

**The Role of Experiential Avoidance in the Relationship between Perceived  
Stress and Emotional Distress in a Sample of University Students**

by

**Eloise Spengler**

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**Declaration by Language Editor**

31 January 2019

To whom it may concern

I hereby declare that I have proofread and language edited the article: "*The Role of Experiential Avoidance in the Relationship between Perceived Stress and Emotional Distress in a Sample of University Students*" by Eloise Spengler.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Jenny Lake". The signature is written in a cursive, flowing style.

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Jenny Lake

## Student Declaration

I declare that the dissertation (article format) hereby submitted by me for the partial fulfilment of the degree Magister Societatis Scientiae (Counselling Psychology) at the University of the Free State is my own independent work and has not previously been submitted by me at another university/faculty. I further cede copyright of the dissertation in favour of the University of the Free State.



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Eloise Spengler

Date: 31/01/2019

### **Note to the Examiner**

The examiner's attention is drawn to the fact that the Journal of Psychology in Africa has been targeted for the publication of this article. Consequently, the dissertation has been formatted and referenced using the Sixth Edition of the Publication Guidelines of the American Psychological Association as prescribed by the journal. Furthermore, the article is structured according to the guidelines provided to authors by the Journal of Psychology in Africa. The article, as presented in this dissertation, exceeds the maximum length prescribed by the journal. However, given that the primary purpose of the article is to demonstrate the candidate's ability to conduct research, it was necessary to present certain sections of the article in more detail.

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## Abstract

The pervasiveness of mental health difficulties among students globally, and the negative effects thereof have become a cause for concern. The problem is compounded in South Africa, where a number of socioeconomic factors and a history of racial inequality create significant barriers to academic success for much of the student population. Experiential avoidance (EA) has been identified as a transdiagnostic process across a number of clinical and community populations. Consequently, the current study sought to investigate (1) whether a relationship exists between perceived stress, EA and emotional distress among South African university students, (2) whether demographic differences (gender and ethnicity) are apparent with regard to EA, emotional distress and perceived stress, and (3) whether EA mediates the relationship between perceived stress and emotional distress. A multicultural sample of South African undergraduate university students was drawn ( $n = 1121$ ; female = 79.9%; black = 42.5%; white = 49.1%; coloured = 8.5%; mean age = 19.9 years; SD = 1.26 years). The participants completed measures of EA (Acceptance and Action Questionnaire-II), emotional distress (General Health Questionnaire) and perceived stress (Perceived Stress Scale). Descriptive statistics, between-groups multivariate analysis and regression analyses were employed to analyse the data. The results of this study indicate that a significant and positive correlation exists between perceived stress, EA and emotional distress. No gender differences were found with regard to the study variables. However, racial differences were apparent with regard to perceived stress and emotional distress, with black and coloured participants reporting significantly higher levels of stress and emotional distress than their white counterparts. The regression analyses revealed that perceived stress and EA accounted for a significant proportion of the variance in emotional distress reported by the total sample (42.5%) and the white participants (46.1%), as well as the black and coloured participants (62.1%). Moreover,

EA was found to partially mediate the relationship between perceived stress and emotional distress in the total sample, as well as in the white and black/coloured subsamples. These findings lend further support to EA as a transdiagnostic construct and suggest that interventions targeting EA might prove useful in alleviating emotional distress among university students, irrespective of their sociocultural background.

*Keywords:* Experiential avoidance; emotional distress; stress; perceived stress; university students; multi-ethnic; first-generation students; acceptance; mediator; South Africa.

## Opsomming

Die omvang van geestesgesondheidsprobleme onder studente wêreldwyd, en die negatiewe effek daarvan, veroorsaak rede tot kommer. Die probleem is meer kompleks in Suid-Afrika waar heelwat sosio-ekonomiese faktore en 'n geskiedenis van rasse-ongelykheid beduidende struikelblokke veroorsaak vir die akademiese sukses van die meerderheid van die studentepopulasie. Ervaringsvermyding (EV) is geïdentifiseer as 'n transdiagnostiese proses wat strek oor vele kliniese en gemeenskapspopulasies heen. Gevolglik poog die huidige studie om te bepaal of (1) daar 'n verband bestaan tussen waargenome stres, EV en emosionele angs onder Suid-Afrikaanse universiteitstudente. 'n Multikulturele steekproef van Suid-Afrikaanse voorgraadse universiteitstudente is uitgevoer ( $n = 1121$ ; vroulik = 79.9%; Swart = 42.5%; Wit = 49.1%; Kleurling = 8.5%; gemiddelde ouderdom = 19.9 jaar; SD = 1.26 jaar). Die deelnemers het EV-metings (Aanvaarding en Aksie Vraelys-II), emosionele angs (Algemene Gesondheidsvraelys) en waargenome stres (Waargenome Stres-skaal) voltooi. Beskrywende statistiek, tussen-groep meerveranderlike analise en regressie-analise is uitgevoer ten einde die data te analiseer. Die bevindinge van die studie dui aan dat 'n beduidende en positiewe korrelasie bestaan tussen waargenome stres, EV en emosionele angs. Geen gender- (geslags-) verskille is gevind met betrekking tot die studie se veranderlikes nie. Alhoewel, etniese verskille was opvallend met betrekking tot waargenome stres en emosionele angs, en Swart en Kleurling deelnemers het beduidende hoër vlakke van stres en emosionele angs as hul Wit eweknieë gerapporteer. Die regressie analise het aan die lig gebring dat waargenome stres en EV vir 'n beduidende proporsie van die variansie in emosionele angs verantwoordelik is, soos gerapporteer deur die totale steekproef (42.5%), insluitend die Wit deelnemers (46.1%), asook die Swart en Kleurling deelnemers (62.1%). Verder is EV gevind om deels die verband tussen waargenome stres en emosionele angs in die totale steekproef te bemiddel, so ook in die Wit

en Swart/Kleurling sub-steekproewe. Hierdie bevindings steun EV verder as 'n transdiagnostiese konstruk en stel voor dat die intervensies wat op EV gefokus is handig blyk te wees in die verligting van emosionele angs onder universiteitstudente, ongeag hul sosio-kulturele agtergrond.

*Sleutelwoorde:* Ervaringsvermyding; emosionele angs; stres; waargenome stres; universiteitstudente; multi-etnies; eerste-generasie studente; aanvaarding; mediator; Suid-Afrika.

## 1. Introduction

The pervasiveness of mental health difficulties and psychological distress among university students has been highlighted as a concern for some time (Andrews & Wilding, 2004; Eisenberg, Hunt, & Speer, 2013). Moreover, the mental health of university students appears to be a problem worldwide. In a study spanning 21 countries Auerbach et al. (2016) found that approximately 20% of their sample had met the criteria for at least one DSM-IV disorder in the 12 months prior to the survey. Similarly, the American College Health Association (ACHA, 2015) notes that 37% of students in the United States report struggling with anxiety. A similar proportion of students in the ACHA study reported significant symptoms of depression. Furthermore, in a meta-analysis of 36 student samples, suicidal thoughts and behaviour were found to be particularly prevalent amongst university students (Mortier et al., 2018). According to Eisenberg and colleagues (2013), mental health difficulties are even more prevalent among international students, students from minority groups and first-generation students in the United States.

In addition to the psychological cost to individual students, a number of other negative consequences have been associated with mental health problems in higher education. Students with mental health difficulties are more inclined to perform poorly academically, are at increased risk for dropout and less inclined to make use of academic support services (Auerbach et al., 2016; Bruffaerts et al., 2018; Stephens, Hamedani & Destin, 2014). Moreover, first-generation students are estimated to be 60% less likely to graduate than their peers (Stephens et al., 2014; Wilbur & Roscigno, 2016). Perhaps most concerning is that many students enter working life with a considerable mental health burden (Bruffaerts et al., 2018). Meeting the needs of an increasing number of students presenting with ever more complicated mental health issues also has consequences for campus counselling centres. Additional resources have to be allocated to deal with increasing caseloads. Furthermore, an increase in

the severity and complexity of mental health problems that students present with necessitates additional staff training and development (Pin & Martin, 2012; Watkins, Hunt, & Eisenberg, 2011).

Research on student mental health in Africa appears to be limited. However, in a study by Asante and Andoh-Arthur (2015), 8.1% of Ghanaian university students reported feeling severely depressed. In a study conducted in the Limpopo Province of South Africa, 39.5% of a sample of university students reported feeling depressed (Pengpid, Peltzer, & Skaal, 2013). While few prevalence studies have been conducted, a number of authors note the increased risk that members of the South African student population (predominantly first-generation students) are at for developing mental health difficulties due to challenges they face, as well as the poor coping resources at their disposal (Bernstein & Chemaly, 2016; Bhayat & Madiba, 2017; Naidoo, Van Wyk, Higgins-Opitz, & Moodley, 2014).

It has been suggested that many of the mental health difficulties faced by students are associated with the challenges of making a successful social transition to the university environment, as well as meeting increased academic demands (Kreig, 2013; McCarthy et al., 2018). This is in keeping with numerous studies that have identified stress as a significant contributor to mental health difficulties in the general population (Kress, Sperth, Hofmann, & Holm-Hadulla, 2015; Tavoracci et al., 2013; Yew, Lim, Haw, & Gan, 2015). Many university students in the United States appear to find it very difficult to successfully navigate the challenges associated with the transition to higher education (Lee, Dickson, Conley, & Holmbeck, 2014). According to Jones-Delcorde (2015), students often report feeling overwhelmed and hopeless when faced with having to adjust to the higher education environment. A number of studies have highlighted specific individual and contextual stressors university students are required to adjust to. Limited financial resources are frequently reported to be a source of stress for university students, particularly for those from the developing world

(Stoddard, 2017). Additionally, students find themselves far from home and removed from the social support systems they previously depended upon (Jibeen, 2016), and often feel overwhelmed by the volume of work they are expected to cover. This, along with a perceived lack of time and the sense that they do not possess the necessary academic skills to deal with the workload makes the university environment daunting for many students. Furthermore, the educational- and career-related consequences of not maintaining a desired level of achievement are frequently identified by students as being significant stressors (Bedewy & Gabriel, 2015).

Adjusting to university and maintaining a satisfactory level of academic achievement appears to be stressful for many students. However, some students face additional challenges within higher education. Evidence exists to suggest that adjustment difficulties are more prevalent among students from minority groups, as well as among first-generation students (Eisenberg et al., 2013; Stebleton, Soria, & Huesman Jr, 2014). First-generation students and students from minority groups face challenges that the majority of students do not need to deal with. Stephens and colleagues (2014) found that these students often have significantly limited financial resources compared to their peers. In addition, students from cultural minority groups and foreign students generally do not possess the required language proficiency to master the material in many university courses (Cabrera, 2014). First-generation students come from less affluent communities and consequently do not have access to the quality of schooling needed to develop the academic skills required to succeed at university (Soria & Stebleton, 2012). Furthermore, these students often do not have a sense of belonging on university campuses (Stebleton et al., 2014). Consequently, minority and first-generation students frequently struggle with academic engagement. They also tend to underutilise academic and psychological support services, which further limits their chances at success and increases their risk for adjustment and/or mental health difficulties (Stephens et al., 2014).

Numerous studies have reported that female students report higher levels of stress and emotional distress than their male peers (El Ansari, Oskrochi, Labeeb, & Stock, 2014; Ibrahim, Kelly, Adams, & Glazebrook, 2013; Soysa & Wilcomb, 2013). According to Beiter et al. (2015), female students reported experiencing significantly more academic stress when compared to male students. Furthermore, female students were more likely to report additional, extra-academic factors such as body image issues and interpersonal relationships as contributing to the stress they experienced at university. In addition, female students have been found to be more inclined to engage in emotion-focussed coping, which has been associated with an increase in depressive symptomatology (Niknami, Dehghani, Bouraki, Kazemnejad, & Soleimani, 2015). The existing consensus in the literature thus appears to be that female students experience the university environment as more stressful than their male counterparts, and that they are inclined to report lower levels of psychological wellbeing than male students (Ramler, Tennison, Lynch, & Murphy, 2016; Soysa & Wilcomb, 2013; Wahed & Hassan, 2017). However, more recent research indicates that gender-related stress differences among university students are not necessarily ubiquitous (Bedewy & Gabriel, 2015; Heinen, Bullinger, & Kocalevent, 2017). It would thus appear that any attempt to investigate stress among university students, should not ignore gender.

The number of black South Africans attending university has steadily increased following the establishment of democracy in 1994 (Mdepa & Tshiwula, 2012). Due to a history of exclusion and racial segregation these students predominantly come from disadvantaged backgrounds. Consequently, the vast majority have not been adequately prepared for higher education in that they have been subjected to a poorly resourced basic education system. There is undoubtedly a vast disparity between South African schools with regard to the quality and education level. Historically white schools are better resourced and inaccessible to the majority of black learners from disadvantaged backgrounds. These systemic and structural inadequacies in education are



ultimately compounded at a tertiary institution level (Bozalek & Boughey, 2012). Furthermore, none of these students are able to attend university in their home language (Mdepa & Tshiwula, 2012). However, Boughey (2005) suggests that language difficulties experienced by students are a result of the alienating nature of the higher education system. Boughey and McKenna (2016), further elaborate on this phenomenon by describing language as a medium which intersects disciplinary norms and institutional culture. Additionally, they report that reading and writing in an academically sanctioned institutional manner has implications for students at both the level of identity, as well as the acquisition of basic academic skills. Boughey and McKenna (2016) reject the idea that students' academic success should be determined by motivation, cognition or language ability. Therefore, the parameters within which academic success is measured are based on an outdated apartheid era system which benefits a privileged minority (Bozalek & Boughey, 2012).

The aforementioned factors present significant challenges with regard to these students' academic progress. Consequently, throughput rates for black students are generally much lower than for students from privileged backgrounds (Bhayat & Madiba, 2017; Bozalek & Boughey, 2012). Students from disadvantaged backgrounds also find securing the necessary finances for course fees, accommodation, transport and books extremely challenging (Mudhovozi, 2011; Stoddard, 2017). In addition, university life presents cultural challenges to students from disadvantaged backgrounds. According to Stephens and colleagues (Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012) universities in South Africa remain predominantly western institutions, while the majority of black students come from backgrounds that prize African values and worldviews. The myriad of challenges faced by students from disadvantaged backgrounds, most of them the first in their families to attend

university, undoubtedly contribute to what Bernstein and Chemaly (2016) refer to as pervasive stress within the South African university population.

It seems evident that university students worldwide experience significant stress adjusting to, and functioning within the higher education environment. These elevated stress levels have been hypothesised to contribute to an increase in psychological distress and mental health difficulties (Kreig, 2013; McCarthy et al., 2018). Moreover, first-generation students and students from minority groups or disadvantaged backgrounds experience the university environment as particularly challenging (Bernstein & Chemaly, 2016; Stephens et al., 2014). They are also reported to present with higher levels of emotional distress compared to other students (Eisenberg et al., 2013). There might thus be value in exploring the impact of various psychological processes on the interaction between stress and emotional distress among university students.

Experiential Avoidance (EA) has been defined as a regulatory strategy aimed at controlling or avoiding unpleasant or unwanted thoughts, emotions and bodily sensations (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). EA is generally conceptualised as being characterised by the unwillingness or inability to tolerate uncomfortable experiences, as well as some consequent action aimed at reducing contact with the experience in question or with the context in which the experience occurs. However, it appears that rather than reducing emotional distress, as intended, EA actually maintains emotional distress, maladjustment and psychopathology (Hayes, Strosahl, & Wilson, 1999; Törneke, Luciano, Barnes-Holmes, & Bond, 2016). EA functions as a transdiagnostic risk factor for the development and maintenance of emotional disorders across a broad range of psychopathology (Spinhoven, Drost, De Rooij, Van Hemert, & Penninx, 2014; Machell, Goodman, & Kashdan, 2015; Schut & Boelen, 2017; Monestès et al., 2018). It has been proposed that EA maintains maladjustment and distress by extending problem-solving strategies that appear to be effective in the physical

world to the world of inner experience (Hayes et al., 1999; Machell et al., 2015; Monestès et al., 2018). Human language has been identified as the mechanism through which externally effective problem-solving strategies, such as avoidance, are generalised to domains in which they are ineffective and often problematic, such as the inner experiences of cognition and emotion (Barnes-Holmes et al., 2001; Törneke et al., 2016). Consequently, rather than reducing uncomfortable inner experiences, EA amplifies the inner experiences that were the original target of avoidance (Spinhoven et al., 2014; Monestès et al., 2018). In contrast to EA, a willingness to experience unpleasant emotions and cognitions has been associated with improved adjustment, greater flexibility in responding to adversity and improved psychological wellbeing (Hayes et al., 1999; Levin, Hayes, Pistorello, & Seeley, 2016; Gloster, Meyer, & Lieb, 2017; Grégoire, Lachance, Bouffard, & Dionne, 2018).

Despite the increased interest in the role of EA in the development and maintenance of psychopathology, the role of EA in subclinical populations, such as university students, seems less well understood (Vaughan-Johnston, Quickert, & MacDonald, 2017; Zvolensky, Jardin, Garey, Robles, & Sharp, 2016). The research that has been conducted has largely echoed findings from clinical populations. Two studies have found that EA is associated with an increased risk of emotional exhaustion, depression and suicidality among university students (Chou, Yen, & Liu, 2018; Kroska, Calarge, O'Hara, Deumic, & Dindo, 2017). Furthermore, EA has been reported to act as a mediator in the relationship between traumatic experiences or negative behaviours and current mental health difficulties such as anxiety, stress and depression among university students (Levin et al., 2012; Reddy, Pickett, & Orcutt, 2006). Of particular relevance to the current study is that reductions in EA among students have also been associated with more functional coping and improved adjustment at university (Chou et al., 2018; Sandoz, Kellum, & Wilson, 2017). Studies exploring the efficacy of Acceptance and Commitment Therapy (ACT) in non-clinical student populations have demonstrated that reducing EA

through promoting acceptance of unwanted thoughts, emotions and experiences, leads to improved functioning and reductions in unproductive behaviour patterns (Sandoz et al., 2017; Swain, Hancock, Hainsworth, & Bowman, 2013). One study demonstrated that ACT-based interventions that included increasing acceptance of unpleasant private events were associated with a significant decrease in self-reported levels of stress and depression in a sample of university students (Räsänen, Lappalainen, Muotka, Tolvanen, & Lappalainen, 2016). These reductions in depression symptoms and perceived stress were reported to be maintained for a period of 12 months. Sandoz et al. (2017) found that ACT interventions targeting EA resulted in improved retention and higher graduation rates among college students from low-income households who were considered to be at risk of dropping out of college. A number of studies thus appear to have established a link between EA and negative outcomes in student populations. In addition, support exists for the concept that promoting acceptance among students results in a reduction in perceived stress and psychological distress, while also being associated with improved coping and academic functioning, as well as more frequent engagement in productive activities. Notwithstanding the research reported above, some have expressed a need for further research into EA in student populations in order to refine the development of appropriate screening tools and interventions (Zvolensky et al., 2016).

Cross-cultural literature on EA appears to be limited. Monestès et al. (2018) found no invariance in a common measure of EA across six languages and seven European countries. Moreover, EA was significantly and positively correlated with emotional distress across all countries and languages. These authors concluded that since verbal problem-solving is a universal phenomenon, EA should be considered to be independent of language and culture. Similarly, Cook and Hayes (2010) found no significant differences in the relationship between EA and mental health outcomes across Caucasian and Chinese American university students. However, a more recent study found that cultural beliefs regarding emotional self-control

moderated the relationship between EA and emotional suppression in a sample of American and Chinese university students (Su, Wei, & Tsai, 2014). Stewart and colleagues (2016) found that providing Acceptance and Commitment Therapy (ACT) training to healthcare workers in Sierra Leone resulted in a reduction in the participants' EA. However, this reduction in EA was not associated with a change in psychological wellbeing. To date, only one ACT outcome study has been conducted in South Africa (Lundgren, Dahl, Melin, & Kies, 2006). In this study, epilepsy patients included in the experimental group consistently demonstrated significantly better psychological wellbeing and satisfaction with life than those in the control group. However, the direct effect of the intervention on EA, as well as the relationship between EA and psychological wellbeing and satisfaction with life was not investigated.

## **2. The current study**

EA is generally considered to be a transdiagnostic risk factor for maladjustment and poor mental health. A body of literature suggests that the relationship between EA and mental health difficulties is applicable to university students. However, further research appears necessary with regard to the extent to which these findings can be generalised cross-culturally, as well as to specific university contexts, particularly in the developing world. Consequently, the current study aims to (1) investigate whether a relationship exists between perceived stress, EA and psychological distress among South African university students, (2) whether ethnic and/or gender differences are apparent with regard to perceived stress, EA and emotional distress, and (3) whether EA mediates the relationship between stress and psychological distress.

### 3. Method

#### 3.1. *Participants and procedure*

A convenience sample of 1300 undergraduate students at a South African university was recruited for the study. Complete data were available for 1121 participants. The mean age of the sample was 19.9 years (SD = 1.26 years) and the majority of participants identified as female (79.9%). With regard to ethnicity, 42.5% identified as Black, while 49.1 % and 8.5% identified as White and coloured<sup>1</sup> respectively. Half the sample (49.6%) reported Afrikaans as their home language. Sesotho (13.9%) was the next most prevalent home language, with IsiXhosa- and English speakers each comprising 8.7% of the sample.

Permission to conduct the study was granted by the relevant institutional authorities. All participants gave written informed consent prior to completing the measures discussed below. Participants retained the right to withdraw from the study at any time. The questionnaires were completed in paper-and-pencil format in groups of 20 to 30 students. No adverse events were observed or reported.

#### 3.2. *Measuring instruments*

The Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011) is a seven-item measure of EA. Respondents are required to indicate how frequently they engage in experiential avoidance by rating how representative each statement is of their behaviour along a seven-point Likert-type scale with responses ranging from *never true* to *always true*. The AAQ-II is scored by summing responses across all seven options. Higher scores are indicative

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<sup>1</sup> The term coloured is used in preference to mixed race. This is primarily due to the fact that the participants in this study, while of mixed ancestry, identify themselves as a distinct ethnocultural group in South African society

of greater or more frequent EA. Renshaw (2018) reports high internal consistency ( $\alpha = .91$ ) and good concurrent validity for the AAQ-II in a sample of American undergraduate students.

Various versions of the General Health Questionnaire (GHQ; Goldberg & Hiller, 1979) are widely used as measures of psychopathology and emotional distress in both clinical and non-clinical samples. In the current study only the seven depression-related items and the seven anxiety-related items were used. Participants were required to indicate the extent to which they had experienced various symptoms of anxiety and depression over the preceding two weeks. Response options were presented along a four-point Likert-type scale anchored by *not at all* and *more than usual*. The GHQ is scored by rating responses as 1 or 0 on the frequency of the symptoms. An emotional distress score was obtained by summing responses across the seven depression and seven anxiety items on the GHQ. The higher this score the greater the emotional distress reported by the participant. Numerous and recent studies on western and non-western populations have confirmed the reliability, validity and internal consistency of the GHQ (Ardakani et al., 2016; Farhood & Dimassi, 2015; Kashyap & Singh, 2017).

The Perceived Stress Scale (PSS) (Cohen, Kamarck, & Mermelstein, 1983) was used to obtain an indication of the extent to which the participants perceived situations in their lives to be stressful. The PSS requires respondents to indicate how frequently in the past month they had perceived their lives to be unpredictable and overwhelming. Response options are presented along a five-point Likert-type scale anchored by *never* and *very often*. The PSS is scored by reversing the four positively worded items and then summing scores across all 10 items. The PSS yields a unitary score. The higher the score, the more stressful the individual perceives their life to be. Adequate reliability and validity is reported for the PSS (Kaya, Tansey, Melekoglu, Cakiroglu, & Chan, 2017; Taylor, 2015).

Given that the university offered dual-medium instruction (Afrikaans and English) at the time of data collection, all measures were translated into Afrikaans via the back-translation

method (Brislin, 1970). Participants thus had the option of completing the measures in either Afrikaans or English.

### **3.3. Data analysis**

Initially descriptive statistics, reliability coefficients and intercorrelations were calculated with respect to the sample's scores on the AAQ-II, the GHQ and the PSS. Given the literature indicating that ethnicity and gender may impact perceived stress and emotional distress among university students, a between-groups multivariate analysis of variance was conducted to investigate the main effects of ethnicity and gender, as well as the interaction of these two variables with respect to EA, emotional distress and perceived stress. Thereafter, the effect of EA on the relationship between perceived stress and emotional distress was investigated. A body of literature suggests that EA mediates the effect of perceived stress on emotional distress (Bardeen, Fergus, & Orcutt, 2013; Gloster et al., 2017; Levin et al., 2014; Machell et al., 2015). Consequently, regression analyses using ordinary least squares (OLS) was employed to investigate the potential mediating effect of EA on the relationship between perceived stress and emotional distress in the current sample. A 5% level of statistical significance was initially set with respect to the correlation and variance analyses. A 95% confidence interval was set with regard to the mediation analysis. All analyses were conducted using SPSS 25. The process macro for SPSS version 3.0 (Hayes, 2013) was used to conduct the mediation analysis.

## **4. Results**

### **4.1. Descriptive statistics**

It is evident from Table 1 that statistically significant positive correlations exist between perceived stress, emotional distress and experiential avoidance. The correlation coefficients



reported in Table 1 could be interpreted as being indicative of strong relationships between the variables concerned. According to Cohen (1992) this is indicative of all three correlation coefficients having a large effect size ( $r = .50$  to  $1.0$ ).

Table 1. *Correlations and reliability coefficients for measures by ethnicity and language (n=1121).*

	PSS	GHQ	AAQ-II	$\alpha$					
				Total	Black	White	Coloured	Trans	Orig
AAQ-II	.580**	.552**	-	.890	.886	.893	.900	.893	.889
GHQ	.602**	-		.882	.881	.878	.895	.882	.880
PSS	-			.816	.812	.818	.827	.816	.817

Key: PSS = Perceived Stress Scale; GHQ = General Health Questionnaire; AAQ-II = Acceptance and Action Questionnaire – II; Trans = Afrikaans translation of measuring instruments; Orig = Original English version of measuring instruments

\*\*  $p \leq 0.01$ ; \*  $p \leq 0.05$

All three measuring instruments exhibit acceptable levels of internal reliability across the ethnic groups (black, coloured and white), as well as for the original English version of the measures and the Afrikaans translations. Limited variability is apparent with the internal consistencies of the measures across ethnicity and language as the Cronbach alpha-coefficients all fall within the range of .812 to .900. The data was thus considered sufficiently reliable for further analysis.

Literature reviewed earlier in this article suggests that students from non-western cultures often experience significant difficulty coping with the demands of university life. Being a first-generation student and/or coming from a socioeconomically disadvantaged background further exasperates the situation (Eisenberg et al., 2013; Stebleton et al., 2014; Wilbur & Roscigno, 2016). Furthermore, there is evidence to suggest that female students

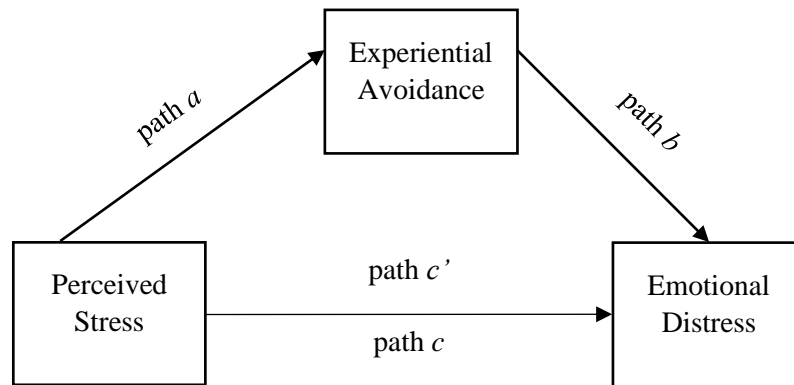
report higher levels of stress and emotional distress than males (El Ansari et al., 2014; Ibrahim et al., 2013; Soysa & Wilcomb, 2013). Consequently, it was deemed necessary to determine whether significant differences existed with regard to the mean AAQ-II (experiential avoidance), GHQ Anxiety and Depression scales (emotional distress) and PSS (perceived stress) scores across ethnicity (black, coloured and white) and/or gender (female and male).

Between-groups multivariate analysis of variance was employed for the purpose of exploring potential ethnicity and/or gender differences (independent variables) with respect to experiential avoidance, emotional distress and perceived stress (dependent variables). Preliminary assumption testing revealed a violation of the assumption of equality of variance. Thus, in accordance with the recommendation of Tabachnick and Fidell (2007), a Bonferroni adjusted alpha level of .017 was set for interpretation of the results of the MANOVA. No statistically significant difference was found with regard to gender with respect to the combined dependent variables [ $F(3;1103) = 3.185; p = .023$ ; Pillai's Trace = .009; partial eta squared = .009], nor was an interaction (gender\*race) effect found [ $F(6;2208) = .808; p = .564$ ; Pillai's Trace = .004; partial eta squared = .002]. However, a statistically significant difference was found with regard to ethnicity on the combined dependent variables [ $F(6; 2208) = 3.72; p = .001$ ; Pillai's Trace = .02; partial eta square = .01]. The results for the dependent variables were then considered separately. Differences between the ethnic groups were apparent with regard to emotional distress [ $F(2; 1105) = 9.41; p = .000$ ; partial eta square = .017] and perceived stress [ $F(2;1105) = 5.72; p = .003$ ; partial eta square = .010]. Post-hoc analyses (Tukey) revealed that the black participants reported significantly higher levels of emotional distress ( $M = 3.99; SD = 3.92$ ) than the white participants ( $M = 3.06; SD = 3.47$ ), as did the coloured participants ( $M = 4.16; SD = 4.08$ ). However, the black and coloured participants did not differ significantly with regard to emotional distress. With regard to perceived stress, no significant differences were found between the black ( $M = 18.94; SD = 6.65$ ) and coloured ( $M = 19.84;$

$SD = 5.78$ ) participants. However, both black and coloured participants reported significantly higher levels of perceived stress than the white participants ( $M = 17.54$ ;  $SD = 6.02$ ).

Given that the black and coloured participants did not differ significantly with regard to the three variables of interest, and that both of these groups of participants differed significantly from the white participants with regard to levels of emotional distress and perceived stress, it was decided to combine the black and coloured participants for the purposes of further analyses. Aside from the statistical motivation for combining these two groups, the available literature suggests that these black and coloured students may share many challenges within the higher education environment that the majority of white students do not have to face (Mdepa & Tshiwula, 2012). These include the historical effects of the disenfranchisement of the Apartheid system, generally lower levels of education in their families of origin when compared to white students, generally lower socioeconomic status compared to white students and poorer quality secondary education (Stoddard, 2017). Consequently, the analyses reported below were conducted for the total sample, as well as for the white and black/coloured participants independently.

Based on the reviewed literature on EA, stress and emotional distress, it was hypothesised that the relationship between the stress that students in the current sample experience and the emotional distress they report is mediated by the extent to which they are inclined to attempt to avoid unwanted thoughts and emotions (EA). This proposed mediation is depicted in the conceptual diagram in Figure 1. Path *a* represents the direct effect of perceived stress on EA, path *b* depicts the direct effect of EA on emotional distress, and path *c* indicates the direct effect of perceived stress on ED. Path *c'* represents the indirect effect of perceived stress on emotional distress via EA.



*Figure 1.* Conceptual model for the proposed indirect effect of EA on the interaction between perceived stress and emotional distress

A bias-corrected bootstrapping procedure, as outlined by Hayes (2013), was employed to test whether EA mediated the effect of perceived stress on emotional distress in the total sample, as well as among the white and black/coloured participants independently. The direct and indirect effects of perceived stress on emotional distress were investigated by regressing the proposed mediator (EA) on perceived stress (path *a*), while emotional distress was regressed on EA (path *b*) and perceived stress (path *c*'). The results of the regression analysis are reported in Table 2.

Table 2. Model coefficients for the mediation analysis: Total sample, as well as the white participants and black and coloured participants.

<b>Total sample (N=1121)</b>														
Antecedent	Consequent													
	M (Experiential Avoidance)							Y (Psychological Distress)						
		<i>Coeff.</i>	<i>SE</i>	<i>p</i>	<i>F</i>	<i>dfs</i>	<i>R<sup>2</sup></i>	<i>Coeff.</i>	<i>SE</i>	<i>p</i>	<i>F</i>	<i>dfs</i>	<i>R<sup>2</sup></i>	
X (Perceived Stress)	<i>a</i>	.86	.036	.000	567.159	1; 1119	.336	<i>c'</i>	.12	.011	.000	-	-	-
M (EA)		-	-	-	-	-	-	<i>b</i>	.25	.017	.000	412.413	2;1118	.425
Constant	<i>i<sub>1</sub></i>	5.90	.698	.000	-	-		<i>i<sub>2</sub></i>	-3.74	.270	.000	-	-	-
<b>White participants (n=545)</b>														
Antecedent	Consequent													
	M (Experiential Avoidance)							Y (Psychological Distress)						
		<i>Coeff.</i>	<i>SE</i>	<i>p</i>	<i>F</i>	<i>dfs</i>	<i>R<sup>2</sup></i>	<i>Coeff.</i>	<i>SE</i>	<i>p</i>	<i>F</i>	<i>dfs</i>	<i>R<sup>2</sup></i>	
X (Perceived Stress)	<i>a</i>	.82	.051	.000	261.444	1; 543	.325	<i>c'</i>	.12	.015	.000	-	-	-
M (EA)		-	-	-	-	-	-	<i>b</i>	.27	.022	.000	231.866	2;542	.461
Constant	<i>i<sub>1</sub></i>	6.42	.940	.000	-	-		<i>i<sub>2</sub></i>	-4.12	.351	.000	-	-	-
<b>Black and coloured participants (n=566)</b>														
Antecedent	Consequent													
	M (Experiential Avoidance)							Y (Psychological Distress)						
		<i>Coeff.</i>	<i>SE</i>	<i>p</i>	<i>F</i>	<i>dfs</i>	<i>R<sup>2</sup></i>	<i>Coeff.</i>	<i>SE</i>	<i>p</i>	<i>F</i>	<i>dfs</i>	<i>R<sup>2</sup></i>	
X (Perceived Stress)	<i>a</i>	.89	.052	.000	292.006	1; 564	.341	<i>c'</i>	.122	.016	.000	-	-	-
M (EA)		-	-	-	-	-	-	<i>b</i>	.236	.025	.000	176.447	2;563	.385
Constant	<i>i<sub>1</sub></i>	5.44	1.044	.000	-	-		<i>i<sub>2</sub></i>	-3.22	.413	.000	-	-	-

Note: EA = Experiential Avoidance

It is evident from the results of the regression analysis reported in Table 2 that perceived stress significantly predicts EA in the total sample ( $b = .86$ ;  $t = 23.815$ ;  $p < .001$ ). Increased perceived stress is thus associated with a tendency to be more experientially avoidant. Moreover, perceived stress explains 33.6% of the variance in the EA [ $F(1;1119) = 567.159$ ;  $p < .001$ ]. It is further evident from Table 2 that, for the total sample, perceived stress significantly predicts emotional distress even with the addition of EA to the model ( $b = .12$ ;  $t = 10.990$ ;  $p < .001$ ). EA also significantly predicts emotional distress ( $b = .25$ ;  $t = 15.242$ ;  $p < .001$ ). Perceived stress and EA together explain 42.5% of the variance in emotional distress. Thus, increases in both perceived stress and EA are predictive of increased emotional distress. As indicated in Figure 2, there is a significant indirect effect of perceived stress on emotional distress through EA ( $b = .106$ ; BCa CI [.083; .130]). It is thus evident that EA partially mediates the relationship between perceived stress and emotional distress in the total sample of university students.

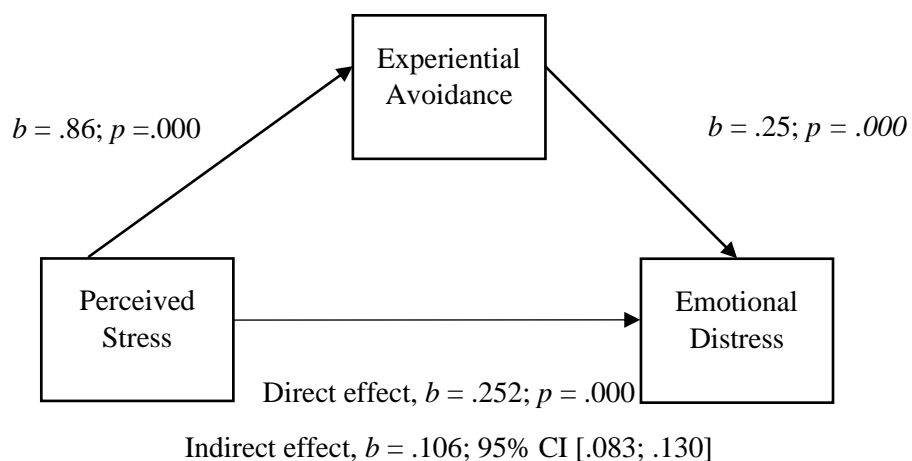


Figure 2. Model of perceived stress as a predictor of emotional distress mediated by experiential avoidance in the total sample. The confidence interval for the indirect effect is a BCa bootstrapped CI based on 5000 samples.

Investigation of the regression analysis conducted for the white participants (Table 2) reveals that perceived stress significantly predicts EA ( $b = .82$ ;  $t = 16.169$ ;  $p < .001$ ). As in the total sample, elevated perceived stress is associated with increased experiential avoidance among the white students. Perceived stress accounts for 32.5% of the variance in EA among these participants ( $F(1;543) = 261.444$ ;  $p < .001$ ). Perceived stress significantly predicts emotional distress with the addition of EA to the model ( $b = .12$ ;  $t = 7.796$ ;  $p < .001$ ). EA is also a significant predictor of emotional distress ( $b = .27$ ;  $t = 12.048$ ;  $p < .001$ ). Perceived stress and EA together account for 46.1% of the variance in emotional distress. Consequently, increases in perceived stress and EA are both predictive of increases in emotional distress. Figure 3 indicates that perceived stress has a significant indirect effect on emotional distress through EA ( $b = .098$ ; BCa CI [.065; .135]). Consequently, EA partially mediates the relationship between perceived stress and emotional distress among the white students included in the sample.

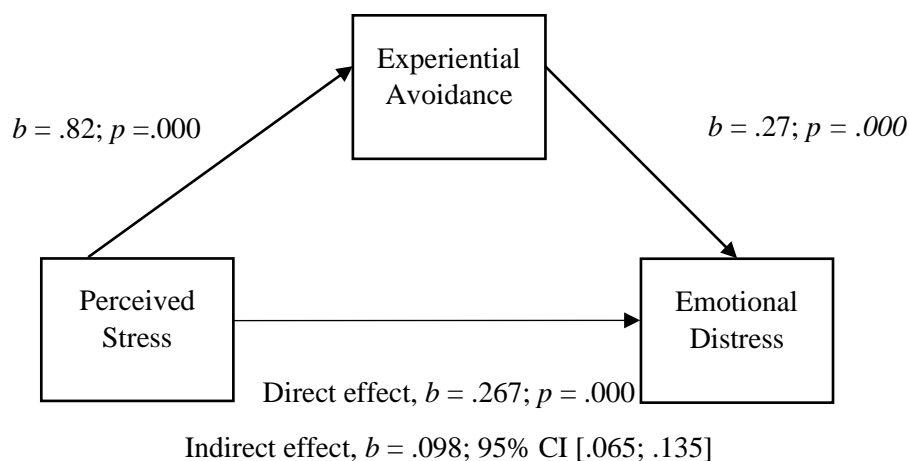


Figure 3. Model of perceived stress as a predictor of emotional distress mediated by experiential avoidance for the white participants. The confidence interval for the indirect effect is a BCa bootstrapped CI based on 5000 samples.

The results of the regression analyses for the black and coloured participants identify perceived stress as a significant predictor of EA ( $b = .89$ ;  $t = 17.090$ ;  $p < .001$ ). An increase in perceived stress is thus associated with increased EA. Perceived stress accounts for 34.1% of the variance in the EA of the black and coloured participants ( $F(1;564) = 292.066$ ;  $p < .001$ ). Amongst these participants, perceived stress significantly predicts emotional distress, even when EA is added to the regression model ( $b = .12$ ;  $t = 7.525$ ;  $p < .001$ ). EA is also a significant predictor of emotional distress ( $b = .24$ ;  $t = 9.575$ ;  $p < .001$ ). In addition, perceived stress and EA jointly account for 62.1% of the variance in the emotional distress of the black and coloured students. Consequently, increases in perceived stress and EA are both predictive of increases in emotional distress. A significant indirect effect is evident (Figure 4) for perceived stress on emotional distress through EA ( $b = .108$ ; BCa CI [.076; .144]). Amongst the black and coloured students included in the current study, EA appears to partially mediate the relationship between perceived stress and emotional distress.

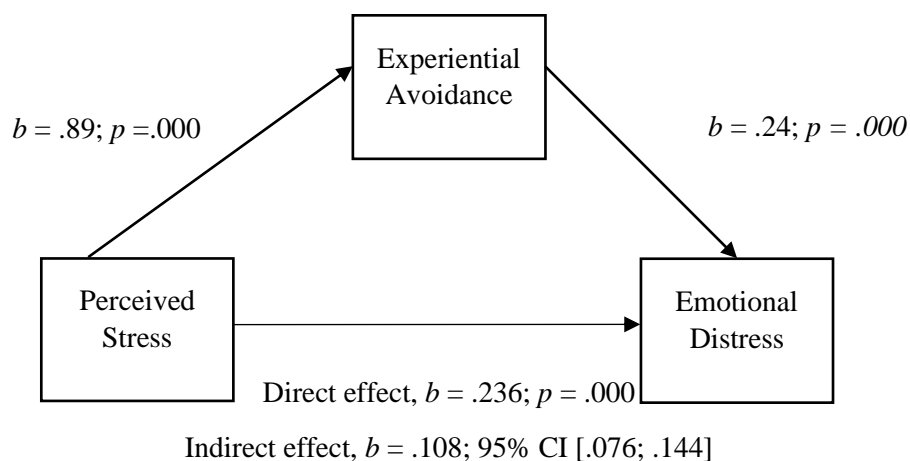


Figure 4. Model of perceived stress as a predictor of emotional distress mediated by experiential avoidance for the black and coloured participants. The confidence interval for the indirect effect is a BCa bootstrapped CI based on 5000 samples.



## 5. Discussion

The current study sought to determine (1) whether a relationship exists between perceived stress, EA and emotional distress among South African university students, (2) whether race and/or gender differences are apparent with regard to perceived stress, EA and emotional distress, and lastly (3) whether EA mediates the relationship between perceived stress and emotional distress.

Perceived stress was found to be significantly and positively correlated with emotional distress. Consequently, feeling overawed by, and unable to cope with the challenges of university life seems to be associated with increased emotional distress in the current sample. This finding is in keeping with much of the published literature linking stressors in the university environment to decreased psychological wellbeing among students (Jones-Delcorde, 2015; Kroska et al., 2017; McCarthy et al., 2018). Perceived stress also demonstrated a significant positive correlation with EA. It can thus be deduced that among these students, increased EA is associated with an increase in perceived stress. This affirms the widely held idea that adversity, and the resulting increase in perceived stress, may increase the tendency for individuals to avoid undesirable emotions, thoughts and physical sensations (Bardeen et al., 2013; Gloster et al., 2017; Monestès et al., 2018; Zvolensky et al., 2016). In keeping with prevailing opinions regarding the relationship between EA and emotional distress, the current study found that emotional distress was positively associated with EA (Levin et al., 2014; Machell et al., 2015; Schut & Boelen, 2017; Spinhoven et al., 2014; Törneke et al., 2016). It would thus appear that strategies aimed at controlling or avoiding unwanted internal events are associated with increased emotional distress among South African university students. This adds to a small but growing research base on the cross-cultural applicability of the connection between EA and poorer mental health outcomes (Chou et al., 2018; Cook & Hayes, 2010; Zvolensky et al., 2016). Furthermore, this finding suggests that interventions, such as

Acceptance and Commitment Therapy (ACT) (Hayes et al., 2006), specifically aimed at reducing EA, could be beneficial with regard to promoting mental health among South African university students, irrespective of socioeconomic and sociocultural background.

It has been reported that female students might find the university experience more stressful than their male counterparts (Beiter et al., 2015; El Ansari et al., 2014; Ibrahim et al., 2013). In addition, Soysa and Wilcomb (2013) found higher levels of emotional distress and psychological difficulties among female university students when compared to male students. In the current study, however, no significant gender differences were found with regard to reported levels of perceived stress, emotional distress and EA. It would thus appear that, at least in this sample of South African students, females and males appear to find university life equally challenging and report similar levels of mental health. Similarly, Bedewy and Gabriel (2015) as well as Heinen et al. (2017) found no gender differences in the reported levels of academic stress by male and female students at an Egyptian and German university respectively. It should be borne in mind that females comprised the majority of the sample in the current study. Consequently, the apparent absence of gender differences in perceived stress, EA and emotional distress might be due to an inadvertent sampling bias and/or statistical anomaly. More representative sampling might have yielded different results.

Given the historical context of inequality in South Africa (Bhayat & Madiba, 2017; Bozalek & Boughey, 2012; Mdepa & Tshiwula, 2012), as well as the international literature on first-generation and socioeconomically disadvantaged students' (Eisenberg et al., 2013; Sandoz et al., 2017; Stephens et al., 2012) experiences of higher education, it is perhaps not surprising that the black and coloured students reported significantly higher levels of perceived stress than the white students. It could, however, be argued that given their general life circumstances, these students entered university more stressed than the majority of their white (socioeconomically advantaged) peers (Auerbach et al., 2016). Moreover, stressors that are

external to the university context might also vary as a function of a multitude of socioeconomic and sociocultural factors. Nevertheless, the significantly higher levels of stress reported by these students would be expected to place them at higher risk for poorer mental health outcomes. This is borne out in the relationship that stress demonstrates with emotional distress in the study, as well as the elevated levels of emotional distress reported by the black and coloured participants.

The unique climate of higher education in the current South African melting pot cannot be overlooked. The racially informed apartheid era policies influencing higher education continue to have an impact on the institution of higher learning as a whole and appropriate interventions are required. The need to address inherent institutional challenges such as the continued adherence to western ways of practicing academia, as well as increasing access to support services is apparent (Boughey & McKenna, 2016; Bozalek & Boughey, 2012). The decolonisation of higher education might prove effective in narrowing the stress gap between white and African students at South African universities (Hendricks, 2018; Le Grange, 2016). Universities would do well to find ways of making support services more accessible to students from disadvantaged backgrounds (Bozalek & Boughey, 2012). This might need to extend beyond mere logistics and should address issues such as the inherent culture of these service agencies, increasing sensitivity for the manner in which socially and economically marginalized people perceive and think about services such as psychotherapy (Stephens et al., 2014).

Differences in emotional distress were also apparent between the different race groups. Black and coloured participants reported significantly higher levels of emotional distress than the white students, but no difference was apparent between the emotional distress reported by the black and coloured students. This finding is in keeping with literature that reports poorer mental health outcomes for socioeconomically disadvantaged students and first-generation

students, as well as students who do not have the opportunity to study in their first language, or whose culture is not aligned with the dominant culture in higher educational institutions (Eisenberg et al., 2013; Sandoz et al., 2017; Stephens et al., 2012; Wilbur & Roscigno, 2016). Having disadvantaged/minority students report lower levels of mental health than their privileged counterparts, while also experiencing significantly higher stress seems to be in agreement with generally accepted models of stress and mental health (Dvořáková, Greenberg, & Roeser, 2018; Lazarus & Folkman, 1984). It has been suggested that this situation is further complicated by socioeconomically disadvantaged and culturally marginalised students having reduced access to financial and other forms of support, as well as being less inclined to access institutionally funded support services (Meadows, Enticott, Inder, Russell, & Gurr, 2015; Stephens et al., 2014; Yew et al., 2015). However, Auerbach and colleagues (2016) have cautioned against overly simplistic interpretations of the apparent link between stress and mental health among university students. These researchers found that a significant proportion of students who report mental health difficulties at university suffered from these problems prior to commencing their studies. Consequently, longitudinal research may be needed to more precisely determine the interaction between pre-existing mental health issues, university-related stress and student mental health.

The lack of apparent race differences with regard to EA can be interpreted as further evidence of the universality of EA as a transdiagnostic process, irrespective of cultural history and personal context (Cook & Hayes, 2010; Monestès et al., 2018). However, significantly more research would be necessary before such a conclusion could be reached.

In addition to exploring the relationship between perceived stress, EA and emotional distress among university students, the current study also sought to investigate whether EA mediates the relationship between perceived stress and emotional distress in this population. A number of cross-sectional and intervention studies suggest that EA is a psychological process

through which responses to adversity, such as perceived stress, impact upon emotional wellbeing and mental health (Bardeen et al., 2013; Gloster et al., 2017; Levin et al., 2014; Machell et al., 2015; Törneke et al., 2016). The results of the current mediation analyses reiterate these findings. More specifically, EA was found to partially mediate the relationship between perceived stress and emotional distress in the sample as a whole, as well as in both the white and black/coloured subsamples. It is thus apparent that in this sample of university students elevations in perceived stress increase the extent to which avoidant strategies are employed to deal with unwanted or unpleasant emotions, thoughts and physiological sensations. The application of avoidant strategies subsequently results in an increase in the number and/or intensity of symptoms of anxiety and depression reported by the students. This is in keeping with the general literature on the role of EA in psychopathology and emotional distress, as well as the ACT-specific literature on the negative impact of psychological inflexibility (Danitz, Suvak, & Orsillo, 2016; Hayes et al., 2006; Kroska et al., 2017; Levin, Krafft, Pistorello, & Seeley, 2018; Masuda & Tully, 2012) Furthermore, perceived stress and EA accounted for a significant proportion of the variance in emotional distress reported by the total sample (42.5%), white participants (46.1%), as well as the black and coloured participants (62.1%). Moreover, while significant racial differences were found with regard to perceived stress and emotional distress, no significant differences in EA were apparent between the white and black/coloured students. Consequently, the current study adds to the literature contending that EA is a transdiagnostic construct that is universally applicable, irrespective of race and/or culture (Chou et al., 2018; Cook & Hayes, 2010; Drake et al., 2018; Monestès et al., 2018). It would also seem that interventions aimed at reducing EA hold promise as means of reducing emotional distress in ethnically diverse university student populations such as South Africa.

## **6. Limitations of the study and areas of future research**

The current study is not without limitations. Despite being conducted in a truly diverse sample, the study focussed on students from a particular South African university. Consequently, the findings cannot necessarily be generalised to other South African universities or other multi-ethnic university contexts. This warrants a replication of this research inquiry across a number of South African universities before more robust conclusions can be drawn. The current study is cross-sectional in nature. While this is a well-accepted approach to exploratory research, future research would do well to employ a longitudinal approach to investigating the interaction between stress, EA and emotional distress among university students. It has been suggested by Karazsia and Berlin (2018) that longitudinal studies may be more conducive to investigating mediational relationships than cross-sectional studies are. The current study only focussed on three variables in a relatively simple mediational model. University students find themselves in ever more complex higher educational environments (Bozalek & Boughey, 2012). Consequently, future studies should include a wider variety of variables (e.g. sources of support, socioeconomic status, field of study, coping strategies employed) to test more complex models of how stress, EA and emotional distress interact in this population. In addition, future research could explore more fine-grained cultural differences in EA and look more specifically at the varying socioeconomic statuses of students. Particularly as the current study equated race with ethnicity, and ended up analysing results for coloured and black participants together based on the reported race.

Given that EA partially mediated the relationship between perceived stress and emotional distress, it may be fruitful to conduct research to establish the efficacy of interventions aimed at reducing EA in the South African university population. Even in the absence of such research, the existing literature and the results of the current study suggest that

models that emphasise acceptance and try to reduce EA (such as ACT and Mindfulness-Based CBT) might prove helpful to student counselling services within the South African higher education context (Hayes et al., 1999; Segal, Teasdale, & Williams, 2002).

## **7. Conclusion**

The current study found that perceived stress, EA and emotional distress were significantly related to each other in a multi-ethnic sample of university students. This relationship was found to occur independent of race and gender. Furthermore, perceived stress and EA accounted for a significant proportion of the variance in the emotional distress of the participants, irrespective of their race. Similarly, EA mediated the relationship between perceived stress and emotional distress across race. The study thus lends support to EA as an important transdiagnostic process in a cross-cultural setting. The implementation of interventions focussed on reducing EA would seem to hold promise for reducing the emotional distress associated with the university experience for South African students from various racial, cultural and socioeconomic backgrounds. In addition to interventions focussed at reducing EA, transformation of South African institutions of higher education is necessary in order to address structural and systemic inequalities that underpin many of the stressors and challenges faced by the majority of South African university students (liberal citation of appropriate sources).

### References

- American College Health Association. (2015). American college health association-national college health assessment II: Undergraduate student's reference group executive summary spring 2014. Hanover, MD: American College Health Association.
- Andrews, B., & Wilding, J. M. (2004). The relation of depression and anxiety to life-stress and achievement in students. *British Journal of Psychology*, *95*(4), 509-52. doi:org/10.1348/0007126042369802
- Ardakani, A., Seghatoleslam, T., Habil, H., Jameei, F., Rashid, R., Zahirodin, A., ... Arani, A. M. (2016). Construct validity of Symptom Checklist-90-Revised (SCL-90-R) and General Health Questionnaire-28 (GHQ-28) in patients with drug addiction and diabetes, and normal population. *Iranian Journal of Public Health*, *45*(4), 451-459. Retrieved from <https://0search.ebscohost.com.wagtail.ufs.ac.za/login.aspx?direct=true&db=edsbas&AN=edsbas.2A5AB6FE&site=eds-live>
- Asante, K. O., & Andoh-Arthur, J. (2015). Prevalence and determinants of depressive symptoms among university students in Ghana. *Journal of Affective Disorders*, *171*, 161-166. doi:org/10.1016/j.jad.2014.09.025
- Auerbach, R. P., Alonso, J., Axinn, W. G., Cuijpers, P., Ebert, D. D., Green, J. G., ... Nock, M. K. (2016). Mental disorders among college students in the World Health Organization world mental health surveys. *Psychological Medicine*, *46*(14), 2955-2970. doi:10.1017/S0033291716001665



Bardeen, J. R., Fergus, T. A., & Orcutt, H. K. (2013). Experiential avoidance as a moderator of the relationship between anxiety sensitivity and perceived stress. *Behavior Therapy*, 44(3), 459-469. doi.org/10.1016/j.beth.2013.04.001

Barnes-Holmes, D., O'Hora, D., Roche, B., Hayes, S. C., Bissett, R. T., & Lyddy, F. (2001). Understanding and verbal regulation. In S.C. Hayes, D. Barnes-Holmes, & B. Roche (Eds.), *Relational frame theory: A post-Skinnerian account of human language and cognition* (pp. 103-118). New York, NY: Plenum.

Bedewy, D., & Gabriel, A. (2015). Examining perceptions of academic stress and its sources among university students: The perception of academic stress scale. *Health Psychology Open*, 2(2), 1-9. doi: 10.1177/2055102915596714

Beiter, R., Nash, R., McCrady, M., Rhoades, D., Linscomb, M., Clarahan, M., & Sammut, S. (2015). The prevalence and correlates of depression, anxiety, and stress in a sample of college students. *Journal of Affective Disorders*, 173, 90-96. doi.org/10.1016/j.jad.2014.10.054

Bernstein, C., & Chemaly, C. (2016). Sex role identity, academic stress and wellbeing of first-year university students. *Gender and Behaviour*, 14(3), 7547-7573. Retrieved from <https://0search.ebscohost.com.wagtail.ufs.ac.za/login.aspx?direct=true&db=edssas&AN=edssas.genbeh.v15.n1.a2&site=eds-live>

Bhayat, A., & Madiba, T. K. (2017). The self-perceived sources of stress among dental students at a South African dental school and their methods of coping. *South African Dental Journal*, 72(1), 6-10. Retrieved from

[http://www.scielo.org.za/scielo.php?script=sci\\_arttext&pid=S00118516201700010005  
&lng=en&tlng=pt](http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S00118516201700010005&lng=en&tlng=pt)

- Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, H. K., Waltz, T., & Zettle, R. D. (2011). Preliminary psychometric properties of the acceptance and action questionnaire-II: A revised measure of psychological inflexibility and experiential avoidance. *Behavior Therapy*, *42*(4), 676-688. doi.org/10.1016/j.beth.2011.03.007
- Boughey, C. (2005). 'Epistemological access to the university: An alternative perspective. *South African Journal of Higher Education*, *19*(3), 230-242.
- Boughey, C., & McKenna, S. (2016). Academic literacy and the decontextualised learner. *Critical Studies in Teaching and Learning*, *4*(2), 1-9. doi.10.14426/cristal.v4i2.80
- Bozalek, V., & Boughey, C. (2012). (Mis) framing higher education in South Africa. *Social Policy & Administration*, *46*(6), 688-703. doi.org/10.1111/j.1467-9515.2012.00863
- Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, *1*(3), 185-216. doi.org/10.1177/135910457000100301
- Bruffaerts, R., Mortier, P., Kiekens, G., Auerbach, R. P., Cuijpers, P., Demyttenaere, K., ... Kessler, R. C. (2018). Mental health problems in college freshmen: Prevalence and academic functioning. *Journal of Affective Disorders*, *225*, 97-103. doi:org/10.1016/J.jad.2017.07.044

- Cabrera, A. S. P. (2014). First generation minority students: Understanding the influential factors that contributed to their preparation and decision to pursue higher education. *PSU McNair Scholars Online Journal*, 8(1), 1-20. doi:10.15760/mcnair.2014
- Chou, W. P., Yen, C. F., & Liu, T. L. (2018). Predicting effects of psychological inflexibility/experiential avoidance and stress coping strategies for internet addiction, significant depression, and suicidality in college students: A prospective study. *International Journal of Environmental Research and Public Health*, 15(4), 788-799. doi:10.3390/ijerph15040788
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112(1), 155-159. doi. 10.1037/0033-2909.112.1.115
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24(4), 385-396. doi:10.2307/2136404
- Cook, D., & Hayes, S. C. (2010). Acceptance-based coping and the psychological adjustment of Asian and Caucasian Americans. *International Journal of Behavioral Consultation and Therapy*, 6(3), 186-197. doi.org/10.1037/h0100907
- Danitz, S. B., Suvak, M. K., & Orsillo, S. M. (2016). The mindful way through the semester: Evaluating the impact of integrating an acceptance-based behavioral program into a first-year experience course for undergraduates. *Behavior Therapy*, 47(4), 487-499. doi.org/10.1016/j.beth.2016.03.002

- Drake, C. E., Masuda, A., Dalsky, D., Stevens, K. T., Kramer, S., Primeaux, S. J., ... Mitamura, T. (2018). Examining US and Japanese college students' differences in psychological distress: The mediating roles of valued action and experiential avoidance. *International Journal for the Advancement of Counselling*, 1-16. doi.org/10.1007/s10447-018-9342-2
- Dvořáková, K., Greenberg, M. T., & Roeser, R. W. (2018). On the role of mindfulness and compassion skills in students' coping, well-being and development across the transition to college: A conceptual analysis. *Stress and Health*, doi.org/10.1002/smi.2850
- Eisenberg, D., Hunt, J., & Speer, N. (2013). Mental health in American colleges and universities: Variation across student subgroups and across campuses. *The Journal of Nervous and Mental Disease*, 201(1), 60-67. doi:10.1097/NMD.0b013e31827ab077
- El Ansari, W., Oskrochi, R., Labeeb, S., & Stock, C. (2014). Symptoms and health complaints and their association with perceived stress at university: Survey of students at eleven faculties in Egypt. *Central European Journal of Public Health*, 22(2), 68. Retrieved from <http://apps.szu.cz/svi/cejph/archiv/2014-2-02-full>.
- Farhood, L. F., & Dimassi, H. (2015). Validation of an Arabic version of the GHQ-28 against the beck depression inventory for screening for depression in war-exposed civilians. *Psychological Reports*, 116(2), 470-484. doi:10.2466/08.PR0.116k23w9
- Gloster, A. T., Meyer, A. H., & Lieb, R. (2017). Psychological flexibility as a malleable public health target: Evidence from a representative sample. *Journal of Contextual Behavioral Science*, 6(2), 166-171. doi.org/10.1016/j.jcbs.2017.02.003

Goldberg., D. P., & Hiller, V. F. (1979). A scaled version of the general health questionnaire. *Psychological Medicine*, 9(1), 139-145. doi.org/10.1017/S0033291700021644

Grégoire, S., Lachance, L., Bouffard, T., & Dionne, F. (2018). The use of acceptance and commitment therapy to promote mental health and school engagement in university students: A multisite randomized controlled trial. *Behavior Therapy*, 49(3), 360-372. doi:org/10.1016/j.beth.2017.10.003.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.

Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour Research and Therapy*, 44(1), 1-25. doi:org/10.1016/j.brat.2005.06.006.

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experiential approach to behaviour change*. New York: Guilford Press.

Heinen, I., Bullinger, M., & Kocalevent, R. D. (2017). Perceived stress in first year medical students-associations with personal resources and emotional distress. *BMC Medical Education*, 17(1), 4. doi:10.1186/s12909-016-0841-8

Hendricks, C. (2018). Decolonising Universities in South Africa: Rigged Spaces?. *International Journal of African Renaissance Studies-Multi-, Inter-and Transdisciplinarity*, 13(1), 16-38. doi.org/10.1080/18186874.2018.1474990

- Ibrahim, A. K., Kelly, S. J., Adams, C. E., & Glazebrook, C. (2013). A systematic review of studies of depression prevalence in university students. *Journal of Psychiatric Research*, 47(3), 391-400. doi.org/10.1016/j.jpsychires.2012.11.015.
- Jibeen, T. (2016). Perceived social support and mental health problems among Pakistani university students. *Community Mental Health Journal*, 52(8), 1004-1008. doi:10.1007/s10597-015-9943-8.
- Jones-Delcorde, B. (2015). Mental health deterioration among western canadian post-secondary students: An analysis of the contextual stressors and obstacles to utilizing effective coping mechanisms. (Unpublished doctoral dissertation). University of Regina, Faculty of Graduate Studies and Research.
- Karazsia, B. T., & Berlin, K. S. (2018). Can a mediator moderate? Considering the role of time and change in the mediator-moderator distinction. *Behavior Therapy*, 49(1), 12-20. doi.org/10.1016/j.beth.2017.10.001
- Kashyap, G. C., & Singh, S. K. (2017). Reliability and validity of general health questionnaire (GHQ-12) for male tannery workers: a study carried out in Kanpur, India. *BMC psychiatry*, 17(1), 102. doi:10.1186/s12888-017-1253-y
- Kaya, C., Tansey, T. N., Melekoglu, M., Cakiroglu, O., & Chan, F. (2017). Psychometric evaluation of Turkish version of the Perceived Stress Scale with Turkish college students. *Journal of Mental Health*, 1-7. doi:10.1080/09638237.2017.1417566

- Kreig, D. B. (2013). High expectations for higher education? Perceptions of college and experiences of stress prior to and through the college career. *College Student Journal*, 47(4), 635-643. Retrieved from <https://0-search.ebscohost.com.wagtail.ufs.ac.za/login.aspx?direct=true&db=asn&AN=93813992&site=eds-live>.
- Kress, V., Sperth, M., Hofmann, F. H., & Holm-Hadulla, R. M. (2015). Psychological complaints of students: A comparison of field samples with clients of a counselling service at a typical German University. *Mental Health & Prevention*, 3(1-2), 41-47. doi:org/10.1016/j.mph.2015.04.002.
- Kroska, E. B., Calarge, C., O'Hara, M. W., Deumic, E., & Dindo, L. (2017). Burnout and depression in medical students: Relations with avoidance and disengagement. *Journal of Contextual Behavioral Science*, 6(4), 404-408. doi.org/10.1016/j.jcbs.2017.08.003.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.
- Lee, C., Dickson, D. A., Conley, C. S., & Holmbeck, G. N. (2014). A closer look at self-esteem, perceived social support, and coping strategy: A prospective study of depressive symptomatology across the transition to college. *Journal of Social and Clinical Psychology*, 33(6), 560-585. doi: 10.1521/jscp.2014.33.6.560
- Le Grange, L. (2016). Decolonising the university curriculum: Leading article. *South African Journal of Higher Education*, 30(2), 1-12. doi.org/10.20853/30-2-709

- Levin, M. E., Hayes, S. C., Pistorello, J., & Seeley, J. R. (2016). Web-Based Self-Help for Preventing Mental Health Problems in Universities: Comparing Acceptance and Commitment Training to Mental Health Education. *Journal of clinical psychology, 72*(3), 207-225. doi:10.1002/jclp.22254.
- Levin, M. E., Krafft, J., Pistorello, J., & Seeley, J. R. (2018). Assessing psychological inflexibility in university students: Development and validation of the acceptance and action questionnaire for university students (AAQ-US). *Journal of Contextual Behavioral Science. 2212-1447* doi.org/10.1016/j.jcbs.2018.03.004
- Levin, M. E., Lillis, J., Seeley, J., Hayes, S. C., Pistorello, J., & Biglan, A. (2012). Exploring the relationship between experiential avoidance, alcohol use disorders, and alcohol-related problems among first-year college students. *Journal of American College Health, 60*(6), 443-448. doi:10.1080/07448481.2012.673522.
- Levin, M. E., MacLane, C., Daflos, S., Seeley, J. R., Hayes, S. C., Biglan, A., & Pistorello, J. (2014). Examining psychological inflexibility as a transdiagnostic process across psychological disorders. *Journal of Contextual Behavioral Science, 3*(3), 155-163. doi.org/10.1016/j.jcbs.2014.06.003.
- Lundgren, T., Dahl, J., Melin, L., & Kies, B. (2006). Evaluation of acceptance and commitment therapy for drug refractory epilepsy: a randomized controlled trial in South Africa—a pilot study. *Epilepsia, 47*(12), 2173-2179. doi.org/10.1111/j.1528-1167.2006.00892.x.



- Machell, K. A., Goodman, F. R., & Kashdan, T. B. (2015). Experiential avoidance and well-being: A daily diary analysis. *Cognition and Emotion*, 29(2), 351-359. doi:10.1080/02699931.2014.911143.
- Masuda, A., & Tully, E. C. (2012). The role of mindfulness and psychological flexibility in somatization, depression, anxiety, and general psychological distress in a nonclinical college sample. *Journal of Evidence-Based Complementary & Alternative Medicine*, 17(1), 66-71. doi:10.1177/2156587211423400
- McCarthy, B., Tethnicity, A., O'Donovan, M., Brady-Nevin, C., Murphy, M., O'Shea, M., & O'Regan, P. (2018). Nursing and midwifery students' stress and coping during their undergraduate education programmes: An integrative review. *Nurse Education Today*, 61, 197-209. doi:org/10.1016/j.nedt.2017.11.029.
- Mdepa, W., & Tshiwula, L. (2012). Student diversity in South African higher education. *Widening Participation and Lifelong Learning*, 13(1), 19-33. Retrieved from <https://0-search.ebscohost.com/wagtail.ufs.ac.za/login.aspx?direct=true&db=edb&AN=70607792&site=eds-live>.
- Meadows, G. N., Enticott, J. C., Inder, B., Russell, G. M., & Gurr, R. (2015). Better access to mental health care and the failure of the Medicare principle of universality. *Medical Journal of Australia*, 202(4), 190-194. doi.org/10.5694/mja14.00330.

- Monestès, J. L., Karekla, M., Jacobs, N., Michaelides, M. P., Hooper, N., Kleen, M., ... Villatte, M. (2016). Experiential Avoidance as a Common Psychological Process in European Cultures. *European Journal of Psychological Assessment, 34*(4), 247–257. doi: 10.1027/1015-5759/a000327
- Mortier, P., Cuijpers, P., Kiekens, G., Auerbach, R. P., Demyttenaere, K., Green, J. G., Kessler, R. C., Nock, M. K., & Bruffaerts, R. (2018). The prevalence of suicidal thoughts and behaviours among college students: A meta-analysis. *Psychological Medicine, 48*(4), 554-565. doi:10.1017/S0033291717002215
- Mudhovozi, P. (2011). Analysis of perceived stress, coping resources and life satisfaction among students at a newly established institution of higher learning. *South African Journal of Higher Education, 25*(3), 510-522. Retrieved from <https://0-search.ebscohost.com/wagtail.ufs.ac.za/login.aspx?direct=true&db=edssas&AN=edssas.high.v25.n3.a9&site=eds-live>.
- Naidoo, S. S., Van Wyk, J., Higgins-Opitz, S. B., & Moodley, K. (2014). An evaluation of stress in medical students at a South African university. *South African Family Practice, 56*(5), 258-262. doi.org/10.1080/20786190.2014.980157
- Niknami, M., Dehghani, F., Bouraki, S., Kazemnejad, E., & Soleimani, R. (2015). An assessment of the stressors and ways of coping in Iranian medical sciences students. *Iranian Journal of Nursing and Midwifery Research, 20*(4), 521. doi:10.4103/1735-9066.161009

Pengpid, S., Peltzer, K., & Skaal, L. (2013). Mental health and HIV sexual risk behaviour among University of Limpopo students. *South African Journal of Psychiatry, 19*(2), 25-30. doi:10.7196/SAJP415

Pin, L., & Martin, C. (2012). Student health: Bringing healthy change to Ontario's universities. Retrieved from Ontario Undergraduate Student Alliance website: <http://www.ousa.ca/dev/wp-content/uploads/2012/05/Student-Health-2012.pdf>.

Ramler, T. R., Tennison, L. R., Lynch, J., & Murphy, P. (2016). Mindfulness and the college transition: The efficacy of an adapted mindfulness-based stress reduction intervention in fostering adjustment among first-year students. *Mindfulness, 7*(1), 179-188. doi.org/10.1007/s12671-015-0398-3

Räsänen, P., Lappalainen, P., Muotka, J., Tolvanen, A., & Lappalainen, R. (2016). An online guided ACT intervention for enhancing the psychological wellbeing of university students: A randomized controlled clinical trial. *Behaviour Research and Therapy, 78*, 30-42. doi.org/10.1016/j.brat.2016.01.00

Reddy, M. K., Pickett, S. M., & Orcutt, H. K. (2006). Experiential avoidance as a mediator in the relationship between childhood psychological abuse and current mental health symptoms in college students. *Journal of Emotional Abuse, 6*(1), 67-85. doi:YrEY8rrObY8:ar&0rYIr/

Renshaw, T. L. (2018). Probing the relative psychometric validity of three measures of psychological inflexibility. *Journal of Contextual Behavioral Science, 7*(1), 47-54. doi.org/101016/j.jcbs.2017.12.001

- Sandoz, E. K., Kellum, K. K., & Wilson, K. G. (2017). Feasibility and preliminary effectiveness of acceptance and commitment training for academic success of at-risk college students from low income families. *Journal of Contextual Behavioral Science*, 6(1), 71-79. doi.org/10.1016/j.jcbs.2017.01.001
- Schut, D. M., & Boelen, P. A. (2017). The relative importance of rumination, experiential avoidance and mindfulness as predictors of depressive symptoms. *Journal of Contextual Behavioral Science*, 6(1), 8-12. doi.org/10.1016/j.jcbs.2016.11.008
- Segal, Z., Teasdale, J., Williams, M. (2002). *Mindfulness-Based Cognitive Therapy for Depression*. New York: Guilford Press
- Soria, K. M., & Stebleton, M. J. (2012). First-generation students' academic engagement and retention. *Teaching in Higher Education*, 17(6), 673-685. doi:10.1080/13562517.2012.666735
- Soysa, C. K., & Wilcomb, C. J. (2013). Mindfulness, self-compassion, self-efficacy, and gender as predictors of depression, anxiety, stress, and well-being. *Mindfulness*, 6(2), 217-226. doi:10.1007/s12671-013-0247-
- Spinhoven, P., Drost, J., de Rooij, M., van Hemert, A. M., & Penninx, B. W. (2014). A longitudinal study of experiential avoidance in emotional disorders. *Behavior Therapy*, 45(6), 840-850. doi.org/10.1016/j.beth.2014.07.001

- Stebbleton, M. J., Soria, K. M., & Huesman Jr, R. L. (2014). First-generation students' sense of belonging, mental health, and use of counselling services at public research universities. *Journal of College Counselling, 17*(1), 6-20. doi: 10.1002/j.2161-1882.2014.00044.x
- Stephens, N. M., Hamedani, M. G., & Destin, M. (2014). Closing the social-class achievement gap a difference-education intervention improves first-generation students' academic performance and all students' college transition. *Psychological Science, 25*(4), 943-953. doi:10.1177/0956797613518349.
- Stephens, N. M., Fryberg, S. A., Markus, H. R., Johnson, C. S., & Covarrubias, R. (2012). Unseen disadvantage: How American universities' focus on independence undermines the academic performance of first-generation college students. *Journal of Personality and Social Psychology, 102*(6), 1178. doi:10.1037/a0027143.
- Stewart, C., White, R.G., Ebert, B., Mays, I., Nardozi, J., & Bockarie, H. (2016). A preliminary evaluation of Acceptance and Commitment Therapy (ACT) training in Sierra Leone. *Journal of Contextual Behavioral Science, 5*(1), 16-22. doi.org/10/1016/j.jcbs.2016.01.001
- Stoddard, H. (2017). *When the Books Hit Back: Perceived Stress in University Students*.
- Su, J.C., Wei, M., & Tsai, H-T. (2014). Running away from unwanted feelings: Culture matters. *Cognition and Emotion, 28*(7), 1313-1327. doi.org/10.1080/02699931.881322

- Swain, J., Hancock, K., Hainsworth, C., & Bowman, J. (2013). Acceptance and commitment therapy in the treatment of anxiety: a systematic review. *Clinical Psychology Review*, 33(8), 965-978. doi.org/10.1016/j.cpr.2013.07.002
- Tabachnick, B.G., & Fidell, L.S. (2007). *Using multivariate statistics* (5th ed.). Boston: Pearson Education.
- Tavolacci, M. P., Ladner, J., Grigioni, S., Richard, L., Villet, H., & Dechelotte, P. (2013). Prevalence and association of perceived stress, substance use and behavioral addictions: a cross-sectional study among university students in France, 2009-2011. *BMC Public Health*, 13(1), 724. doi:10.1186/1471-2458-13-724
- Taylor, J. M. (2015). Psychometric analysis of the Ten-Item Perceived Stress Scale. *Psychological Assessment*, 27(1), 90. doi.org/10.1037/a0038100
- Törneke, N., Luciano, C, Barnes-Holmes, Y, & Bond, F. W. (2016). RFT for clinical practice: Three core strategies in understanding and treating human suffering. In R. D. Zettle, S. C. Hayes, D. Barnes-Holmes, & A. Biglan (Eds.), *The Wiley handbook of contextual behavioral science* (pp.254-272). Chichester, West Sussex: Wiley Blackwell.
- Vaughan-Johnston, T. I., Quickert, R. E., & MacDonald, T. K. (2017). Psychological flexibility under fire: Testing the incremental validity of experiential avoidance. *Personality and Individual Differences*, 105, 335-349. doi:org/10.1016/j.paid.2016.10.001

- Wahed, W. Y. A., & Hassan, S. K. (2017). Prevalence and associated factors of stress, anxiety and depression among medical Fayoum University students. *Alexandria Journal of Medicine*, 53(1), 77-84. doi.org/10.1016/j.ajme.2016.01.005
- Watkins, D.C., Hunt, J.B., Eisenberg, D. (2011). Increased demand for mental health services on college campuses: Perspectives from administrators. *Qualitative Social Work*, 0(00), 1-19. doi:10.1177/1473325011401468
- Wilbur, T. G., & Roscigno, V. J. (2016). First-generation disadvantage and college enrolment/completion. *Socius*, 2. doi: 10.1177/237802311666435
- Yew, S. H., Lim, K. M. J., Haw, Y. X., & Gan, S. K. E. (2015). The association between perceived stress, life satisfaction, optimism, and physical health in the Singapore Asian context. *Asian Journal of Humanities and Social Sciences (AJHSS)*, 3(1). Retrieved from <https://0search.ebscohost.com.wagtail.ufs.ac.za/login.aspx?direct=true&db=edsbas&AN=edsbas.BD73C7C5&site=eds-live>.
- Zvolensky, M. J., Jardin, C., Garey, L., Robles, Z., & Sharp, C. (2016). Acculturative stress and experiential avoidance: relations to depression, suicide, and anxiety symptoms among minority college students. *Cognitive Behaviour Therapy*, 45(6), 501-517. doi:10.1080/16506073.2016.1205658

## Appendix A

## Informed Consent: English and Afrikaans

**CONSENT TO PARTICIPATE IN RESEARCH**

Dear Participant

We are currently investigating the extent to which cognitive-behavioural and mindfulness-based models of mental health, which have been developed in Europe and the United States of America, can be effectively applied within the multicultural South African Student Context. In order to conduct this investigation we require information from students at the UFS regarding their emotional well-being, their characteristic ways of thinking, their general awareness of their emotions and the manner in which they tend to cope with challenges.

You as a student at the UFS are thus able to provide us with valuable information in this regard. In addition, your participation in this study could help your residence to qualify for a cash incentive as the residence with the largest proportional participation in the study. By participating in the study you are also entered into the draw for an Apple iPad 2. However, participation in this research project is entirely voluntary. Your participation will not advantage you in any way aside from the incentives mentioned previously. Similarly, should you decide not to participate in the research you will not be disadvantaged in any way. You will not incur any expense by participating in the study. You have the right to withdraw from the study at any time.

Should you agree to participate in the study, you will be required to complete the attached questionnaire. It is estimated that the questionnaire should take between 60 and 90 minutes to complete. Due to the incentives mentioned in the previous paragraph it is necessary to be able to identify all participants. Consequently, you will be asked to provide your student number as part of the demographic information in section 1 of the questionnaire. You may choose to complete the questionnaire without providing your student number if you wish. However, **please note that only questionnaires where all sections have been validly completed and**



**where a valid student number has been provided will come into consideration for the previously mentioned incentives.**

Given that you are requested to identify yourself via your student number, your participation in this research is not anonymous. However, the highest level of confidentiality will be maintained regarding your identity and your participation in the research, as well as with regard to the content and nature of your response to the questionnaire. The data gathered in this research may be made available to postgraduate students for research purposes, published in peer reviewed journals or presented at academic/scientific conferences.

In addition, the results of the study may be made available to institutional bodies with a legitimate interest in the psychological well-being of students at the UFS (e.g. Student Development, the office of the Dean of Students). In all previously mentioned instances the results of statistical analyses based on the data collected in this research will be presented and not the raw data. Consequently, the identity or responses of any single individual will remain completely confidential.

**If you are prepared to participate in the research please complete the informed consent section below, as well as the questionnaire.**

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### INFORMED CONSENT

I, \_\_\_\_\_ (student number), hereby voluntarily agree to participate in the abovementioned study. I further confirm that I have read and understood the information relating to my participation in the research as provided above.

\_\_\_\_\_  
Signature of participant

\_\_\_\_\_  
Date

Should you have any questions regarding your participation in this research project, please contact Ms. Hanli du Toit (Research Coordinator) at 051 401 3107.

## TOESTEMMING OM AAN NAVORSING DEEL TE NEEM

Geagte deelnemer

Ons is huidiglik besig om die mate waarvolgens kognitiewe-gedrag en “mindfulness” gebaseerde modelle van geestelike gesondheid vanuit Europa en die Verenigde State van Amerika, effektief in ‘n multi-kulturele Suid-Afrikaanse student konteks toegepas kan word. Om hierdie navorsing uit te voer, word inligting vanaf studente aan die UV rakende hul emosionele welstand, kenmerkende denkwyses, asook algemene bewustheid van hul emosies en die wyse waarmee hul neig om uitdagings te hanteer (cope), ondersoek.

As student aan die UV kan jy dus waardevolle inligting rakende hierdie kwessie verskaf. Verder kan jou deelname aan die studie bydra tot die kwalifisering van jou koshuis om ‘n kontantinsentief te wen indien hul die grootste proporsionele deelname aan die navorsing toon. Deur deel te neem aan die studie word jy ook outomaties ingesluit in ‘n trekking vir ‘n Apple iPad 2. Hoewel deelname aan hierdie projek heeltemal vrywillig is, sal jy nie enige verdere voordeel uit die navorsingsprojek trek bo en behalwe vir bogenoemde insentiewe nie. Verder sal jou keuse om nie aan die navorsing deel te neem nie, jou geensins benadeel nie. Jy sal geen bykomende onkoste aangaan deur deel te neem aan die navorsing nie en jy mag enige tyd tydens die studie onttrek.

Indien jy sou instem om aan die studie deel te neem, sal daar van jou verwag word om die aangehegte vraelys te voltooi. Die vraelys behoort ongeveer 60 tot 90 minute te neem om te voltooi. Weens bogenoemde insentiewe is dit egter nodig om die deelnemers te kan identifiseer en daarom sal daar van jou verwag word om jou studentnommer as deel van die demografiese inligting te verskaf. Jy mag egter die vraelys voltooi sonder om u studentnommer te voorsien, maar **neem egter kennis dat slegs vraelyste waarvan al die afdelings ingevul is en waar geldige studentennommers verskaf is, in aanmerking geneem sal word vir die pryse.**

Gegewe die feit dat daar van jou gevra is om jouself te identifiseer deur jou studentnommer te verskaf, is deelname aan die studie nie anoniem nie. Die hoogste vlakke van konfidensialiteit rakende jou identiteit en deelname, asook die inhoud en aard van jou response tydens die navorsing verskaf, sal egter verseker word. Verder kan die data wat tydens die navorsing

ingesamel is, bekend gemaak word aan nagraadse studente vir navorsingsdoeleindes. Dit mag ook in wetenskaplike joernale gepubliseer word of tydens akademiese/wetenskaplike konferensies aangebied word. Verder kan resultate van die studie bekend gemaak word aan instansies wat 'n legitieme belangstelling toon in die sielkundige welstand van studente aan die UV (bv, Studente Ontwikkeling, kantoor van die Studente Dekaan). In bogenoemde scenarios sal die statistiese analitiese resultate, wat gebaseer is op die data, voorgedra word en nie die rou data nie. Die identiteit en response van spesifieke individue sal gevolglik steeds konfidensieel bly. **Indien jy bereid is om aan die navorsing deel te neem, voltooi die onderstaande ingeligte toestemmingsafdeling asook die aangehegte vraelyste.**

### INGELIGTE TOESTEMMING

Ek, \_\_\_\_\_ (studentenommer), stem hiermee vrywilliglik in om deel te neem aan die bogenoemde studie. Verder bevestig ek dat ek die inligting rakende my deelname aan die navorsing soos hier bo uiteengesit, gelees het en begryp.

\_\_\_\_\_  
Handtekening van deelnemer

\_\_\_\_\_  
Datum

**Indien jy enige vrae rakende jou deelname aan hierdie navorsingsprojek het, kan jy Me. Hanli du Toit (Navorsingskoördineerder) kontak by 051 401 3107.**

Appendix B

Biographical Questionnaire: English and Afrikaans

1	Residence	
2	Age	
3	Gender	

		White	Black	Indian	Coloured	Asian
4	Ethnicity					

		Afrikaans	English	Sesotho	Setswana	IsiZulu	IsiXhosa	Other
5	Home Language							

The questions that follow are all aimed at determining how you feel and think about life, as well as how you cope with certain situations. There are not right or wrong answers. Read the instructions to all sections carefully before you answer the question. Please complete all sections of the questionnaire as honestly as possible.

1	Koshuis	
2	Ouderdom	
3	Geslag	

		Wit	Swart	Indiër	Kleurling	Asiër
4	Ras					

		Afrikaans	Engels	Sesotho	Setswana	IsiZulu	IsiXhosa	Ander
5	Moedertaal							

Die volgende vrae is daarop gemik om te bepaal hoe jy voel en dink oor die lewe, asook hoe jy sekere lewenssituasies hanteer (Cope). Daar is geen regte of verkeerde antwoorde nie. Lees die instruksies vir al die afdelings deeglik voordat jy dit antwoord. Voltooi al die afdelings van die vraelys so eerlik as moontlik.

## Appendix C

## Perceived Stress Scale (PSS): English and Afrikaans

The questions in this scale ask you about your feelings and thoughts during the last month. In each case you will be asked to indicate how often you felt or thought a certain way by circling the appropriate number.

		Never	Almost Never	Sometimes	Fairly Often	Very Often
1	In the last month, how often have you been upset because of something that happened unexpectedly?	1	2	3	4	5
2	In the last month, how often have you felt that you were unable to control the important things in your life?	1	2	3	4	5

3	In the last month, how often have you felt nervous and “stressed”?	1	2	3	4	5
4	In the last month, how often have you felt confident about your responsibility to handle your personal problems?	1	2	3	4	5
5	In the last month, how often have you felt that things were going your way?	1	2	3	4	5
6	In the last month, How often have you found that you could not cope with all the things that you had to do?	1	2	3	4	5

7	In the last month, how often have you been able to control irritations in your life?	1	2	3	4	5
8	In the last month how often have you felt that you were on top of things?	1	2	3	4	5
9	In the last month, how often have you been angered because of things that were outside of your control?	1	2	3	4	5
10	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	1	2	3	4	5



Die volgende vrae handel oor u gevoelens en gedagtes gedurende die afgelope maand. In elke geval sal u gevra word om aan te dui hoe gereeld u op 'n sekere manier gedink en gevoel het deur die gepaste nommer te omring.

		Nooit	Amper Nooit	Soms	Heel Dikwels	Baie Gereeld
1	Hoeveel keer die afgelope maand was u omgekrap oor iets wat onverwags gebeur het?	1	2	3	4	5
2	Hoeveel keer die afgelope maand het u gevoel dat u nie beheer gehad het oor belangrike dinge in u lewe nie?	1	2	3	4	5
3	Hoe dikwels in die afgelope maand het u senuweeagtig en gespanne gevoel?	1	2	3	4	5
4	Hoe dikwels in die afgelope maand het u selfversekered gevoel oor u vermoë om u persoonlike	1	2	3	4	5

	probleme te hanteer?					
5	Hoe dikwels die afgelope maand het u gevoel dat dinge in u guns verloop?	1	2	3	4	5
6	Hoe dikwels die afgelope maand het u ondervind dat u nie al die dinge wat u moes doen, kon hanteer nie?	1	2	3	4	5
7	Hoe dikwels die afgelope maand was u in staat om die irritasies in u lewe te hanteer?	1	2	3	4	5
8	Hoe dikwels die afgelope maand het u gevoel dat u in beheer van dinge was?	1	2	3	4	5
9	Hoe dikwels die afgelope maand was u kwaad oor dinge wat buite u beheer gebeur het?	1	2	3	4	5

10	Hoe dikwels die afgelope maand het u gevoel dat probleme soveel geword het dat u dit nie kan oorkom nie?	1	2	3	4	5
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## Appendix D

## General Health Questionnaire (GHQ): English and Afrikaans

Please read this carefully

We would like to know if you have had any medical complaints and how your health has been in general over the past few weeks. Please answer **ALL** the questions by underlining the answer which you think most nearly applies to you. Remember that we want to know about present and recent complaints, not those that you had in the past.

Have you recently:

		Not at all	No more than usual	Rather more than usual	Much more than usual
1	Lost much sleep over worry?	1	2	3	4
2	Had difficulty in staying asleep once you are off?	1	2	3	4
3	Felt constantly under strain?	1	2	3	4

4	Been getting edgy or bad tempered?	1	2	3	4
5	Been getting scared or panicky for no good reason?	1	2	3	4
6	Found everything getting on top of you?	1	2	3	4
7	Been feeling nervous and strung-up all the time?	1	2	3	4
8	Been thinking of yourself as a worthless person?	1	2	3	4
9	Felt that life is entirely hopeless?	1	2	3	4
10	Felt that life isn't worth living?	1	2	3	4

11	Found at times you couldn't do anything, because your nerves were too bad?	1	2	3	4
12	Found yourself wishing you were dead and away from it all?	1	2	3	4
		Definitely not	I don't think so	Has crossed my mind	Definitely has
13	Thought of the possibility that you might make away with yourself?	1	2	3	4
14	Found the idea of taking your own life kept coming into your mind?	1	2	3	4

Ons sou graag wou uitvind hoe jou algemene gesondheidstoestand die *afgelope paar weke* daar uitsien en of jy gedurende hierdie periode enige gesondheidsprobleme ervaar het. Antwoord asseblief **AL** die vrae deur bloot 'n kruis te trek deur die antwoord wat op jou van toepassing is. Hou asseblief jou huidige en onlangse gesondheidsprobleme in gedagte, en nie die wat jy in die verlede ervaar het nie.

Het jy onlangs:

		Glad nie	Nie meer as gewoonlik	Meer as gewoonlik	Baie meer as gewoonlik
1	Baie slaap verloor as gevolg van bekommernis?	1	2	3	4
2	Dit moeilik gevind om aan die slaap te bly?	1	2	3	4
3	Gevoel dat jy deurentyd spanning beleef?	1	2	3	4
4	Kort van draad en humeurig geraak?	1	2	3	4

5	Gevind dat jy bang of paniekbevange raak sonder enige goeie rede?	1	2	3	4
6	Gevoel dat alles jou onderkry?	1	2	3	4
7	Gespanne gevoel?	1	2	3	4
8	Aan jouself gedink as 'n waardelose of nuttelose persoon?	1	2	3	4
9	Gevoel dat die lewe geheel en al hopeloos is?	1	2	3	4
10	Gevoel dat die lewe nie meer die moeite werd is nie?	1	2	3	4
11	Soms gevoel dat jy tot niks in staat is nie aangesien jy te gespanne is?	1	2	3	4



12	Jousef betrap dat jy wens jy was dood en verwyderd van alles?	1	2	3	4
		Defnitief nie	Ek dink nie so nie	Die gedagte het al by my opgekom	Het defnitief daaraan gedink
13	Gedink aan die moontlikheid om jou eie lewe te neem?	1	2	3	4
14	Gevoel dat die ideë om jou eie lewe te neem voortdurend in jou kop was?	1	2	3	4

## Appendix E

## Acceptance and Action Questionnaire – II (AAQ-II): English and Afrikaans

Please rate how true each statement is of you by circling a number next to it.

		Never true	Very seldom true	Seldom true	Sometimes true	Frequently true	Almost always true	Always true
1	My painful experiences and memories make it difficult for me to live a life that I would value.	1	2	3	4	5	6	7
2	I'm afraid of my feelings.	1	2	3	4	5	6	7
3	I worry about not being able to control my worries and feelings.	1	2	3	4	5	6	7

4	My painful memories prevent me from having a fulfilling life.	1	2	3	4	5	6	7
5	Emotions cause problems in my life.	1	2	3	4	5	6	7
6	It seems like most people are handling their lives better than I am.	1	2	3	4	5	6	7
7	Worries get in the way of my success.	1	2	3	4	5	6	7

Dui asseblief aan hoe waar elke stelling is van jou deur die toepaslike nommer te omkring.

		Nooit waar nie	Baie selde waar	Selde waar	Soms waar	Dikwels waar	Amper altyd waar	Altyd waar
1	My pynlike ervaringe en herinneringe maak dit vir my moeilik om 'n lewe te lei wat vir my waardevol sal wees.	1	2	3	4	5	6	7
2	Ek is bang vir my gevoelens.	1	2	3	4	5	6	7
3	Ek bekommer my dat ek nie in staat is om my bekommernisse en gevoelens te beheer nie.	1	2	3	4	5	6	7
4	My pynlike herinneringe verhoed my om 'n bevredigende lewe te lei.	1	2	3	4	5	6	7

5	Emosies veroorsaak probleme in my lewe.	1	2	3	4	5	6	7
6	Dit kom voor asof ander mense hulle lewens beter as ek hanteer.	1	2	3	4	5	6	7
7	Bekommernisse staan in die pad van my sukses.	1	2	3	4	5	6	7

Appendix F

Turn It In Report

Eloise Spengler Minor Dissertation

ORIGINALITY REPORT

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inflexibility as a mediator of the relationship between depressive symptom severity and