statistics – stress among students

The descriptive analysis of the stress scale is reported in Table 1. The mean scores ranged from 2.17 to 3.74. From the descriptive statistics, it seems that students have problems with stress, which accumulate and overcoming difficulties becomes problematic (M=3.21). They are unable to control essential issues in their life (M=3.26), get angered with issues beyond their control (M=3.29), get easily upset with unexpected events (M=3.41), are unable to control irritations in their life (M=3.53) and easily become nervous (M=3.74).

Table 1: Descriptive statistics – stress among students

Variable description	N	Mean	
		Statistic	Std error
How often have you felt confident about your ability to handle your personal problems?*	334	2.17	.053
How often have you felt that things were going your way?*	334	2.52	.051
How often have you felt that you were on top of things?*	334	2.53	.050
How often have you found that you could not cope with all the things you had to do?*	334	2.91	.054
How often have you felt difficulties were piling up so high that you could not overcome them?	334	**3.21**	.054
How often have you felt that you were unable to control the important things in your life?	334	**3.26**	.055
How often have you been angered because of things that were outside of your control?	334	**3.29**	.052
How often have you been upset because of something that happened unexpectedly?	334	**3.41**	.050
How often have you been able to control irritations in your life?	334	**3.53**	.050
How often have you felt nervous and stressed?	334	**3.74**	.049

*Reverse scored. Overall PSS scores obtained by adding all scores for each item. Scores range from 0 to 40, with higher scores indicative of greater perceived stress. Rating scale: 5-point Likert scale where 0=never and 4=very often. Means are ranked from lowest to highest.

4.2 Descriptive statistics – coping among students

The descriptive statistics for the coping strategies scale are reported on in Table 2. The mean scores indicate higher scores for introspection and veneration (M=3.83) and emotional support (M=3.30) indicating that students often engage in such forms of coping strategies. This is followed by humour (M=2.95), negativism and denial (M=2.60) and substance abuse (M=1.80). In this study, whilst substance abuse, and negativism and denial are reported as low compared to other variables, they certainly point towards the existence of these maladaptive strategies among students in addressing some of their stress. In a study undertaken by Pierceall and Keim (2007), the most common way of coping with stress was talking to family and friends (through emotional support), followed by leisure activities and exercise (developing the self through self-efficacy). Al-Dubai et al. (2011) found that students used active coping strategies (active coping, religious coping, positive reframing, planning, acceptance) more than avoidant strategies (denial, self-blame, alcohol or substance use).

Table 2: Descriptive statistics – coping strategies among students

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Substance abuse	334	1.00	5.00	1.80	1.23
Negativism & denial	334	1.00	5.00	2.60	.815
Humour	334	1.00	5.00	2.95	1.24
Emotional support	334	1.00	5.00	3.30	1.01
Introspection & veneration	334	1.00	5.00	3.82	.829

Rating scale: 0 = I haven't being doing this; 1 = I've been doing this a little bit; 2 = More than a little bit; 3 = I've been doing this a medium bit; 4 = I've been doing this a lot

4.3 Factor analysis

As a result of the presence of stress among university students, an analysis was undertaken of the data, without constraining the factors through a factor analysis procedure with varimax rotation in order to establish fundamental elements that constitute the stress and coping strategies scales. The principal components factoring procedure was applied and the criterion of eigenvalue greater than one was used to retain the factors. In both the perceived stress and coping scales,

either the items had low factor loadings or loading on several factors, implying that the variables may be dependent of one another (cross-loadings) and were, therefore, eliminated from the scales (Kim & Kim, 1995). The data from the factor analysis were explored by considering items that had loadings 0.50 or greater. Thereafter, the common core for each factor on both the scales was identified. Table 3 reports on the factors for the perceived stress and coping strategy scales. The results show that two factors (perceived helplessness and self-efficacy) were dominant in explaining the perceived stress scale and four factors (negativism and denial, emotional support, introspection and veneration, and humour) were dominant in explaining the coping strategies among university students.

Table 3: Reliability and factor analysis

Research construct		Descriptive statistics		Cronbach's test		Factor loadings
		Mean	SD	Item-total	α Value	
Perceived stress scale						
Perceived helplessness (PH)	PH_1			.443		.682
	PH_2			.432		.626
	PH_3	3.39	.81	.448	.70	.644
	PH_4			.431		.680
	PH_5			.499		.676
Perceived self-efficacy (ES)	ES_1	2.53	.83	.559	.72	.867
	ES_2			.559		.869
Coping strategies scale						
Negativism and denial (ND)	ND_1			.426		.596
	ND_2			.452		.674
	ND_3			.410		.541
	ND_4	2.62	.82	.441	.73	.570
	ND_5			.467		.712
	ND_6			.401		.585
	ND_7			.533		.694
Emotional support (ES)	ES_1			.516		.699
	ES_2	3.31	1.01	.668	.78	.819
	ES_3			.647		.772
	ES_4			.537		.660

Research construct		Descriptive statistics		Cronbach's test		Factor loadings
		Mean	SD	Item-total	α Value	
Research construct	Descriptive statistics	Cronbach's test	Factor loadings	Research construct	Descriptive statistics	Cronbach's test
	IV$_2$			.511		.667
	IV$_3$			.381		.572
	IV$_4$			.561		.762
	IV$_5$			.561		.744
Substance abuse (SA)	SA$_1$	3.61	1.22	.800		.889
	SA$_2$			.800		.880
Humour (HU)	HU$_1$	2.96	1.25	.585	.74	.811
	HU$_2$			.585		.827

Note:
For perceived stress scale - Bartlett's test of sphericity = p<0.000; KMO=745
For coping strategies scale - Bartlett's test of sphericity = p< 0.000; KMO=0.787 (n= 334)

4.4 Scale reliabilities

In order to ascertain the psychometric properties of the scale, internal consistency measures of reliability were computed by calculating the Cronbach alpha coefficients. The results are reported in Table 3 indicating that all the coefficients were deemed to be acceptable based on Nunnally and Bernstein's (1994) criterion of alpha values being >0.70.

4.5 Correlation analysis

In order to examine the relationships among university students' experience of stress and type of coping responses used, Pearson's Product Moment correlation analysis was conducted. These results are reported in Table 4. The correlations between perceived helplessness and humour (r=-0.002; p>0.05) were negative, indicating that as perceived helplessness increases, humour decreases. Perceived helplessness seems to be positively associated with negativism and denial (r=0.457; p<0.01) indicating that as perceived helplessness increases negativism and denial increases. However, perceived helplessness showed no association with emotional support (r=0.025; p>0.01) and introspection and veneration (r=0.068; p>0.01). Perceived helplessness is positively associated with substance abuse as a coping strategy (r=0.215; p<0.01). On examination of the means (see

Table 4), students often seek solace in emotional support and introspection and veneration as a coping strategy.

Table 4: Pearson Correlations - stress and coping strategies

	Stress 1	Stress 2	Cope 1	Cope 2	Cope 3	Cope 4	Cope 5
Perceived helplessness	1						
Self-efficacy	.313[**]	1					
Negativism & denial	.457[**]	.263[**]	1				
Emotional support	.025	-.091	.189[**]	1			
Introspection & veneration	.068	-.045	.189[**]	.443[**]	1		
Substance abuse	.215[**]	.138[*]	.435[**]	.058	-.049	1	
Humour	-.002	-.063	.186[**]	.302[**]	.210[**]	.233[**]	1

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

On the contrary, Wolf, Stidham and Ross's (2015) study revealed that students often use social support as a mechanism to reduce stress.

Significant positive associations were found between self-efficacy, and negativism and denial (r=0.263; p<0.01), indicating that low self-efficacy increases students' negativism and denial. Emotional support (r=-0.091; p>0.01), introspection and veneration (r=-0.045; p>0.01) and humour (r=-0.063; p>0.01) seem to be negatively associated with self-efficacy. These results indicate an inverse relationship between the two variables. In a similar vein, Kadhiravan and Kumar's (2012) study revealed that efficacious students are able to persevere in the face of challenges because they believe that they can change situations and behaviours to produce a more positive outcome. Therefore, it seems that some of the coping strategies are not appropriate for students who are helpless in situations where they use maladaptive rather than adaptive stress management strategies (Reeve et al., 2013).

Of concern regarding maladaptive coping strategy is substance abuse (drugs and alcohol use). These results affirm the findings of Reeve et al. (2013) who found in their study that students often resort to alcohol to fend off their helplessness in stressful situations. In a study of college students, Pierceall and Keim (2007) report that most of them addressed stress by talking to family and friends, followed by leisure activities and exercise, which seem to be activities that are more logical. Less desirable activities were drinking alcohol, smoking and using illegal drugs. The results in this study are congruent with the study by Darnopiha

(2014) whose study reveals that students who are helpless due to stress are more likely to use maladaptive copings strategies.

4.6 Gender differences in coping strategies

The Mann-Whitney U test was used to determine whether university students differ in terms of their levels of the various coping strategies (negativism and denial, emotional support, introspection and veneration, substance abuse and humour). These results are reported in Table 5.

Table 5:   Mann-Whitney test - gender and coping strategies

Strategies	Gender	Mean rank	Sum of ranks	U	Z	Median	Asymp. Sig. (2-tailed)
Negativism & denial	Male	156.39	175	111	-1.49	2.42	.135
	Female	173.11	384			2.57	
Emotional support	Male	153.42	171	108	-1.89	3.25	.058
	Female	174.60	387			3.50	
Introspection &veneration	Male	146.19	163	163	-2.87	3.80	.004*
	Female	178.25	395			4.00	
Substance abuse	Male	201.66	225	333	-5.22	2.00	.000**
	Female	150.27	333			1.00	
Humour	Male	163.72	183	183	-.512	3.00	.609
	Female	169.41	376			3.00	
Grouping variable: Gender. *Sig at p<0.05. ** Sig at p<0.01							

The Mann-Whitney U tests reveal no significant differences in the negativism and denial factor between males (median=2.41) and females (median=2.57), u=11187, z=-1.49; the emotional support factor between males (median=3.25) and females (median=3.25), u=10855, z=-1.89; and the humour factor between males (median=3.00) and females (median=3.00), u=18336, z=-0.512. However, significant differences in the introspection and veneration factor were revealed between males (median=3.80) and females (median=4.00), u=16373, z=-2.87 and the substance abuse factor with males (median=2.00) and females (median=1.00), u=33359, z=-5.22. Female students seem to use more of the introspection and veneration factor compared to their male counterparts. However, when it came to substance abuse, male students seem to engage more in such activities compared to their female counterparts. Contrary to these findings among university students, Stoliker and Lafreniere (2015) found gender differences in social support whereby

females showed a greater propensity to seek emotional support compared to males.

5. LIMITATIONS OF THE STUDY

Participants in this study were university students from the Faculty of Management Sciences in the Department of Human Resource Management and, therefore, not representative of all the faculties and departments in the university. Consequently, the results cannot be generalised to the university population and/or other universities in South Africa. Future studies should investigate if the findings of this study generalise to other university student populations to ascertain validity nationally. The sample size contributed to the limitations of this study, as a larger sample would be a better representation of the university student population. For this study, a cross-sectional design was used and considered a limitation. A longitudinal design is recommended for future studies with the purpose of following the university students over a longer period to collect data at various times to determine if the levels of stress and their coping strategies may change over time. For future research, stress and coping should also be measured in conjunction with other variables, such as happiness, satisfaction with life, optimism/pessimism and resilience.

6. RECOMMENDATIONS

The results show the need for the university to provide assistance to those students who encounter various types of stressors. The results point towards the need to develop training modules and workshops to promote proactive coping strategies and the improvement of the general self-efficacy of university students. Academics can also assist students to decrease stress by teaching stress reduction techniques, thus providing students with positive lifelong coping strategies by helping students to develop problem-solving skills to deal with their stressors.

7. CONCLUSION

Stress among university students is high, with female students experiencing more stress than their male counterparts do. The students apply negativism and denial, emotional support, introspection and veneration, substance abuse, and humour as a means to cope with the high stress levels. Female students seem to utilise introspection and veneration more frequently than the male students do, while male students engage more in substance abuse as a coping strategy. This research

may contribute a better understanding of the sources of stress and how best students cope with stress by using adaptive strategies.

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