



Managing stress: the influence of gender, age and emotion regulation on coping among university students in Botswana

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This study focused on the influence of gender, age and emotion regulation on coping strategies among university students in Botswana. Sixty-four males and 64 females, ranging in age from 18 to 29 years completed the Difficulty in Emotion Regulation Scale and the Coping Strategy Inventory. Female students used wishful thinking and problem-focused disengagement more than male students; however, there were no other significant gender differences in coping strategies. Older students were more likely to use problem-solving, cognitive restructuring and express emotion coping strategies. In addition, problems in emotion regulation significantly predicted problem- and emotion-focused engagement, problem- and emotion-focused disengagement and coping strategies. There was a unique finding that non-acceptance of emotional responses, a type of emotion suppression, was positively correlated with problem solving, cognitive restructuring, expressing emotion, social support, problem avoidance and wishful thinking coping strategies. Cultural context and implications for student well-being and university support are discussed.

Keywords: Botswana; coping; emotion regulation; stress; university students

Introduction

Potentially stressful life events affect everyone almost daily. The manner in which people tackle those stressful events depends significantly on whether and how they perceive and respond to the situations. Perhaps owing to this variability in experience, there is no single definition of stress. Early definitions underscored stress as a response to environmental stimuli. Selye's (1973) physiological model conceptualised stress as a general response to toxic stimuli regardless of the nature of the stressor or characteristics of the individual experiencing the stress (Lyon, 2000). The corresponding general adaptation syndrome views stress as progressing through stages of alarm, resistance and exhaustion that could eventually cause harm to one's physiological system by disrupting balance (Lyon, 2000). More recent analysis defines stress as the process where a person and the environment interrelate, thus individuals' unique response to environmental demands and pressures. Lazarus (1991) described stress as an active, unfolding process that is composed of causal antecedents, mediating processes and effects.

A large body of research on stress and stressful life events reveals that stress can actually be a vital part of an individual's life. Stress is not uniformly negative for everyone. Research emphasises that mistakes, obstacles and failures are potential opportunities to learn and build resources for coping with future negative events (Aldwin, Sutton, & Lachman, 1996). Furthermore, chronic stress may potentially lead to positive affect and facilitate a coping process where individuals attempt to make

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meaning as a way of adapting to the stress (Folkman & Moskowitz, 2000). From a physiological perspective, research suggests that acute and chronic stressors produce different outcomes (Cohen et al., 1999) that may potentially compromise or strengthen the immune system against illness and disease (Bartolomucci et al., 2005). It is possible that previous stress can protect against negative reactions to future stressors.

However, for young people and students, in particular, stressful life events can weigh and impact heavily on their lives. Students face stressors such as time and financial management difficulties, sleep deprivation, social conflicts, and dating and relationship uncertainty that may jeopardise their academic performance (Womble, 2003). Significant life events and more common stressors during the adolescent period have been linked to behaviour and more serious mental health problems (Grant, Compas, Thurm, McMahon, & Gipson, 2004; Tessner, Mittal, & Walker, 2011; Zimmer-Gembeck & Skinner, 2008). The physical and psychological impact of stressful events can also disrupt one's developing identity long after the event is over (Sutin, Costa, Wethington, & Eaton, 2010).

While unhealthy responses develop when the demands of a stressor exceed one's coping capabilities, individuals vary greatly in their response to stressful situations (DeBord, 1996; Garcia, 2010). Stress activates numerous coping mechanisms, including assessment and management of emotions. According to Gross (2008), emotion regulation is a process by which an individual is able to modulate his or her emotional experiences, unconsciously or consciously. It encompasses the ability to filter emotions and engage in healthy emotion management strategies (Gross, 1999; Gross & Barrett, 2011) and provides additional information about how individuals adapt to internal and external stressors. Difficulties in emotion regulation may be related to unhealthy coping. Therefore, it can be conceptualised as an important part of the coping process.

Stress and students

The transition to university life is a stressful period for young adults. Roles shift, identities change and additional stressors make college students particularly prone to stress (D'Zurilla & Sheedy, 1991; Lakshmi, 2009; Roberti, Harrington, & Storch, 2006). Students are often attending school away from their homes and must meet expectations that they achieve academically while managing a host of interpersonal and environmental changes (Dusselier, Dunn, Wang, Shelley, & Whalen, 2005; Ross, Niebling, & Heckert, 1999). Stressors do not stop at the early transitional period, but continue throughout the university tenure as other expectations and pressures emerge, such as employment, long-term romantic relationships (Ross et al., 1999) and other adult roles. Students encounter life stressors such as adjustment to college, death of close family members or friends, difficulty with roommates, pregnancy, sexual and relationship problems, bereavement, social isolation, increased workload at school and many other stressful life events (Lakshmi, 2009; Towbes & Cohen, 1996). All these tasks require an individual to adopt new roles and make adjustments to old ones.

Hunt and Eisenberg (2010) noted that mental health among college students is a growing concern (e.g. 95% of university counselling centre directors surveyed reported an increase in student psychological problems). Students reportedly are experiencing more severe stress (Benton, Robertson, Tseng, Newton, & Benton, 2003) and fewer psychosocial development and prevention programmes at the university level (Shek & Wong, 2011). Earlier research on student stress using the Student Stress Survey (Ross et al., 1999) found the most common source of student stress was intrapersonal – change in eating and sleeping habits, increased work load, vacation breaks and increased

responsibilities. More recently, Hamaideh (2011) used the Student Stress Inventory and found that students reported self-imposed stress (such as competing with others) and pressures (such as workload) as the most frequent stressors and used cognitive responses (such as analysing the stressful situation) most often. Qualitative investigations have emphasised that stressors related to students' transition to university life include pressures both within and outside the educational institution and that challenges can be both positive and negative (Clark, 2005).

As highlighted by several researchers (Deckro et al., 2002; Romano, 1992; Ross et al., 1999), these stressors by themselves do not cause negative psychological, emotional or behavioural problems; rather it is the manner in which the individual perceives, interprets and reacts to the stressors that determines their impact. For example, Chao (2012) examined social support, dysfunctional coping, perceived stress and psychological well-being and found that students required increased social support when experiencing stress; however, regardless of the level of social support they reported, dysfunctional avoidant coping exacerbated the negative relationship between stress and well-being. Other studies also indicate that a high level of social support – in the form of on-campus support, strong friendships and social companionship – helps to mitigate the negative impact of stress and improve student adjustment (Buote et al., 2007; Ramsay, Jones, & Barker, 2007; Schwitzer, 2005). Previous findings have also highlighted the importance of students' perceived control and ability to successfully resolve problems in coping with stress (D'Zurilla & Sheedy, 1991). Moreover, research reveals individual differences and variations in students' approach to managing stressful events. Kariv and Heiman (2005) found that that most students used task- and emotion-oriented strategies, but age and students' stress perceptions significantly predicted their coping behaviours.

Factors such as year of study, gender and background influence students' experience of stress (McInnis, 2001; Misra, McKean, West, & Russo, 2000). Using the College Chronic Life Stressor Survey (Towbes & Cohen, 1996), first year students reported more chronic stressors than other students, perhaps an indication that the initial adjustment period for new students presents unique challenges that potentially tax their coping capabilities. Other research has shown that first-generation college students experience more somatic symptoms associated with stress and lower academic self-efficacy than other students (Wang & Castaneda-Sound, 2008). Comparing American and international students at two universities in the USA, Misra and Castillo (2004) found that American students reported more self-imposed academic stress and more significant behavioural reactions to stressors than international students. These results underscore cultural differences in student stress management (Misra & Castillo, 2004). There is also evidence that student and faculty perceptions of student stress are incongruent. Misra et al. (2000) found that faculty might perceive students as experiencing higher levels of stress than students perceive themselves experiencing, in part due to interacting with students more during stressful periods and situations.

In general, life events research reveals a pessimistic view about stress, but the positive effects of stress also need attention. It is important to recognise theories that some stress can be helpful and adaptive. Jang and William, (2002) highlighted that life events research has evolved from early models that regarded life changes as essentially stressful and having similar impacts on most people to more complex models that accentuate individual differences and variability in both response style and vulnerability. Individual characteristics and context can act to mitigate negative psychological stress factors such as lack of control and limited outlets for frustration

(Sapolsky, 1994). According to Jang and William (2002), positive events change individuals' perspectives of other events and provide motivation and resources to overcome negative stress. At the same time, stress goes hand in hand with emotional experiences. As such, the way individuals react when they are stressed reflects aspects of emotion regulation. Individuals assess the emotional impact of a situation they encounter and at that point they can decide on how to tackle it. This process entails adopting appropriate behaviour or emotional reactions in order to cope. Furthermore, there is growing focus on the contribution of positive emotions and affective experiences to the coping process and to overall psychological well-being (Folkman & Moskowitz, 2000; Fredrickson, 2001).

Examining the coping process among students may offer further insight about how students differ in their response to stress. Lazarus and colleagues developed a transactional or relational theory of psychological stress and coping, which posited that ultimately stress is an interaction between an individual and his or her environment and that appraisal or self-evaluation plays a significant role on one's response (Lyon, 2000). Coping is the operative concept in the stress matrix. Coping is not a fixed trait, but a dynamic ability to prevent or control stress by applying appropriate methods to manage intrapersonal, interpersonal and environmental demands. For Folkman and Lazarus (1980), coping involves the cognitive and behavioural efforts to overcome or reduce stress-related conflicts and demands. There are numerous theories of coping processes, but most cast coping as complex and multi-staged endeavour. Lazarus and colleagues' (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Lazarus, 1993; Lazarus & Launier, 1978) cognitive theory of individual adaptation and coping involves two processes – cognitive appraisal or evaluation of the stressor and subsequent attempts at coping with it (Folkman, 1984). In this model, cognitive and behavioural efforts to cope are considered independently of the resultant outcome. In other words, coping strategies can be evaluated regardless of their success or failure (Folkman, 1984). From this theory emerged two primary coping responses, emotion-focused coping (attempts to mitigate negative emotion states) and problem-focused coping (attempts to alter the realities of the stressful situation or relationship to it) (Krohne, 2001).

The Ways of Coping Questionnaire (Folkman & Lazarus, 1988) further differentiates eight groups of coping strategies which include confrontive coping, distancing, self-controlling, seeking social support, accepting social responsibility, escape-avoidance, planful problem solving and positive appraisal. Folkman (1984) pointed out that the relationship between beliefs about controllability in stressful situations and perceived and experienced stress are quite complex. The Lazarus model is suitable for explaining the present study. Other researchers have also differentiated engagement and disengagement coping strategies, which describe efforts to actively manage the stressor and failure to initiate behaviours that can change the situation, respectively (Tobin, Holroyd, & Reynolds, 1984). In more recent work on coping with chronic stress, Folkman and Moskowitz (2000) identify three coping strategies that have been found to facilitate positive emotions – positive reappraisal, goal-directed problem-focused coping and giving meaning to normal events.

Lazarus (1991) suggests that emotions are adaptive in nature and they facilitate an individual's ability to process complex information rapidly by design. This process helps the individual to react appropriately to situations in order to meet personal needs and goals. Furthermore, emotions allow an individual to use the past experiences to make direct decisions in future. In the context of this study, emotion regulation is the ability of an individual to initiate, modulate and maintain emotional responses in

order to engage in healthy strategies to manage uncomfortable experiences when necessary.

Psychosocial correlates of coping strategies

Theoretical and empirical evidence abounds indicating the influence of gender, age and emotion regulation on coping strategies. Lawrence, Ashford, and Dent (2006) examined gender differences in coping strategies and their impact on self-esteem and academic attainment. They found significant differences between coping strategies used by males and females, where males exhibited greater tendency to detach themselves from the emotions of a situation and be emotionally inhibited while females achieved at significantly higher level than males. Examining gender differences in perceived stress and coping styles, Day and Livingstone (2003) found that women perceived three out of five scenarios presented to them as more stressful than men. In addition, women reported more frequent use of social and emotional support to cope (Day & Livingstone, 2003). Other findings revealed that male students more negatively evaluated their university's social campus climate (Lee, Keough, & Sexton, 2002). Li, DiGiuseppe, and Froh (2006) discovered that, among adolescents, girls used emotion-focused and ruminative coping styles, which were associated with higher levels of depressive symptoms, whereas boys used problem-focused and distractive coping styles that were associated with masculinity and lower levels of depressive symptoms. According to Zimmer-Gembeck and Skinner (2008), instead of seeking social support like adolescent girls tend to, adolescent boys prefer direct problem solving, distraction, avoidance or disengaging.

Age and developmental stage impact how individuals cope with stress. Most studies show that older adults differ in terms of approaches to coping with stress as compared with younger adults. Elderly adults are perceived to have less control over their environment than adults, which may adversely affect their coping (Aldwin, 1991). Looking specifically at age differences in life satisfaction, perceived stress and coping resources among younger adults (18–40 years), middle-aged adults (41–65 years) and older adults (66 years and over), Hamarat et al. (2001) found that perceived stress decreased with age and that middle-aged and older adults reported more effective coping resources than younger adults. Also, for the two older adult groups, efficiency of coping resources was the best predictor of life satisfaction, while perceived stress was the best indicator for the younger adult group (Hamarat et al., 2001).

Developmental research on children and adolescents suggests that as individuals mature their coping capacities expand and they are better able to successfully utilise coping strategies that are effective for specific situations (Zimmer-Gembeck & Skinner, 2011). Zimmer-Gembeck and Skinner (2008) point out that adolescents are more flexible in their coping than children, but may lean primarily towards managing emotional tension; however, distraction becomes a common coping strategy in adulthood. Heiman (2004) used the sense of coherence model (Antonovsky, 1979) to also examine students' psychosocial resources, perceived stress and coping styles. Younger students employed more emotional strategies and reported having more social support from friends than older students; and women were more likely than men to use avoidant and emotional coping. The author suggests that stress, coping and social support are significant and interconnected facets of the environment in which students interact and develop (Heiman, 2004).

Emotion regulation

A more recent concept in the analysis of stress and coping is emotion regulation. While understood as a distinct construct, emotion regulation is not infrequently

confused with coping. One may ask, what is the difference between the two? Emotion regulation involves regulating which emotions we have and when and how we experience emotions (Gross, 1998). More specifically, it is a process of experiencing and modifying various levels and intensity of internal emotion states and corresponding physiological, behavioural, motivational and attention processes (Eisenberg & Morris, 2002). Even though both coping and emotion regulation maintain the goal of adaptation to external stressors, one may think of emotion regulation as operating on a micro and perhaps unconscious level, whereas coping involves deliberate efforts to regulate emotions, cognition, behaviour, physical reactions and environment in response to stressful circumstances (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001).

Gross and Thompson (2007) pointed out considerable overlap in the two definitions; though coping can be further distinguished from emotion regulation both by its predominant focus on decreasing negative effect, and by its emphasis on longer periods of time (e.g. coping with bereavement; Gross & Thompson 2007). Emotion regulation is based on the premise that emotions and their expression vary in degree of adaptiveness and may need to be regulated often. Emotion regulation emphasises the process through which this occurs.

Emotions regulation starts with evaluation of emotion cues, and from there, depending on how they are responded and attended to, a series of behavioural and experiential systems are activated and engaged (Gross & John, 2003). Gross' (1998) process model of emotion regulation classifies five points at which emotions may be regulated: selection, or modification of the situation, deployment of attention, change of cognitions and modulation of responses. Gross (2002) posits that outcomes will be different depending on where in this 'emotion-generative' process – early versus later – emotion regulation takes place. Reappraisal occurs early and concerns changing the way a situation is understood in order to mitigate its impact (Gross, 2002). Conversely, the process of suppression is less adaptive as it occurs later and is merely suppressing the outward expression of emotions. It has been found that suppression decreases behavioural experience, impairs memory and increases physiological reactivity (Gross, 2002). But cultural factors seem to play a role in moderating the negative social outcomes of suppression (Butler, Lee, & Gross, 2007). Other theoretical considerations include the level of consciousness of one's efforts to regulate emotions and whether or not regulation includes others' as well as one's own emotions (Gross, 2008). In general, emotion regulation has consequences for the intensity of emotional experience, interpretation of emotions and immediate and on-going emotional reactions (Mennin, Heimberg, Turk, & Fresco, 2005).

Given that individuals use a wide variety of ways to regulate emotions, John and Gross (2004) attempted to find out whether some forms of emotion regulation are healthier than others. Using reappraisal was associated with healthier affective and social functioning and overall well-being than using suppression to regulate emotions. Catanzaro and Greenwood (1994) examined emotion regulation's link to coping in a study of the relationship among negative mood regulation expectancies, negative life events, coping and dysphoria. They found a positive correlation between negative mood regulation expectancies and active coping, and negative correlation with avoidant coping. Other studies have related poor emotion regulation (specifically suppression) to depression vulnerability in college students (Ehring, Tuschen-Caffier, Schnulle, Fischer, & Gross, 2010) and increased risk of previous suicide attempt in high school students who have poor family support (Pisani et al., 2013). Mennin et al.'s (2005) study established that emotion dysregulation was higher among individuals diagnosed with Generalised Anxiety Disorder than controls. These findings suggest that intense emotional experience, greater expression

of negative emotions and poor understanding of emotions may encourage the use of cognitive worry as an emotional avoidance strategy (Mennin et al., 2005). The implication of these findings is that difficulty with emotion regulation contributes to impairment in cognitive as well as emotion states.

Culture and the Botswana context

Botswana is an upper middle-income country in southern Africa with a population of approximately 2 million (Central Intelligence Agency, 2013). Despite rapid economic and social development over the past several decades since independence, Botswana is still faced with a host of challenges including poverty, unemployment, suicides, rape and HIV/AIDS (Sabone, 2009). The government of Botswana has developed strategies to combat some of these problems, namely youth support programmes, free anti-retroviral (ARV) drugs for all citizens infected with HIV/AIDS and compulsory education for the population. According to the Botswana Vision 2016 (Botswana Presidential Task Force, n.d.), one of the country's goals is 'an educated and informed nation', towards which the government of Botswana has tremendously been investing in education and its related expenses over the years (Republic of Botswana, 2010–2012).

Sabone (2009) highlighted some of the traditional values, practices and institutions of the Botswana culture that may impact on mental health, such as the concept of *botho*, which is defined as civility by displaying humility, self-control and respect for self and others; extended kinship family, gender-specific rites of passage, rituals for major life transitions, elevated social status with age, indigenous health care practices and the *kgotla* or system of participatory community forums. Furthermore, university students in Botswana face challenges specific to their socio-cultural context, such as poverty, acculturation stress, urbanisation and others. Pheko, Mphele, Tlhabano, and Monteiro (2013) explored the acculturative stress experienced by students in Botswana migrating from urban villages to the capital city to attend university. Students reported general culture shock and specific stressors including differences in style of dress and greetings, using public transport, anxiety about their English accent and separation from family (Pheko et al., 2013).

Rational for current study

The situation that influences this study is the apparent increase in student problems – such as students receiving failure and discontinues academic status, suicide, HIV/AIDS infections, prostitution, etc. – among some university students in Botswana. Could some of these issues be related to problems in coping with stress or regulating emotion? Unfortunately, there have been limited studies examining the influence of emotion regulation on students' coping styles. This study investigates the relationship of demographic variables and emotion regulation to coping among students in Botswana with the goal of better understanding coping processes in this population. A secondary goal is to ascertain whether certain trends in the coping literature are consistent with this particular sample in Botswana. Third, we hope to highlight appropriate psychological interventions for this population.

Research questions and hypotheses

In order to help understand how university students, in particular, and young adults, more generally, deal with stress, this study explored several questions: What is the nature of coping strategies and emotion regulation capacities among students? How

much do students use general engagement and disengagement coping strategies and specific problem-solving, cognitive restructuring, social support, express emotion, problem avoidance, wishful thinking and social withdrawal coping strategies? What is the relationship of age and gender to students' coping strategies? What is the relationship, if at all, between coping strategies and emotion regulation?

It was hypothesised that among students:

- (1) There would be significant gender differences in coping strategies in response to stressful life events. In general, male students would be more likely to use problem-focused engagement and problem-focused disengagement strategies, while female students would use emotion-focused engagement and emotion-focused disengagement. Specifically, males would be more likely to use problem-focused and avoidant coping (problem solving and problem avoidance and social withdrawal), whereas females would be more likely to use emotion-focused and ruminative coping (express emotion, social support and wishful thinking).
- (2) Age would be significantly associated with problem- and emotion-focused engagement and problem- and emotion-focused disengagement. Specifically, there would be a significant positive relationship between age and problem- and emotion-focused engagement strategies (cognitive restructuring, express emotion, social support and problem solving).
- (3) Emotion regulation would be significantly associated with coping strategies. Specifically, difficulties in emotion regulation would be associated with problem-focused disengagement and problem-focused engagement coping strategies and the specific strategies of avoidant coping, social withdrawal, problem avoidance and wishful thinking.

Method

Design

The study used a correlational survey design to examine the influence of gender, age and emotion regulation on coping.

Participants

The sample consisted of 128 students, 64 females and 64 males who were conveniently selected among University of Botswana students with an age range of between 18 and 29 years ($M = 21.2$, $SD = 1.76$). Given the size of the populations in Botswana is < 2 million and the population of students in the country is about 20,000, the sample size was deemed sufficient to observe patterns in the variables.

Measures

The measures were administered in English. Botswana has two official languages – Setswana and English. English is the medium of instruction and communication in schools, including colleges and universities. University students, therefore, fluently comprehend, speak and read English. Participants responded to a questionnaire which consisted of three sections: demographics, the Difficulties in Emotion Regulation Scales (DERS) by Gratz and Roemer (2004), and the Coping Strategies Inventory (CSI) by Tobin et al. (1984).

The CSI (Tobin et al., 1984) is a 72-item self-report questionnaire designed to assess coping-related thoughts and behaviours in response to stressors experienced by the participant. Adapted from the Ways of Coping Questionnaire by Folkman and Lazarus (1988), the CSI has an overall score and a total of 14 sub-scales – eight primary scales, four secondary scales and two tertiary scales. Responses are presented in Likert scale format with five response choices ranging from ‘none’ to ‘very much’. Both primary scales and secondary scales were used in the present study. Tobin, Holroyd, Reynolds, and Wigal (1989) confirmed the validity and hierarchical factor structure of the CSI. Cronbach’s α reliability calculated for this sample was 0.902. The eight primary scales are as follows:

- *Problem solving*. Behavioural and cognitive strategies that focus on changing the stressful situation.
- *Cognitive restructuring*. Cognitive strategies that focus on changing the perception or meaning of the stressful situation.
- *Social support*. Efforts to obtain social and emotional support from loved ones.
- *Express emotions*. Efforts to release and communicate emotions.
- *Problem avoidance*. Attempts to deny or avoid thoughts about the problem.
- *Wishful thinking*. Wishing or hoping the problem would improve, without being able to symbolically reframe the problem.
- *Social withdrawal*. Withdrawing from loved ones and those involved in the stressful situation.
- *Self-criticism*. Blaming and criticising oneself for the stressful situation (Tobin et al., 1984).

The four secondary scales are as follows:

- Problem-focused engagement combines problem-solving and cognitive restructuring scales and describes cognitive and behavioural efforts that address the stressful situation.
- Emotion-focused engagement combines social support and express emotion scales and involves facilitating communication and social support and is focused on the individual’s emotional reaction.
- Problem-focused disengagement includes problem avoidance and wishful thinking and focuses on inability to reframe the problem and involves cognitive and behavioural attempts to avoid the problem.
- Emotion-focused disengagement is a combination of social withdrawal and self-criticism and involves withdrawing from others and blaming oneself (Tobin et al., 1984).

The DERS by Gratz and Roemer (2004) is a 36-item self-report questionnaire that provides a comprehensive measure of difficulties in emotion regulation. In addition to a total score which indicates how much upsetting emotions are impacting the individual, there are six sub-scales: non-acceptance of emotional responses (non-accept), difficulties engaging in goal-directed behaviour (goals), impulse control difficulties (impulse), lack of emotional awareness (aware), limited access to emotion regulation strategies (strategies) and lack of emotional clarity (clarity) (Gratz & Roemer, 2004). Items are reverse scored, thus higher scores suggest greater problems with emotion regulation in each dimension. The DERS has demonstrated good internal consistency and satisfactory construct and predictive validity (Gratz & Roemer, 2004). Cronbach’s α reliability calculated for this sample was 0.782.

Procedure

Students were provided a brief introduction to the study and explained the importance of honest responses to the questionnaire. Informed consent was obtained and participants were ensured that their confidentiality would be protected. Participants were instructed clearly about how to complete the questionnaire and were given sufficient time to answer all questions. The participants were met at their different faculties and asked if they would not mind participating in filling out questionnaires on how they are coping with life generally on campus. Only those who showed willingness were given the questionnaire after completing the consent form. After completion, they were debriefed and thanked for helping out. Then, responses were collated and coded accordingly.

Results

Descriptive and inferential statistics were applied using the using the IBM SPSS Statistic v21 program. We ran a frequency table to determine the coping strategies students used most. [Table 1](#) shows that the highest mean scores were on the problem-solving, cognitive restructuring and social support scales.

A one-way multivariate MANOVA, series of *t*-tests, correlations and regression analyses were used to determine significant mean differences and relationships among the variables. A one-way multivariate MANOVA test was conducted to ascertain the overall effect of gender on the eight primary coping scales and the four secondary coping scales. Overall, there was no significant difference between males and females on the dependent measures, Wilks's $\Lambda = 0.88$, $F(12,110) = 1.22$, $p = 0.278$. The multivariate r^2 based on Wilks's Λ was not strong, 0.11, and indicates that just 11% of multivariate variance of the coping scales is associated with gender.

We further investigated gender differences on each of the primary and secondary coping scale using a series of independent-samples *t*-tests which revealed significant differences on two specific scales. On the wishful thinking (primary) scale, females scored significantly higher ($M = 3.20$, $SD = 0.979$) than males ($M = 2.78$, $SD = 0.975$), $t(125) = 2.45$ and $p < 0.05$. Females also scored significantly higher ($M = 3.22$, $SD = 0.766$) than males ($M = 2.84$, $SD = 0.884$), $t(125) = 2.57$ and $p < 0.05$, on the problem-focused disengagement scale.

While the differences were not statistically significant, females had higher mean scores than males on the express emotion, social support, problem avoidance and social withdrawal primary coping scales; and males scored higher than females on the problem-solving and cognitive restructuring coping scales. [Table 2](#) contains *t*-tests, means and the standard deviations on the dependent variables for the two groups.

Table 1. Coping strategies – means and standard deviations.

Primary coping strategy	<i>N</i>	Mean	Standard deviation
Problem solving	127	3.25	0.908
Cognitive restructuring	127	3.20	0.909
Express emotion	127	2.94	0.824
Social support	128	3.03	0.996
Problem avoidance	127	2.60	0.866
Wishful thinking	127	2.99	0.996
Self-criticism	124	2.57	1.120
Social withdrawal	127	2.57	1.020

Table 2. Gender differences on primary and secondary coping scales – summary of means, standard deviations and *t*-tests.

Coping scale	Mean	SD	DF	<i>T</i>	<i>p</i>
Problem-solving					
Female	3.16	0.912	125	-1.199	ns
Male	3.35	0.901			
Cognitive restructuring					
Female	3.19	0.906	125	-0.116	ns
Male	3.21	0.919			
Express emotion					
Female	2.95	0.825	125	0.221	ns
Male	2.92	0.829			
Social support					
Female	3.06	1.022	125	0.351	ns
Male	3.00	0.984			
Problem avoidance					
Female	2.72	0.826	125	1.587	ns
Male	2.48	0.895			
Wishful thinking					
Female	3.20	0.979	125	2.454	<0.01
Male	2.78	0.975			
Self-criticism					
Female	2.61	1.092	122	0.399	ns
Male	2.53	1.155			
Social withdrawal					
Female	2.63	1.047	125	0.558	ns
Male	2.52	0.998			
Problem-focused engagement					
Female	3.41	0.830	125	-0.258	ns
Male	3.44	0.838			
Emotion-focused engagement					
Female	3.22	0.845	126	0.621	ns
Male	3.13	0.864			
Problem-focused disengagement					
Female	3.22	.766	125	2.574	<.05
Male	2.84	.884			
Emotion-focused disengagement					
Female	2.83	1.001	125	0.551	ns
Male	2.73	1.003			

Correlation coefficients were computed between age and the eight primary coping scales. The results of the correlational analyses presented in [Table 3](#) show that three of the eight correlations were statistically significant and were ≥ 0.217 . In general, the results suggest that the older the participant, the more likely he or she was to use problem-solving, cognitive restructuring and express emotion coping strategies.

Correlation coefficients were also computed among the six emotion regulation scales (non-acceptance of emotional responses, difficulties engaging in goal directed, impulse control difficulties, lack of emotional awareness, limited access to emotion regulation and lack of emotional clarity) and the four secondary coping scales (problem- and emotion-focused engagement, problem- and emotion-focused disengagement). The results of the correlational analyses presented in [Table 4](#) show that 14 out of 24 correlations were statistically significant and were ≥ 0.189 . In summary, problems in emotion regulation

Table 3. Correlations between age and primary coping scales.

Coping strategy	Age
Coping: problem-solving	0.301**
Coping: cognitive restructuring	0.373**
Coping: express emotion	0.217*
Coping: social support	0.108
Coping: problem avoidance	0.045
Coping: wishful thinking	0.130
Coping: self-criticism	0.069
Coping: social withdrawal	0.060

**Correlation significant at 0.01 level.

*Correlation significant at 0.05 level.

were negatively correlated with problem-focused engagement coping strategies, and positively correlated with problem- and emotion-focused disengagement strategies.

Regression analyses

Four sets of unordered regression analyses were conducted to predict each of the secondary coping scales. Each set of analyses included age as one predictor and the six emotion regulation scales as an additional block of predictors.

Analysis 1: predicting problem-focused engagement

A multiple regression analysis was conducted to predict problem-focused engagement from age and emotion regulation. The regression equation with age as a predictor was significant, $R^2 = 0.12$, adjusted $R^2 = 0.11$, $F(1,122) = 16.13$, $p < 0.01$. The regression equation with the six emotion regulation scales was also significant, $R^2 = 0.28$, adjusted $R^2 = 0.24$, $F(6,116) = 6.47$, $p < 0.01$. Based on these results, both age and emotion regulation problems appear to be good predictors of problem-focused engagement.

Of the emotion regulation scales, one (non-acceptance of emotional responses) was positively correlated with problem-focused engagement and the other five were negatively

Table 4. Correlations between secondary coping strategies and emotion regulation.

	Problem-focused engagement	Emotion-focused engagement	Problem-focused disengagement	Emotion-focused disengagement
Non-acceptance of emotional responses	0.370**	0.494**	0.282**	0.150
Difficulties engaging in goal-directed	-0.041	0.170	0.327**	0.277**
Impulse control difficulties	-0.148	0.137	0.279**	0.337**
Lack of emotional awareness	-0.171	-0.65	0.178*	0.093
Limited access to emotion regulation	-0.246**	0.065	0.260*	0.358**
Lack of emotional clarity	-0.230*	-0.001	0.238**	0.189*

**Correlation significant at 0.01 level.

*Correlation significant at 0.05 level.

correlated with problem-focused engagement. Non-acceptance of emotional response [$\beta = 0.35$, $t(116) = 4.12$, $p < 0.01$] and limited access to emotion regulation [$\beta = -0.27$, $t(116) = -2.50$, $p < 0.01$] were the two scales that made significant contributions to the prediction equation, accounting for 12% ($0.358 = 0.12$) and 6% ($-0.248 = 0.06$) of variance, respectively.

Analysis 2: predicting emotion-focused engagement

A multiple regression analysis was conducted to predict emotion-focused engagement from age and emotion regulation. The regression equation with age was not significant, $R^2 = 0.03$, adjusted $R^2 = 0.02$, $F(1,123) = 3.86$, $p > 0.01$. The regression equation with the six emotion regulation scales, however, was significant, $R^2 = 0.29$, adjusted $R^2 = 0.25$, $F(6,117) = 6.82$, $p < 0.01$. Based on these results, emotion regulation problems, but not age, appear to be good predictors of emotion-focused engagement.

Of the emotion regulation scales, one (lack of emotional awareness) was negatively correlated with emotion-focused engagement and the other five were positively correlated. Non-acceptance of emotional response (which was positively correlated) [$\beta = 0.51$, $t(117) = 6.11$, $p < 0.01$] made a significant contribution to the prediction equation, accounting for 24% ($0.488 = 0.24$) of the variance.

Analysis 3: predicting problem-focused disengagement

A multiple regression analysis was conducted to predict problem-focused disengagement from age and emotion regulation. The regression equation with age was not significant, $R^2 = 0.01$, adjusted $R^2 = 0.002$, $F(1,122) = 1.29$, $p > 0.01$. The regression equation with the six emotion regulation scales, however, was significant, $R^2 = 0.24$, adjusted $R^2 = 0.20$, $F(6,117) = 5.29$, $p < 0.01$. Based on these results, emotion regulation problems, but not age, appear to be good predictors of problem-focused disengagement.

All of the emotion regulation scales were positively correlated with problem-focused disengagement. Non-acceptance of emotional response [$\beta = 0.30$, $t(117) = 3.44$, $p < 0.01$] and difficulties engaging in goal-directed behaviour [$\beta = 0.25$, $t(117) = 2.57$, $p < 0.05$] were the two predictors that made significant contributions to the prediction equation, accounting for 8% and ($0.284 = 0.08$) and 11% ($0.328 = 0.11$) of the variance, respectively.

Analysis 4: predicting emotion-focused disengagement

A multiple regression analysis was conducted to predict emotion-focused disengagement from age and emotion regulation. The regression equation with age was not significant, $R^2 = 0.01$, adjusted $R^2 = 0.003$, $F(1,122) = 1.32$, $p > 0.01$. The regression equation with the six emotion regulation scales, however, was significant, $R^2 = 0.18$, adjusted $R^2 = 0.13$, $F(6,116) = 3.58$, $p < 0.01$. Based on these results, emotion regulation problems, but not age, appear to be good predictors of emotion-focused disengagement.

All of the emotion regulation scales were positively correlated with emotion-focused disengagement. None of the emotion regulation dimensions made significant individual contributions to the model. This is likely due to the multicollinearity among the predictor variables and with the criterion. However, impulse control difficulties and limited access

to emotion regulation accounted for 10% ($0.324 = 0.10$) and 12% ($0.358 = 0.12$) of the variance, respectively.

Discussion

In general, students reported more frequent use of problem-solving, cognitive restructuring and social support coping strategies. The fact that students use these problem- and emotion-focused coping strategies more than others suggests that students favour engagement as a coping approach. These are generally healthy approaches to the type of stressful life events that students typically face. Particularly in light of findings on the acculturation stressors faced by university students in Botswana (Pheko et al., 2013), strategies that facilitate problem-solving and engagement, instead of avoidance, could lead to improved long-term adjustment for students. In addition, these findings also reveal that students who reported more emotion regulation difficulties seem less able to utilise problem-focused engagement.

Gender

Hypothesis 1 was partially supported. Gender differences in the use of coping strategies were minimal in this sample, except that female students used wishful thinking and problem-focused disengagement more than male students. Females in this sample exhibited reluctance to symbolically alter the situation and instead hoped and wished that the situation would improve as a coping approach. Such a strategy involves problem-focused disengagement, where the individual may deny or avoid the problem situation and does not become actively involved in problem solving. Furthermore, with this approach to coping, there is a failure to initiate actions that may change the stressful circumstances (Tobin et al., 1984).

This finding that female students seem more likely to withdraw as a way of coping may also be related to gender roles that encourage young women to engage in fantasy instead of concrete behavioural or cognitive approaches to solving problems, particularly those that may involve conflict [e.g. Bem's (1974) conceptualisation of gender role orientation; Brems & Johnson, 1989]. While disengagement is not considered a healthy approach for long-term adaptation, it may provide short-term relief, particularly when one feels helpless or lack of control in the face of stressors that involve social conflict, especially in the context of traditional gender roles (e.g. Ntseane, 2004). For example, in Botswana, the cultural importance of showing respect by deferring to elders and controlling oneself from outward displays of anger or conflict may encourage disengagement or passive strategies in women. In the future, it would be important to explore whether some stressors more than others encourage women to use wishful thinking and passive coping more than other strategies and to examine the impact of phenomena such as changing gender norms and acculturation.

Age

Consistent with other trends in the literature, the current findings also support the role of age in the use of specific problem-solving, cognitive restructuring and express emotion coping strategies. Problem solving and cognitive restructuring are modes of problem-focused engagement where the individual focuses on the stressful situation and tries to change the meaning for him or herself. Problem-solving involves both cognitive and behavioural strategies, while cognitive restructuring emphasises cognitive efforts to

rework the meaning of the stressor such as change in perspective, growth and positive effects. These findings reveal that age significantly predicts the use of problem-focused engagement. Specifically, the older students are more likely to use problem-focused strategies. Express emotion is also an engagement strategy, but the focus is managing one's emotional reaction to the stressor through communicating and expressing one's emotions (Tobin et al., 1984). These observations are aligned with D'Zurilla, Maydeu-Olivares, and Kant's (1998) findings which also suggested that older adults tend to adopt problem-solving coping strategies and that older adults have more effective coping resources (Hamarat et al., 2001). They also indicate that as people mature, they are better able to adopt a range of behavioural, cognitive and emotional strategies to cope with stressful life events. One explanation is that older adults may engage in a more differentiated approach to problem situations by using diverse strategies in handling stress. In addition, having had a stressful encounter previously influences an individual's capability to solve the same or a related situation when it comes. Zimmer-Gembeck and Skinner (2008) argued that most people, regardless of their age, rely on distraction to cope with stress as much or more than support seeking or problem solving. In this sample, older students showed that they engage in altering the meaning of stressful situations when they encounter them. Again, the importance of traditional cultural values may be at play as well. In general, as individuals in Botswana get older, they are afforded greater social status. However, this status is accompanied by the expectation of greater displays of *botho* in problem solving and resolving social conflict (Sabone, 2009). Furthermore, the stage of childhood or youth in Botswana is conceptualised as an extended period marked by social maturity, rather than age. Individuals are considered to have transitioned from childhood when they demonstrate the ability to cope with greater social responsibilities (Monteiro, Tlhabano, & Kote, 2013), which may be a process that facilitates the use of problem- and emotion-focused engagement strategies.

Emotion regulation

These results also confirm a significant relationship between emotion regulation and coping strategies. Emotion regulation problems significantly predicted all four of the secondary coping scales, meaning that how individuals regulate, or have problems regulating, emotions plays an important role in how they cope with stress. This is consistent with earlier researchers' assertions that emotion regulation plays an unconscious role in perceiving and responding to stressful situations (Compas et al., 2001).

However, the relationship is complex and nuanced because not all dimensions of emotion regulation problems were correlated with the unhealthier coping strategies, as might be expected. While it was hypothesised that difficulties in emotion regulation would be associated with problem-focused disengagement and problem-focused engagement coping strategies, non-acceptance of emotional responses – a way of suppressing emotions – was one of the significant emotion regulation predictors and was correlated with increased use of a range of problem-focused engagement (problem-solving and cognitive restructuring), emotion-focused engagement (express emotion and social support) and problem-focused disengagement (problem avoidance and wishful thinking) coping strategies.

In this case, it seems that limited tolerance or recognition of emotions actually facilitates a variety of coping approaches that not only focus primarily on engagement (problem and emotion), but also include elements of disengagement (problem). This is a unique finding and could be indicative of the socio-cultural context experienced by students in Botswana that might encourage them to inhibit emotions at the primary level

and then subsequently use a wide range of strategies to address their stressors. Perhaps initial inhibition or suppression of emotions allows students to mobilise different emotion- and problem-focused coping resources. Previous research has pointed out that emotion suppression can have an unhealthy cognitive, behavioural and physiological impact on individuals (Gross, 2002). However, in this setting, the evaluation of emotions may have different pathways and initial non-acceptance, or suppression, of emotions could be adaptive for students in the long run. This interpretation is consistent with Butler et al.'s (2007) findings that the negative impact of emotion suppression may be moderated by culture and the suggestion that cultural differences influence how students manage stress (Misra & Castillo, 2004).

Some of the other relationships among dimensions of emotion regulation and coping strategies, not surprisingly, indicate that the more difficulties an individual has with emotion regulation, the more they tend to use emotion- and problem-disengagement strategies. For example, difficulties engaging in goal-directed behaviours were associated with increased use of wishful thinking, social withdrawal and self-criticism, and express emotion. Four of the other emotion regulation difficulties – impulse control difficulties, lack of emotional awareness, limited access to emotion regulation and lack of emotional clarity – were associated with increased use of the express emotion strategy, problem-focused disengagement strategies (problem avoidance and wishful thinking) and emotion-focused disengagement (self-criticism and social withdrawal). The same four emotion-regulation problems were also associated with decreased use of problem-focused engagement strategies (problem-solving and cognitive restructuring). Self-criticism and social withdrawal approaches to coping involve shutting oneself off from social support and blaming oneself for the situation, a pattern that is likely to lead to ineffective management of emotions initially and later in the coping process.

According to Garnefski, Kommer, Teerds, Legertee, and Onstern (2002), boundaries between different emotion regulation strategies may overlap and signify broader-related processes in emotion management. Such patterns in controlling, adjusting and adapting to various emotion states appear to perform a critical role in the profile of coping among students in Botswana. The students surveyed seem to require a balance between engagement and disengagement in their strategies for managing emotions and strategies for coping with stressors. This general approach may be a consequence of the cultural backdrop where group cohesion, respect for cultural norms (Ntseane, 2004) and limited outward demonstration of intense emotions are valued.

Lazarus (1991) suggests that emotions are adaptive in that they allow an individual to react appropriately to current situations and use past experiences to make decisions about future behaviour. Folkman and Moskowitz (2000) posit that coping processes and positive affect are interconnected. These findings highlight that the ability to regulate intense emotions is a fundamental aspect of the coping process for some students and young adults.

Limitations and implications

The current study has several limitations. It did not include measures of cultural values and beliefs regarding coping with stress. It would have provided a more comprehensive picture had students identified their perceived stressors. While this study investigated general preferred coping strategies, it will be important in the future to examine coping strategies in response to specific appraisals that are situation specific.

While stressful situations were not investigated, the study provides important information about the relationship among gender, age, emotion regulation styles and

preferred coping patterns. These findings support trends in the literature and also speak to a unique way likely influenced by culture in Botswana. Future investigations might formulate predictions of students' coping responses within various theoretical frameworks, such as the transactional stress model (Lazarus & Folkman, 1984, 1987) and the socio-emotional selectivity theory (Carstensen, 1992).

The ability of university students in Botswana to cope with stressful life events is influenced by gender and age. Emotion regulation demonstrated considerable overlap with coping strategies. These findings have implications for universities' approach to orienting and supporting students through their tenure at their institutions. For example, student support offices could develop workshops and screening and monitoring programmes to help prevent at-risk students from falling through the cracks. In addition, it could be helpful to tailor student programmes so that they support students in developing a range of coping options and take into account their unique stressors and specific developmental stages. Student counselling approaches could include psycho-education about different coping strategies and the relationship between emotion response and coping, as well as emphasise the role of awareness of one's emotions at different stages of dealing with stressors.

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