

Moderating Role of Social Context and Support on Stress Consequences amongst University Students in the South Pacific Region

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Abstract

This paper investigates the levels and causes of stress among, and the tolerance level and type of coping strategies used by, first-year university students from the South Pacific region. The study seeks to identify whether social context and support provides a cushion of resilience in this relationship. A conceptual model of moderation is used to test the role of coping strategies and tolerance level on stress consequences and overall health. The study uses structural equation modeling and the outcomes disclose that social context and support plays a defensive role amid an environment of academic stress, but the tangible value can only be comprehended subjective to students' knowledge and understanding of the social context and support systems and structures; and their proficiency in mobilising resources and support to their advantage. Implications from stress and health, institutional, and practitioner perspectives are discussed.

Keywords: Stress, symptoms/responses, consequences, social context/support, and coping strategies.

Introduction

Stress, a significant subject of contemporary interest in the educational arena, has been researched by various scholars and is considered a disturbing global health phenomenon. University students worldwide are susceptible to academic stress (Agolla, 2009; Laurence et al., 2009) and reports from the last two decades have revealed that students experience high level of stress during their undergraduate programs and thus affects their intellectual progress (Ahmed et al., 2014; Robotham and Julian, 2006; Bayram and Bilgel, 2008). The academic environment at universities has received considerable attention (Robotham and Julian, 2006) but pronounced didactic expectations from universities has also led to intensified stressful experiences in first year university students (Bayram and Bilgel, 2008; Greenbank, 2007). Apparently, not all factors can be delimited by the universities but commensurate measures are needed to create an institutional environment that would nurture students' health and support stress management (Robinson, et. al 2006). Robinson et al. (2006) advocate that some universities have been negligent in addressing stress in first year university students (Robinson et al., 2006). Therefore, it is vital to understand that these students are not secluded from the social relations, cultural discourse of the universities, or the ways in which power pervades the teaching and learning environment in the universities (Mann, 2001). Henceforth, the examination of conventional social configurations at the universities ought to be assimilated into the construal of idiosyncratic experience of students (Morrow and Torres, 2002). What is frequently overlooked is the role of social context and support in mitigating adverse stress experiences. This study consequently investigates the levels and causes of stress among, and the tolerance level and type of coping strategies used by, first-year university students from the South Pacific region. Thus, this scholarship conjectures to investigate the variables and calls for research.

Literature review

Stress and Stressors

According to Lazarus and Folkman (1984), stress is the consequence of a person's discernment that they do not have the resources to cope with an apparent situation. Stressors are the sources of stress and there are numerous factors in the educational milieu which have been allied to stress-related outcomes. These factors that trigger stress in students relate to time management issues, financial problems, teacher relations, students' personal goals, social activities, adjustment to the campus environment, lack of support networks, continuous evaluation, such as weekly tests, papers and exams, living expenses, high tuition costs, job uncertainty, expectations from self, family and peers, and teachers, accommodation issues etc. (Harrisa et al., 2015; Busari, 2000; Lumley and Provenzano, 2003; Misra and Castillo, 2004; Macan, et al., 1990; Shah, et. al 2010).

Such stressors are repeatedly more multifaceted for the international scholars, who have to acclimatize to a new culture, linguistic, educational and social milieu and further proliferates stress consequences if the scholars are unwilling to employ support services that are accessible on campus owing to reservations and social stigma (Mori, 2000).

Institutional level stressors such as overcrowded lecture halls, a semester based system, inadequate resources to perform academic work, high student–teacher ratios, deficiency in the teacher–student interface and disciplinary matters are also noted (Shah et al., 2010).

Apart from the academic factors, issues related to social relationships, academic hassles, daily hassles (e.g. being late, travelling, and family problems) may well upset the learning and academic performance of students. Students may also experience stress related to relationships with friends, loneliness, uncertain future, and difficulty of assimilating into the systems (Bhandari, 2012; Hurst, et. al 2013). Findings from study conducted by Thein and Razak (2013) also reveal that academic coping and student engagement significantly explain the variance in student quality of life.

Stress Symptoms

Increased perceived stress has been absolutely correlated with physiological symptoms (Conley and Lehman, 2012), psychological symptoms (Beasley, Thompson, and Davidson, 2002), emotional distress (Kangas and Montgomery, 2011; Poltavski, et. al 2003) and behavioral symptoms among students (Watson, et. al 2008).

Socio-demographic Dynamics: Inducing Stressors and Symptoms

Indications are that the magnitude of stress (Bhandari, 2012) varies due to age differences (Stallman, 2010). Mature students are likewise anticipated to acclimatize well, burgeoning the improvement in university circumstances (Clifton et al., 2008) but varied verdicts are testified.

Gender variances in perceived stress and anxiety levels and coping mechanisms have also been revealed by various studies, where women have been reported to be more susceptible than men to

recurrent stress experiences and differ in their perceptions of stressors (Busari, 2000; Matud, 2004; Schraml et al., 2012). Taylor (2000) conjectures that men are further inclined towards stress consequences.

Research purports that ethnic minority students may undeniably experience a distinct form of stress, viz., minority stress, which is exceptionally unrelated to the general stress experienced by all students (Meyer, 2003). Finally, studies show that there are significant differences in stressors and health status of students who live off-campus versus on-campus (Gaidzanwa, 2001).

Stress Consequences and Coping Mechanisms

Although some level of stress can constructively influence students in terms of motivating, earlier readings have found that excessive stress can be dysfunctional for students and can cause depression (Ng and Hurry, 2011; Bhandari, 2012; Schraml et al., 2012) and this is the major reason why mental health disorders among young population groups is a burgeoning health concern (Bovier, et. al, 2004).

Studies on stress coping mechanisms demonstrate affirmative effects on daily life adaption as well as on physical and mental health (Watson et al., 2008). Amazue and Onyishi (2016) found that stress coping strategies was a significant predictor of work–life balance and contributed in work–life balance after controlling for the effects of gender, age and education.

Mayordomo et al. (2015) also found that young people do not typically use any magical thinking as coping strategy, and they found that use of negative auto-focused coping was associated with lower problem-focused coping. Research studies on negative coping postulate that students new to the university reportedly engage in negative behaviors such as using alcohol, illicit drugs, and cigarettes to cope with stress (Shiffman et al., 2007), or likewise may opt for avoidance coping strategies or lean on emotion-focused coping tactics. Studies have shown the moderating effects of coping on anxiety and mood (Stowell, et.al 2008).

Xuereb (2015) has also found that mature students scored higher on academic resourcefulness and adaptive coping strategies, and lower on maladaptive coping strategies. Coping also partially mediated the relationship between alexithymia and depression. Xi and Hwang (2011) have also found that emotion-focused coping was more effective than problem-focused coping in combating relocation-related depression.

Social Context and Support in the Teaching and Learning Environment (SCS (TLE) or Institutional Milieu)

SCS (TLE) has been touted as a possible buffer amid stressors and stress symptoms (Friedlander et al., 2007). Studies have shown cases where not only the simple manifestation of SCS seems valuable but the efficacy of that support helps students cope (Gibbons, et. al 2011). As per the ‘main effects’ theory, SCS is pertinent to health in all situations, irrespective of whether stress symptoms persist (Kawachi and Berkman, 2001). Conflicting evidence is however, presented by Wilcox et al. (2005) who support the claims affirming the role of SCS as essentially being instrumental, informational and evaluative but less significant.

Thus, based on the subsequent review of the preceding literature, the following hypotheses are derived for the study:

Hypothesis 1a: Stressors (work related and non– work related) are dependent on the social context and support.

Hypothesis 1b: There are significant variances in the stressors based on age, gender, ethnicity, marital status, on-campus or off-campus location, and social context and support.

Hypothesis 2a: Stress symptoms are dependent on the stressors.

Hypothesis 2b: There is a huge variance in the stress symptoms (physiological, psychological, emotional, and behavioural) due to age, gender, ethnicity, stressors (work and non–work related) and social context and support.

Hypothesis 2c: Social context and support moderates the impact of stress symptoms via stressors.

Hypothesis 3a: There is a huge variance in the stress consequences as a result of stress symptoms, coping strategies and tolerance level.

Hypothesis 3b: Social context and support has a direct impact on stress consequences.

Hypothesis 3c: Social context and support moderates the impact of stress consequences through significant stress presence.

Hypothesis 3d: Stress consequences or outcomes determine social context and support.

boost scholarship and progress. In the proposed model, demands are separated into work and non-work related factors.

Research Methodology

The Sample and Subjects

This research was conducted on a 6-months basis; that is, a baseline survey was carried out at the end of the semester amongst 306 students from the South Pacific region (studying at the University of South Pacific). A stratified random sampling technique was used to obtain a representative sample from island countries of the South Pacific region. The subjects involved in the present study comprise undergraduate students from three accredited schools or programmes. In all, 450 students were targeted, of whom 306 willingly gave consent and completed responses (68% consent and response rate).

Instrumentation

A structured, self-administered questionnaire was developed as a mode of data collection. The questionnaire comprised seven sections: Students' Profile; Perceived Stress and Symptoms; Stressors; Factors impacting stress (Social Context and Support, Tolerance Level and Coping); and Stress Consequences. The Cronbach alpha values of the variables tested in the study were 0.66 (stressors), 0.77 (symptoms), 0.88 (consequences), 0.78 (social context and support), 0.81 (tolerance level) and 0.78 (coping strategies) respectively, indicating acceptable internal consistencies.

Procedures

The questionnaires were distributed to the students at the beginning of the semester as these were first-year students. To minimize errors pertaining to internal validity and to control non-response errors, hard copies were self-administered. The other 32% of subjects, who did not respond, were excluded from the sample.

Data Analysis and Tests

Data were analyzed with the help of SPSS. Descriptive analysis, chi-squares and regression were run to test the relationship and impact of the various variables. WarpPLs software was used for structural equation modelling to test the modulating variables.

Findings

Respondents' Profile

The majority of the students were males (53.9%) whilst females accounted for remainder of the sample. Of this sample of subjects, 91% lived on-campus while the remainder resided off-campus.

Overview of the Hypothesis Results

Hypothesis 1a: As per the findings of the study, solitarily Work and Non-work stressors with a Chi-square (318.979 and 245.317) are substantial, and thus, reliant on SCS (TLE) as ($p = 0.000 < \alpha 0.05$). (Table 1).

Table 1: Dependency between Stressors and Social Context/Support

	WRS*	NWRS*	SCS (TLE)*
Chi-Square	318.979 ^a	245.317 ^b	161.967 ^c
df	28	20	60
Asymp. Sig.	.000	.000	.000

Note. WRS: work related stressor; NWRS: non-work related stressor; SCS (TLE): social context/support (teaching and learning environment).

Hypothesis 1b: To allow further expansion of the explanatory power of stressors, the regression model comprising the predictor variables (age, gender, and ethnicity, marital status, on/off campus location, and social context and support) were analyzed. The result shows 14% of the variance ($r^2 = 0.14$) in the stressors score, and the overall model comprising the predictor variables was significant by ANOVA. This means that the other 86% of the variance in stressors is attributable to other factors (chance or random error) and unexplained in the model.

SCS (TLE) with $\beta = 0.060$, $t = 5.615$, $p = 0.000 < \alpha 0.01, 0.05, 0.1$, was the single predictor significantly contributing and explaining variance in stressors. All other predictors, age ($\beta = 0.062$, $t = 0.578$, $p = 0.563 > \alpha 0.01, 0.05, 0.1$), gender ($\beta = 0.034$, $t = 0.346$, $p = 0.729 > \alpha 0.01, 0.05, 0.1$), ethnicity ($\beta = -0.010$, $t = -0.078$, $p = 0.937 > 0.01, 0.05, 0.1$), marital status ($\beta = -0.261$, $t = -1.093$, $p = 0.275 > \alpha 0.01, 0.05, 0.1$), on/off campus ($\beta = 0.053$, $t = 0.249$, $p = 0.803 > \alpha = 0.01, 0.05, 0.1$), were all marginally insignificant (Table 2).

Table 2: Predictors of Stressors

Variable	Stressors	WRS	NWRS
Age	0.062 (0.107)	0.055 (0.106)	0.063 (0.127)
Gender	0.034 (0.099)	-0.088 (0.096)	0.177 (0.146)
Ethnicity	-0.010 (0.132)	-0.070 (0.127)	0.080 (0.169)
Marital Status	-0.261 (0.238)	-0.208 (0.221)	-0.318 (0.315)
On/Off campus	0.053 (0.214)	0.059 (0.225)	0.053 (0.267)
SCS (TLE)	0.600*** (0.106)	0.640** (0.104)	0.548** (0.152)
R Squared	0.14	0.16	0.07
F Statistic	4.9***	6.3***	2.6**

Note: Heteroskedasticity robust standard errors are reported below the coefficients in parenthesis. (***), (**), (*) represent significant levels at 1%, 5% and 10% respectively.

Stressors = Work Related Stressors (WRS) + Non Work Related Stressors (NWRS)

Hypothesis 2a: For the interaction between Stress symptoms and Stressors, the results indicate that the Chi-square value (164.147) is significant, and thus, stress symptoms dependent on stressors as (0.023 < p value of 0.05).

Table 3: Dependency between Stress symptoms and Stressors

	Symptoms	Stressors
Chi-Square	12.695 ^a	164.147 ^b
df	226	130
Asymp. Sig.	1.000	.023

Hypothesis 2b: The regression model comprising the predictor variables (age, gender, ethnicity, marital status, on/off campus location, and social context/support) was analysed and significant by ANOVA.

In analysing the stress symptoms score overall, it was found that only WRS and NWRS (stressors) contributed to the model and were significant at the 1% significance level. All other predictors, age ($\beta = -0.090$, $t = -1.369$, $p = 0.173 > \alpha 0.01, 0.05, 0.1$), gender ($\beta = 0.000$, $t = 0.006$, $p = 0.995 > \alpha 0.01, 0.05, 0.1$), ethnicity ($\beta = -0.038$, $t = -0.870$, $p = 0.385 > 0.01, 0.05, 0.1$), marital status ($\beta = 0.154$, $t = 0.911$, $p = 0.364 > \alpha 0.01, 0.05, 0.1$) and social context/support ($\beta = 0.045$, $t = 0.502$, $p = 0.616 > \alpha = 0.01, 0.05, 0.1$) were marginally insignificant when included as dummy variables (predictors/independent variables) in the model (Table 4).

Table 4: Predictors of Stress Symptoms

Variable	Physiological Symptoms	Psychological Symptoms	Emotional Symptoms	Behavioral Symptoms	Symptoms
Age	-0.041 (0.079)	-0.179** (0.071)	-0.151 (0.102)	-0.045 (0.108)	-0.090 (0.066)
Gender	0.056 (0.075)	0.047 (0.091)	0.141* (0.084)	-0.120 (0.100)	0.000 (0.075)
Marital Status	0.079 (0.219)	0.232* (0.129)	0.126 (0.180)	0.688 (0.210)	0.154 (0.169)
Ethnicity	-0.018 (0.103)	0.166 (0.128)	-0.088 (0.109)	0.171 (0.134)	-0.038 (0.043)
WRS	0.159** (0.074)	0.146** (0.063)	0.301*** (0.092)	0.101 (0.098)	0.160*** (0.061)
NWRS	0.071	0.222***	0.212***	0.213***	0.190***

	(0.049)	(0.060)	(0.055)	(0.061)	(0.042)
SCS (TLE)	0.156	-0.037	0.024	0.144	0.045
	(0.098)	(0.109)	(0.108)	(0.132)	(0.090)
R Squared	0.12	0.18	0.30	0.15	0.26
F Statistic	3.4***	5.9***	11.3***	4.8***	8.5***

Note: Heteroscedasticity robust standard errors are reported below the coefficients in parenthesis. (***), (**), (*) represent significant levels at 1%, 5% and 10% respectively.

To further analyse as to which stressor variable predicted stress symptoms the most, each predictor variable (stressors) was regressed with stress symptoms. Based on Table V the equation will be:

Symptoms = 1.624 + 0.044 (task demands) + 0.014 (role demands) + 0.030 (interpersonal demand) + 0.040 (physical demand) + -0.026 (inadequate resources) + 0.059 (peer pressure) + -0.022 (racial discrimination) + 0.021 (social isolation) + 0.052 (home demands) + 0.020 (personal demands) + 0.037 (psychological factors) + 0.021 (economic factors) + 0.024 (environmental factors)

Our model comprising the predictor variables accounts for 27.1% of the variance (r square = 0.271) in the symptoms score. This means that the other 72.9% is attributable to other factors (chance or random error). The overall model comprising the predictor variables was significant by ANOVA (F10, 204 = 5.838, p < .005). Peer pressure ($\beta = 0.166$, t = 2.513, p = 0.01 < α 0.05) was the single predictor significantly contributing and explaining variance in symptoms. This could point towards student's having decreased overall adjustment and thus, become more susceptible to social and psychological problems. The students' social situation is another important factor in causing these problems and could stimulate stress (Dusselier, et. al 2005).

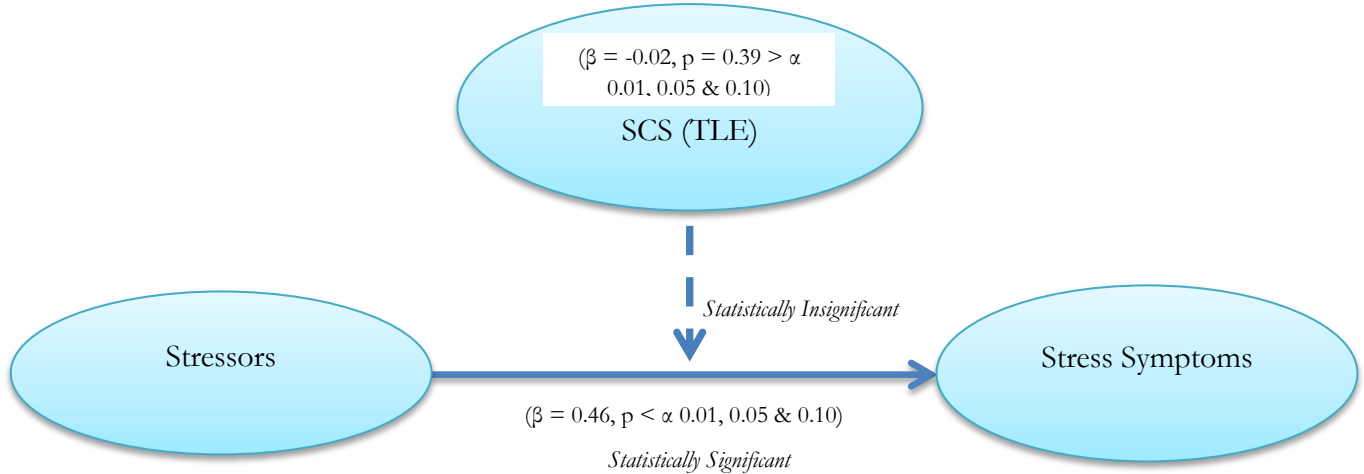
Table 5: Individual Stressors as Predictors of Stress Symptoms

Model (Independent variable)	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.624	.124		13.057	.000
Task demands	.044	.030	.102	1.480	.140
Role demands	.014	.029	.034	.474	.636
Interpersonal demands	.030	.033	.066	.929	.354
Physical demands	.043	.033	.101	1.318	.189
Inadequate resources	-.026	.031	-.061	-.857	.393
Peer pressure	.059	.023	.166	2.513	.013*
Racial discrimination	.022	.033	.048	.662	.509
Social isolation	.021	.032	.045	.645	.520
Home demands	.052	.029	.137	1.763	.079***
Personal demands	.020	.029	.050	.687	.493
Psychological factors	.037	.030	.100	1.216	.225
Economic factors	.021	.031	.054	.682	.496
Environmental factors	.024	.028	.062	.839	.403

Note: Dependent Variable: Stress Symptoms Heteroscedasticity robust standard errors are reported below the coefficients in parenthesis. (***), (**), (*) represent significant levels at 1%, 5% and 10% respectively.

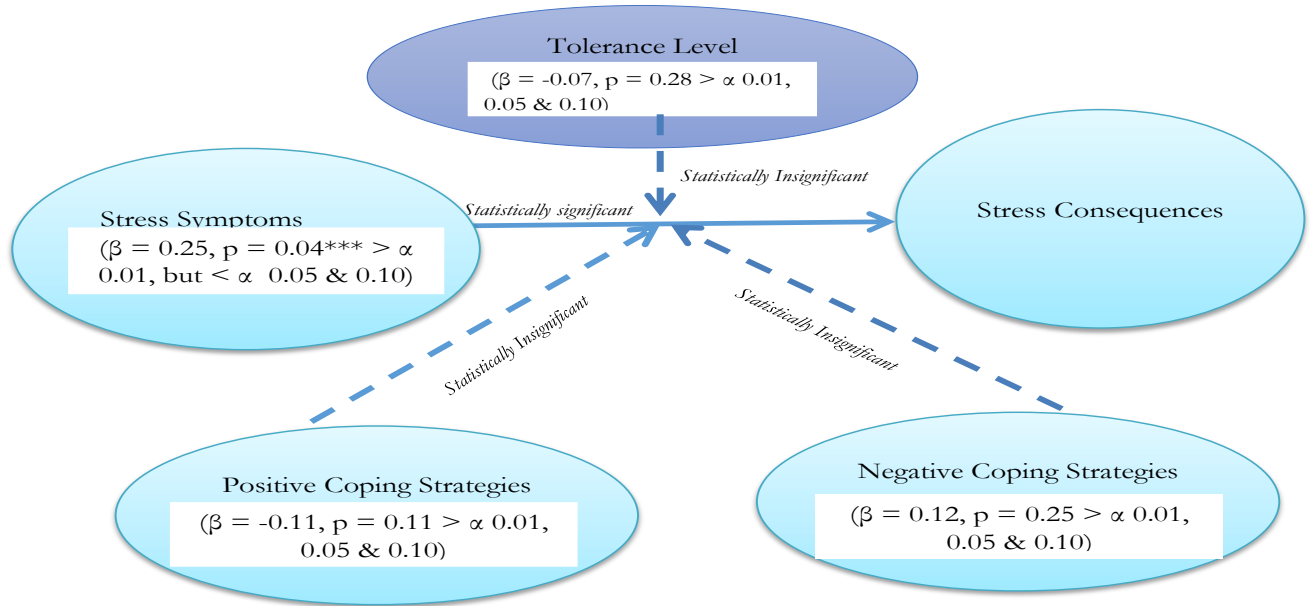
Hypothesis 2c: For the interaction between Stressors and Stress symptoms, statistically significant results were obtained based on structural equation modelling; whilst SCS (TLE) had negative beta values but was statistically insignificant (Figure 2).

Figure 2: Interaction between Stressors and Symptoms, Moderating role of SCS (TLE)



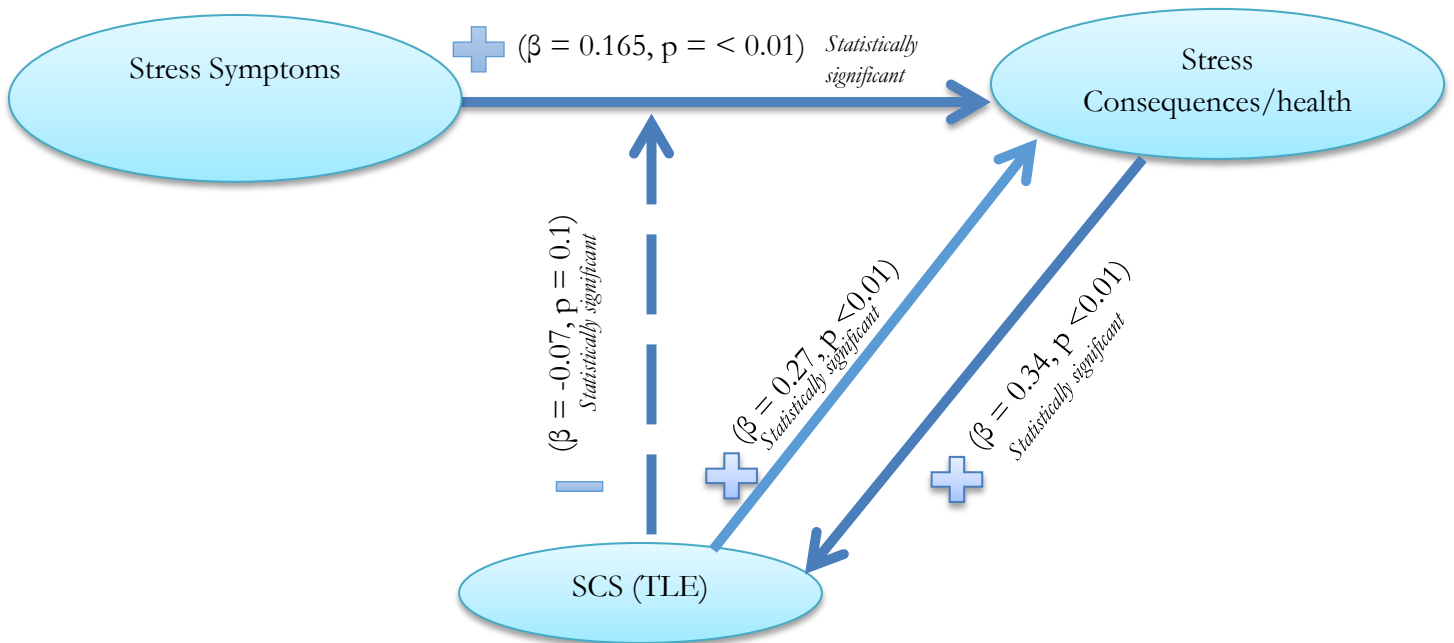
Hypothesis 3a: The results showed the model comprising the predictor variable (stress responses/symptoms) and moderator variables (coping strategies – positive and negative strategies and tolerance level) accounts for 10% of the variance ($r^2 = 0.10$) in the stress consequences score. This means that the other 90% is attributable to other factors (chance or random error). The single predictor of stress consequences is stress responses/symptoms. Tolerance level has a negative correlation with stress consequences, but was insignificant in explaining the contribution. Positive coping strategies also had a negative correlation, but again were deemed insignificant. Negative coping strategies showed as positive, but insignificant value.

Figure 3: Interaction between Stress Symptoms & Consequences, Moderator Role of Tolerance & Coping Strategies



Hypotheses 3b, c and d: As per the results, it can be seen that stress responses have a direct impact on stress consequences and is statistically significant. On the contrary, in analysing the buffer effects it is noticed that there is a negative correlation and it moderates the impact of stress responses on health outcomes and stress consequences.

Figure 4: Main and Buffering Effects Model



Discussion

Support was found for H1a and the results confirm that SCS (TLE) can mitigate the effects of the stressors in the students' university experience. Hypothesis 1b was only partially confirmed. SCS (TLE) helps the students in dealing with the stressors via information and instrumental resources. The findings of this study propose that stress borne out of the TLE contributes to symptoms in the South Pacific regional students, thus, interventions by universities aimed at reducing the impact of academic stressors on students health may also be of great importance.

Hypothesis 2a was supported as it was consistent with the findings from the literature that stressors have an impact on stress symptoms. Nevertheless, when the symptoms model was expanded via predictor variables (age, gender, ethnicity, marital status, SCS (TLE) and stressors), the results found only partial support for the single predictor-stressors in the symptoms score (hypothesis 2b). This could possibly be explained by the fact that the study encompassed half as many males as females and this may have added to the difference in the results in comparison to past studies where gender was significant in explaining variances in stress symptoms of the tertiary students (Liu & Lu, 2012). Another contributing factor may have been that over half of the participants in this study were 19–22 years of age, and thus age was also insignificant. If the power of the study were to be augmented, statistical significance may be found. For ethnicity, this construct in the Pacific region may include race, culture, religion and nationality, which impact on a person's identity. There may be many factors tied to ethnicity that could impact student relocation, prejudice or discrimination, cross cultural differences and competency level and lifestyles as well as biological susceptibility levels that could explain ethnic variations in the results.

In the study, SCS (TLE) did not act as a buffer between stressors and stress symptoms (hypothesis 2c). The above results could be attributed to the personality traits of the students, as each student's personality and ability to mobilize resources and support to their advantage varies. The perception of social context and support (TLE) is also subject to change given the progression of the student in their undergraduate years, and although this study has not delved deeper into this dimension of accustoming over time, it is admitted that this could also partially explain the results. Another plausible explanation could be that sometimes adverse factors such as social conflicts, social strains, negative social ties, social hindrances, and such like could hamper the value and significance of the SCS (TLE). This is a decisive factor since students seek social support from both formal and informal means (Hight, et. al 2002).

For SCS (TLE) to play a statistically significant role in mediating the impact of the stressors on stress symptoms, the form of assistance provided via the Teaching and Learning sphere should equal the demands of the stressful events at the University. Furthermore, these regional students are scattered across different campuses and thus, SCS may vary. The variances between local and regional students have not been researched in this study. In the present study, the prospective analysis showed that stress symptoms have an impact on stress consequences and this is consistent with prior studies (hypothesis 3a). Nonetheless, the routine and systematic use of tolerance level and coping strategies as a buffer on the relationship between stress symptoms and stress consequences vis-à-vis overall health was not realized in the study (hypothesis 3b). This could be attributed to the cultural considerations of Pacific societies which as a construct have not been investigated. It is also possible that the students may have

possessed a low level of knowledge about coping strategies and that is why no significant differences were found from the tolerance level variable.

At the institutional level, these calls for more practice based and reflective seminars for instance, stress management seminars potentially could contribute in supplementing students in documentation of theirs and others personality styles and patterns of behaviour, affording general information on stress, and ascertaining signs of stress. The stress reduction techniques would then add constructively in consolidating student's coping skills.

With respect to hypotheses 3c and 3d, the sample reported reciprocal relationship between SCS (TLE) and stress consequences and overall health. It also accounted for the maximum variation in stress consequences scores and the model of social context and support as main (direct) effects and stress-buffering (moderating) variable was established. Based on the identification of the stressors that produce the stress symptoms or experiences of the freshmen students, it remains strongly plausible that in situations where SCS (TLE) is consistent with the educational outcomes of the student, the student shall display a greater likelihood of utilizing it to their benefit. This is consistent with Phinney and Haas (2003) and supported in the study.

Conclusion, Implications and Future Research

The outcomes of the current study indicate that the SCS (TLE) has effects on the students and introduces some resilience in the association amid stress symptoms and consequences. For the regional students of the University of the South Pacific, one common factor separating them from others is the culture of 'silence', which also has negative impacts on their well-being. Thus, students need information on psychiatrists, general practitioners, and various specialists. For health practitioners, who may be dealing with these students, there would be cultural differences in the students' perception based on their needs. Thus, a thorough evaluation of students' health care needs and their perceptions is vital. The outcomes of the current study also indicate that coping and tolerance level have not been able to shield the negative stress consequences. The findings point out that instructors and counsellors within the TLE sphere play a noteworthy role in preparing students with stress-management skills so that not only do they have increased awareness but also competency in identifying stressors, symptoms and its consequences and are able to deal with it meritoriously. In this regard, campus seminars could strengthen students' coping skills. Alternatively, it may be significant to compare the support systems and structures within the regional university to be able to diagnose correctly whether the regional students are fully integrated and if its matches their expectations. Only then will mandating an appropriate social context and support via structures and systems, health care facilities and resources and streamlining proficient approaches to cope or manage with stress be productive. In future, this study could be extended and the progression of the students to their second- and final-year studies could be examined. Longitudinal studies of the same nature could also be done and the sample size could be increased via random sampling and other tertiary institutions could be further included in the cross-comparative analysis.

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