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Minnesota State University, Mankato

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Assessment of Perceived Levels of Stress and Coping Mechanisms among University Students

By

Nancy Adomako-Saahene

A Thesis Submitted in Partial Fulfillment of the

Requirements for the Degree of

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In

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Nancy Adomako-Saahene

This thesis has been examined and approved by the following members of the student's committee

Dr. Joseph Visker

Dr. Emily Forsyth

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Abstract

Majority of researchers have documented stress among college students. This study contributes to the existing literature on stress by assessing the relationship between perceived stress levels and the coping strategies utilized by university students. The study was conducted using a descriptive, inferential, cross-sectional, and correlational research design. The population for this study was students at a large, Midwestern university. A convenience sampling technique was used to select the students for the study. Perceived Stress Scale (PSS) was used to assess the participant's perceived level of stress, whereas COPE Inventory was used to examine strategies participants use in coping with stress. Most respondents reported a moderate level of stress and the common coping strategies identified were active coping, planning, and self-distraction. There was no significant relationship between stress levels and the coping mechanism of positive reframing, acceptance, humor, and religion. The relationship between stress levels and coping mechanisms of planning, active coping, emotional support, instrumental support, self-distraction, denial, venting, substance abuse, behavioral disengagement, and self-blame, however, was significant. There is a need for longitudinal studies, to understand student's experiences regarding stress, during the period of their study at university - as the result of this study is a snapshot of what students go through in their college lives.

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Chapter One: Introduction

Stress is the interaction between an environment, a situation, and a person, resulting in demands that the individual perceives to exceed their available resources to respond adequately to those demands (Baghurst & Kelley, 2014). Omura (2007) reported that differences between individuals mean that a situation regarded as stressful by one individual, may not be stressful for another. Robotham (2008) asserts that individuals' perception and interpretation of stressors causes harm, and not the stressors themselves. Thus, events viewed as being a challenge tend to lead to positive response (e.g., studying harder), whereas those viewed as being a threat tend to lead to negative responses (e.g., avoidance of activities or dropping out of school) (Robotham, 2008). This means that stress can be good or bad depending on individuals reactions to challenges or situations in their lives. Stress in small doses is healthy. Good stress enables an individual to meet the challenges of life and motivates him/her to reach their set goals (Snyder, 2014). Bad stress, on the other hand, can be short-term or long-term. Bad stress is often associated with the feelings of hopelessness or compressed or trapped in a situation because of a lack of control over a stressor (Snyder, 2014).

A myriad of research (Baghurst & Kelley, 2014; Dhabhars, 2014; Robotham, 2008) shows that stress is unavoidable. Even though not all stress has negative impacts as alluded earlier, it is essential for individuals to identify effective coping strategies to manage those type of stresses that engender severe consequences. Chao (2012) asserts that coping is multidimensional and involves diverse strategies ranging from overt behaviors to covert mental attitude. Some coping strategies are functional whereas others are dysfunctional - strategies with little or no effectiveness (Chao, 2012). Brougham et al. (2009) reported that dysfunctional coping strategies are more prevalent among today's college students. Sideridis (2008) identify the

prevalent stress coping strategies among college students to include browsing the Internet, sleeping, and resting, using instant messaging, complaining, and watching TV or movies. Chao (2012) reported that many students can still feel anxious after engaging in these dysfunctional coping strategies because their stress is unresolved. Pierceal and Keim (2007) reported that college students often attempt to control and reduce their stress through avoidance, religious and social support or positive reappraisal.

Statement of the Problem

Stress among college students has been well documented. Pierceal and Keim (2007) reported that 75% to 80% of college students are moderately stressed, and 10% to 12% are severely stressed. Brougham et al. (2009) found that an average of 52% of college students experience high levels of stress in a typical semester. A recent report published by the American College Health Association shows that a little over 45% of college students are more than average stress whereas 12.5% are tremendously stressed (ACHA, 2018).

Brougham et al. (2009) assert that transition from adolescence into adulthood increase college student's vulnerability to stress. The transition challenges college students to live independently, manage finances, maintain academic standards and integrity and adjust to a new social life. College students' appraisal and response to these challenges result in a stress reaction. Arria et al. (2009) assert that the increasing level of stress experienced by college students in recent time is due to the changes in the financial structure of education (increasing number of students working part-time jobs) and decreasing social support systems. Chao (2012) accedes to this assertion and posits that college students with low supporting system may also lack a buffer against stress. These increase students' chances of experiencing severe stress. Pierceal and Keim (2007) also reported that stress among college students might be due to overextended workloads,

problems with time management, challenges with interpersonal relationships, and/or fear of academic failure. Other stressors reported causing stress among college students to include daily hassles (for example, parking and being late), familial relationships (dating problems), and self-doubt (Brougham et al. 2009).

Misra and Castillo (2004) found that as stressors accumulate an individual's ability to respond effectively can be overtaxed, depleting their physical or psychological resources; this, in turn, increases their probability of contracting a physical illness or psychological distress. Misra and Castillo (2004) reported that excessive stress leads to physical health impairments. Neseer (2016) identified the effect of stress among college students to include physical symptoms such as headache, lack of energy, blood pressure, ulcers, gastrointestinal problems, emotional symptoms such as anger, impatience, callousness, or behavioral symptoms such as under or overeating, withdrawal, and impaired academic performance. Wilburn and Smith (2005) identified stress as a contributing factor to mental illnesses and asserted that stress could lead to suicidal ideation and depression in young adults. National Mental Health Association reported that suicide is the second leading cause of death in college students and over 44% of college students reported feeling symptoms of depression (Wilburn & Smith 2005).

Need for the Study

Several studies have examined students' stress, and most of them reported a high level of stress among college students (Edwards, Hershberger, Russell, & Markert, 2001; Harvey, Drew, & Smith, 2006; Hudd et al., 2000; Robotham, 2008). The majority of these studies however, do not go beyond identifying the levels of stress to evaluating the coping strategies college students use (Harvey et. al., 2006; Hudd et al., 2000; Robotham, 2008). Identifying college students' level of stress and their coping mechanism is essential as their perception about stress influences the

stress management strategies they adopt. Thus, this study is needed to identify students' level of stress and relate it to the coping strategies they are using. This is an important issue as what one individual may consider to be stressful or an indicator of being under stress; another may not, and as such might not have any coping strategies in place. Students who are overstressed are more likely to fail to get started on assignments, be absent from class, feel discouraged about academic progress and become easily irritable and anxious. Stress also impairs students' physical and mental health (Yun, 2019). Failure to address the problem of stress among students can lead to depression, suicides, poor academic performance, school drop-out, and high blood pressure among students. Educational institutions need to continue to identify ways to encourage students to use adaptive or functional stress coping strategies. The outcome of this study will inform educational institutions on how they can improve health programs targeted at enhancing students' stress coping capabilities.

Purpose Statement

The purpose of this study is to assess the relationship between perceived stress levels and the coping strategies utilized by university students.

Research Questions

1. What is the perceived level of stress experienced by students at a large Midwestern university?
2. What are the coping strategies or stress management strategies used by students at a large Midwestern university?
3. What is the relationship between the perceived level of stress experienced by students at a large Midwestern university and the coping strategies that are adopted?

Limitations

The available time and financial resources to administer questionnaires to students at the university and analyze the results is limited. Convenience sample technique will be used in this study since it allows data to be collected in a short period. These limitations can affect the ability to generalize the findings from the study.

Delimitations

The study will be delimited to undergraduate students who are of different ages, race, and ethnicity at a large Midwestern university. For students to be participant they must be enrolled either as a part-time or full-time student for the Spring semester of 2019 in large enrollment classes, this is because the survey will be administered during this period.

Assumptions

It is assumed that participants will respond to the survey instrument in an open and honest manner. It is also assumed that college students understand the survey questions.

Definition of Terms

Stress: stress is a collection of events, comprising of a stimulus (stressor), that triggers a reaction in the brain (stress perception), that stimulates physiological fight or flight systems in the body (stress response) (Dhabhar, 2014).

Stress Management: Stress management is all about taking charge of your lifestyle, thoughts, emotions, and the way you deal with problems (Robinson et al., 2018).

Stress Management Strategies: Measures, practices or behaviors used to manage or control one's lives to minimize pressure and regain control (Robinson et al., 2018).

Coping: Coping refers to how an individual seeks to: eliminate or reduce stressors in their environment, alter their appraisal of the potential harmfulness of these stressors, or minimize the extent of strain that they will experience as a result of these stressors (O'Driscoll et al. 1996).

Chapter Two: Review of Literature

The purpose of this study is to assess the relationship between perceived stress levels and coping strategies used among university students. The chapter explores the issue of stress among university students. Some of the themes presented in this chapter include the impact of stress among university students, factors contributing to stress, stress management strategies, type of stress management strategies and educational institution's role in university student's stress management. The chapter is concluded with a summary of the findings from reviewing the literature on stress.

Stress

According to Naseer (2016), Cannon was the first person to introduce the concept of stress in life science during the 1920s. Cannon recognized stress as a form of physiological reactions that stimulate the flight or fight instinct of an organism (Cannon, 1929). Stress, the body's defense against real or imagined danger, causes the body to produce hormones to prepare for evasion or confrontation of danger (Freshwater, 2018). Selye coined the term stress biologically in 1957 and perceived stress as the reaction of the human body in response to demands imposed by stressors (Selye, 1956). Also, Selye (1979) defines stress as

- Stimulus (external forces acting on the organism)
- Response (changes in physiological and psychological functions)
- Interaction (between an external force and resistance opposed to it as in biology) and
- More comprehensive combinations of the above factors - i.e., stimulus-response and interactional outcome (Selye, 1979, as cited in Naseer, 2016, p.423)

Stress, as described by Baghurst and Kelley (2014), is the interaction between an environment, a situation, and a person, resulting in demands that individual perceived to exceed their available resources to respond adequately to those demands. Stress is also defined as “a physical, chemical or emotional factor that causes bodily or mental tension and may be a factor in disease causation”(Stress, n.d.). The definition of stress by the Merriam-Webster Dictionary is similar to the one given by Baghurst and Kelley (2014) but moves a step further to include the effects of stress. According to Freshwater (2018), stress occurs when a person perceives a real or imagined threat to their well-being. An integrated definition of stress was given by Dhabhar (2014); which states that stress is a collection of events, comprising of a stimulus (stressor), that triggers a reaction in the brain (stress perception), that stimulates the physiological fight or flight systems in the body (stress response). Dhabhar’s (2014) definition of stress encompasses that of Selye (1975), Baghurst and Kelley (2014), and Merriam Webster Dictionary in that they all recognized stress to be a result of individuals’ negative interaction with their environment.

The above definitions implicate that stress occurs when demands imposed by stressors exceed an individual’s ability to cope or meet them. The key word from the above definitions of stress is “reaction,” as Leaf (2013) posits “you cannot control the events or circumstances of your life, but you can control your reactions” (p. 37). The ability of individuals to control their reactions distinguishes a healthy mind or body from a sick mind or body (Leaf, 2013). Dhabhar (2014) agrees to the above assertion by stating that the ability for a stressor to affect the brain or body is dependent on biological stress response or individual’s reaction.

It is worth noting the body reacts in the same manner (flight or fight response) as it would to stress since it is unable to distinguish between life-threatening challenges from imagined or perceived non-life threatening stressors (Freshwater, 2018). As such the body produces

chemicals such as cortisol, adrenaline, and noradrenaline in response to either real life-threatening challenges and/or an imagined perceived non-life threatening stressors. However, since the brain or body does the bidding of the mind, individuals have the choice to either allow the life-threatening challenges or perceived non-life threatening stressors to affect them negatively or positively respond to them (Leaf, 2013).

Stress among University Students

A number of research (Brougham, Zail, Mendoza & Miller, 2009; Chao, 2011; Korthage, 2003) shows that stress is predominant among university students. Society considers college as the onset of adulthood for students and as such students assume other responsibilities such as autonomy from parents, management of finance, self-sufficiency, internalized moral reasoning and career choice (Baghurst & Kelley, 2014) . Darling, McWey, Howard, and Olmstead (2007) reported that the new responsibilities taken on by students tend to inundate them and cause them to feel helpless and lethargic to cope with the tasks associated with college life.

According to the National College Health Assessment conducted by the ACHA, 91% of 94,925 college students felt “average” to tremendous levels of stress within the past 12 months whereas in 2018, the number of college students who reported average to tremendous levels of stress increased to 92% (out of 87,441), representing an increase of 1% (ACHA, 2016). The predominance of stress among university students is evident as less than two percent of students from 2016 to 2018 reported having no stress (ACHA, 2018).

Type of Stress

Stress can be categorized into two major types; good stress (stress that is beneficial and motivating) and bad stress (stress that causes anxiety and even health problems). Stress in small doses is good. Good stress enables an individual to meet the challenges of life and motivates him/her to reach their set goals (Snyder, 2014). An individual experiencing good stress usually feels excited about the pertaining stressor and response adequately. Bad stress, on the other hand, can be short-term or long-term. Bad stress is often associated with the feelings of hopelessness or compressed or trapped in a situation because of a lack of control over a stressor (Snyder, 2014). According to the American Psychological Association (APA) (2018), stress can also be grouped under acute stress, episodic acute stress, and chronic stress. Each type of stress has unique characteristics, symptoms, duration, and approaches for treatment. The types of stress have been elaborated as follows.

Acute stress. Acute stress is the most predominant type of stress. Acute stress results from reactive thinking or common harmful thoughts about the demands and pressures of the recent past or upcoming events or demands in the near future (Freshwater, 2018). For instance, acute stress may result from repetitive harmful thoughts about a recent argument or about upcoming deadlines, and failure to secure a contract (ACHA, 2018). Acute stress in small doses may bring elation, but too much of it is taxing (APA, 2018). Acute stress causes some form of signs and symptoms in the body but does not result in significant damage in the body compared to long-term stress (Freshwater, 2018).

Episodic acute stress. Episodic acute stress is experienced by individuals whose lives are full of acute stress; that is people with frequent triggers of stress have episodic acute stress (Freshwater, 2018). Individuals with episodic acute stress often live a life prevalent with chaos

and crisis; they are always in a rush or feel pressured, take on many responsibilities, and usually can barely stay organized to meet their time demands (ACHA, 2018). People with characteristics such as excessive competitive drive, aggressiveness, impatience, a sense of time urgency and worriers are more susceptible to experiencing episodic acute stress (Freshwater, 2018).

Chronic stress. Chronic stress is experienced by an individual when acute stress remained unresolved or last for long periods of time (Healthline Media, 2016). Chronic stress if left untreated can cause great havoc to the physical and mental health of an individual (Freshwater, 2018). According to APA (2018), chronic stress can be caused by stressors such as long-term poverty, repeated abuse in any form, unemployment, dysfunctional family, poor work environment, substance abuse, and an unhappy marriage. Individuals living with chronic stress often have ingrained behavioral actions and emotional reactions thereby making them vulnerable regardless of the scenarios (Freshwater, 2018).

Impact of Stress among University Students

Stress can motivate students to do better, but it may also overwhelm their inner resources (Yun, 2018). According to Yun (2018), some of the symptoms of stress among students include:

- Failing to get started on assignments, thesis or other projects and decline in the quality of work
- Failure to meet assignments deadlines or appointments and replying to e-mail
- Frequent absence from class or laboratory and continuously asking for unusual accommodations (extensions, postponed examinations)
- Acting withdrawn in participation-oriented activities, such as section meetings or lab assignments or inappropriate disruption or monopolization of the classroom

- Feeling discouraged about academic progress, irritability and constant anxiety
- Expression of concern by other students and avoiding contact with colleagues and friends

According to Shankar and Park (2016), individuals manage the impact of stressor through behavioral, cognitive and emotional strategies and as such stress is neither solely a stimulus nor a response. The model of the impact of stress on physical and mental health and academic performance created by Shankar and Park (2016) shows that stress causes physiological strain and induce health behaviors which affect the physical health of students, whereas stress directly impacts mental health. Also, the model shows that stress effect on cognition mediates the effects of stress on academic performance (Shankar & Park, 2016).

Impact of stress on university student's physical health. Several studies have documented the effect of stress on student's physical health (Klainin-Yobas et al., 2014; Molnar, Sadava, Flett, & Colautti, 2012). A cross-sectional study showed that those experiencing a high level of stress reported poorer physical health, which was related to their psychological distress (Klainin-Yobas et al., 2014). Dickerson and Kemeny (2004) found that stress affects hypothalamic-pituitary-adrenal (HPA) activity, and this increases the release of cortisol. Excess cortisol impairs physical health (Dickerson & Kemeny, 2004). Haleem, Inam, Haider, Perveen, and Haleem (2015) reported that stress affects the level of serum leptin, which is positively related to academic performance. This finding is attributed to the fact that serum leptin act as a biomarker that influences the effects of stress on student's ability to reason (Shankar & Park, 2016). Sarid, Anson, Yaari, and Margalith (2004) also found stress to reduce immune system functioning. Physical symptoms such as headaches, tiredness, sleep difficulties, and musculoskeletal pain have also been found to be positively related to the level of stress (Wiklund, Malmgren-Olsson, Ohman, Bergstrom, & Fjellman-Wiklund, 2012). A number of

studies have shown that students with a high level of stress tend to indulge in negative health behavior (Bobadilla & Taylor, 2007; Park, Armeli, & Tennen, 2004). According to Hudd et al. (2000), students with higher levels of stress consumed a surfeit amount of junk food, exercise less, deprived of sleeping and was more likely to indulge in substance abuse.

Impact of stress on university student's mental health. Some studies (Eisenberg, Hunt, Speer, & Zivin, 2011; Morris, Ciesla, & Garber, 2010) have reported positive relations between psychological problems and a higher level of stress in students. The results of the National College Health Assessment conducted in the spring of 2018 show that 22.1% of students surveyed have been diagnosed or treated by a professional within the last 12 months for anxiety whereas 18.1% reported having been diagnosed or treated by a professional for depression within the last 12 months (ACHA, 2018). Approximately 11% of students surveyed reported having been diagnosed within the last 12 months of panic attacks whereas 3.8% of students reported other mental health conditions (ACHA, 2018). Morris et al. (2010) found that the interaction between adolescents' stressful life events, maternal depression history and their own history with depression can predict their onset of depression.

The effect of stress on academic performance has been well documented. Bachrach and Read (2012) found that students who reported severe perceived stress symptoms achieved poor final grades. A similar finding was reported by Ahrberg, Dresler, Niedermaier, and Genzel (2012) - that those experiencing a higher level of stress among medical students suffered from sleep deprivation and performed poorly on their exams. The result of the 2018 National College Health Assessment shows that 33.2% of the student surveyed reported that stress affected their academic performance while 21.8% reported of sleep difficulties affecting their academic performance (ACHA, 2018).

Factors Contributing to Stress among University Students

Several stressors have been identified to cause stress among students (Edwards et. al. 2001; Harvey et. al. 2006; Hudd et al. 2000). These stressors can be grouped under several headings including stressors related to studying, stressors related to examination, stressors related to the transition to the university, stressors related to being in a different country, and stressors related to financial issues (Robotham, 2008).

Stressors related to the transition to university. The transition from high school to university contributes to stress among first-year students (Bojuwoye, 2002). Robotham (2008) accedes to the fact that the transition to university tends to be stressful since it requires students to take on new responsibilities especially if it involves leaving home. Students who will be leaving home (perhaps for the first time) will need to quickly become accustomed to the new social environment to be able to achieve a higher level of academic performance (Robotham, 2008). Hudd et al. (2000) assert that the increased level of stress resulting from students' transition to the university might be partly due to the absence of the usual social support system such as friends and family. Also, students who are new to university life have the additional stress to start new friendships and relationships (Radcliffe & Lester, 2003).

Stressors related to studying and examination. Stressors associated with studies are the usual cause of stress among students (Edwards et al. 2001; Harvey et al. 2006; Robotham, 2008). Most students perceive striving to meet assignment deadlines to be the primary sources of their stress (Misra, McKean, West, & Russo, 2000). Reisberg (2000) reported that many students feel overwhelmed by their workload. This can be attributed to poor time management on the part of students (Robotham, 2008). According to Robotham and Julian (2006), time management in

itself does not cause stress, but the individual's perception of control over time is the main source of their stress.

For most students, the dread of an examination is the most significant source of stress. Robotham (2008) reports that the stress resulting from impending exams can cause a range of symptoms such as nausea, changes in eating and sleeping patterns, and stomach ache. The level of stress among students decline once they have taken their first examination; this implies that it is the anxiety associated with tests that cause students' stress, rather than the exams itself (Robotham, 2008).

Stressors related to being in a different country. International students can sometimes experience more pronounced stress. For instance, Chwee, Jiansan, and Perez (1998) found that East Asian students reported different sources of stress than that of "home" students. International students face the stress of making significant adjustments such as in addition to other stressors such as academic, finance, among others (Akgun & Ciarrochi, 2003).

Stressors related to financial issues. The changes in the funding structure of higher education have put intense pressure on students with limited financial resources (Robotham, 2008). Stress of financial uncertainty can negatively impact individuals. Roberts, Golding, Towell, and Weinreb (1999) reported a positive relationship between financial problems and mental health problems. Limited financial resources can intensify the effect of strains usually related to studying. Students who strive to meet their need for limited financial resources end up taking part-time paid employment while in school; this reduces the amount of time they have for class assignments and studies which contributes to the level of stress students experience in every semester. According to the results of the 2018 NCHA, slightly above 56% of students reported working at least an hour a day for pay (ACHA, 2018).

Stress Management Strategies

Stress impact individuals' emotional equilibrium and physical health; it limits the ability to think clearly, function effectively and to make the most out of life (Robinson, Smith, & Segal, 2018). Stress management strategies are said to be effective if it helps break the hold stress has on one's life, thereby making individuals more healthy and productive (Robinson et al., 2018). The goal of managing stress is a balanced life – being resilient to rise under pressure and meet challenges of life; and having time for work, relationships, and relaxation. Robotham (2008) supports the assertion that stress intervention can be conceptualized in several ways including the scope of the intervention, the expected outcomes and the philosophy of the intervention, the level at which the intervention takes place, and its focus (both in terms of context and individual). Stress interventions implemented at the individual level to address a specific problem is found to be more effective than general stress program (Robotham, 2008). Clark, Chandler, and Barry (2000) criticize the individualistic approach to stress management as putting the “blame” on the individual for their stress. According to Robotham (2008), stress interventions are only able to make the individual cope with the stress rather than completely eradicating it – that is stress management often revolve around coping strategies.

Type of Stress Management Strategies used by University Students

Stress intervention or coping strategies used by students can be grouped into three categories; appraisal/cognitive-focused strategies, problem-focused or physiological and emotional approach (Deatherage, Servaty-Seib, & Aksoz, 2014; Robotham, 2008). According to Deatherage et al. (2014), problem-focused or physiological approach to stress management is considered to be the most adaptive approach because unlike the emotionally and cognitive focused approaches, it is action oriented targeted toward achieving a change. However, Regehr,

Glancy, and Pitts (2013) reported that a myriad of interventions could be more successful in reducing anxiety, depression, and cortisol production.

Cognitive-focused approach is directed toward challenging one's own assumption and altering the way one thinks that is students who adopt this approach attempt to modify their thought processes related to stress (Saigal, 2018). Appraisal/cognitive-focused approach may involve students denying or distancing themselves from the problem or challenge, modifying their goals and values, or seeing aspects of the situation (perhaps humor in the situation) to bring a positive spin (Saigal, 2018). Worell (2001) posits that humor might be a more adaptive stress management strategy in females than males. Appraisal or cognitive strategies to stress management often produce emotions that cause specific reactions (releasing, distracting or managing mental state) towards stress (Scherer, Shorr, & Johnstone, 2001). Deatherage et al. (2014) refer to cognitive strategies as "avoidant-emotional." Sideridis (2008) found cognitive coping strategies such as denial, watching TV or movies, browsing the internet, sleeping and resting to be prevalent among students. Brougham et al. (2009) reported the aforementioned strategies for reducing stress are maladaptive or dysfunctional coping strategies as students remained anxious, depressed and stressed after engaging in these activities.

A problem-focused or physiological approach to stress management strives to modify the aspects of the situation (stressor) that are changeable (Satterfield, 2008) or the cause of the problem (Saigal, 2018). This approach involves seeking more information regarding the situation, obtaining new skills to manage it (direct action), or assessing the positives and negatives of the available alternative solutions (Saigal, 2018). Problem-focused coping strategies for reducing stress include physical activities (such as exercises), time management, and talking to someone. Baghurst and Kelley (2014) reported that physical exercise as a coping strategy has

the potential to reduce physiological response to stress and act as a protector by creating effective responses to psychosocial and emotional stress. VanKim and Nelson (2013) found that students who met vigorous physical activity guidelines reported lower levels of perceived stress. Robinson and Godbey (2005) reported that time management also enhances productivity and in turn reduce stress.

An emotionally focused approach to stress management involves emotional responses to stressors (King, Singh, Bernard, Merianos, & Vidourek, 2012). According to the Center for Studies on Human Stress (CSHS) (2017), emotionally focused approach to stress reduction is used to manage the feeling of distress, rather than the actual situation. Some of the emotionally-focused approaches to stress management include venting emotions, fantasy or wishful thinking, seeking emotional support, self-blame, blaming others, and focusing and controlling emotions (such as fear, anxiety, worry, depression, crying and others) (King et al., 2012). Stanton, Kirk, Cameron, and Danoff-Burg (2000) found that female college students reported the significant use of emotion-focused coping strategies such as expressing feelings, seeking emotional support, acceptance, and positive reframing than male college students. Dyson and Renk (2006) reported that the significant use of emotion-focused coping strategies among female college students might be attributed to female's socialization, and acceptance of traditional sex roles.

Educational Institutions Role in University Student's Stress Management

Educational institutions have a critical role to play in students' management of stress - they are responsible for providing appropriate resources to enable individuals to deal with stress Robotham (2008). This is critical for first year students who are more vulnerable to suffering from stress. Robotham (2008) has reported that coping behavior and social support structures can be beneficial in minimizing the effects of stress on individuals. According to the ACHA (2017),

one in ten students may need professional support to reduce their level of stress. However, this is dependent on whether students recognize that they are under stress or not. Roach and Guthrie (2000) reported that students' ability to recognize that they are stressed might be due in part to a fear of the possible adverse effects on their future studies. Stanley and Manthorpe (2001) found that some students are reluctant to use available educational institutional support services due to the fear of the stigma attached to the usage of such services. This implies that educational institutions would need to continue to encourage more students to seek help for stress-related problems by widening access and increasing student-staff ratios. The outcome of the 2018 National College Health Assessment showed that 64.1% of students reported receiving information on stress reduction from their college or university (ACHA, 2018).

Summary

Stress is a result of individuals' interaction with their environment. Omura (2007) reported that differences between individuals mean that a situation regarded as stressful by one individual, may not be stressful for another. Stress can be bad or good, acute, episodic acute or chronic, depending on individuals reactions to challenges or situations in their lives. The literature review shows that stress is predominant among university students (Brougham et al., 2009; Korthage, 2003; Chao, 2012). From the 2018 American College Health Assessment, several students reported having experienced some form of stress before. Stress impairs students' academic performance, physical and mental health (Shankar & Park, 2016). The prevalence of stress among university students can be attributed to the unfamiliar environment, students taking on different/additional roles, financial issues, test/examination anxiety, and increasing amount of materials to be studied (Akgun & Ciarrochi, 2003; Bojuwoye, 2002; Edwards et al. 2001; Harvey et al., 2006; Robotham, 2008). The literature review shows that university students use three

categories of stress management strategies, this includes appraisal/cognitive-focused strategies, problem-focused or physiological and emotional strategies. The majority of studies presented in the above literature (Brougham et al., 2009; Deatherage et al., 2014; Sideridis, 2008) show that appraisal/ focused cognitive strategies such as denial, watching TV or movies, browsing the internet, sleeping and resting, and indulgence in negative behaviors are the prevalent stress coping strategies used by students. Brougham et al. (2009) reported that the aforementioned strategies for reducing stress are maladaptive or dysfunctional coping strategies. The above findings implicate that, educational institutions need to continue to provide appropriate resources to encourage students to use adaptive or functional stress coping strategies.

Chapter Three: Methodology

The purpose of this study was to assess the relationship between perceived stress levels and coping strategy use among university students. This chapter presents the methodology of the study, the subjects, sampling technique, research instruments, data collection procedures and statistical treatment that were used for accurate data analysis and interpretation.

Research Questions

1. What is the perceived level of stress experienced by students at a large Midwestern university?
2. What are the coping strategies or stress management strategies used by students at a large Midwestern university?
3. What is the relationship between the perceived level of stress experienced by students at a large Midwestern university and the coping strategy that is adopted?

Research Design

The study was conducted using a descriptive, inferential, cross-sectional, and correlational research design. The descriptive research design that was used has the advantage of allowing in-depth and rich information to be collected in large amounts. Descriptive research designs help provide answers to the questions of who, what, when, where, and how associated with a particular research problem. Additionally, it provides information concerning the current status of the phenomena and can yield rich data that could lead to important recommendations for practice (Labaree, 2018).

Also, since the collection of the data for this research was from a sample of university students and at a given point in time, a cross-sectional design was chosen. Cross-sectional studies

provide a snapshot of a particular group of people at a given point in time and can be a useful tool in health research. It provides more information about what is going on in a specific population. This enables researchers to better understand relationships that exist between certain variables, paving way for further studies to explore these conditions in greater depth (Cherry, 2018). A correlational research design was also used since it allowed the analysis of relationships between the perceived level of stress and coping strategies that is utilized.

Sample Selection and Data Collection Procedures

The population for this study was students at a large, Midwestern university. A convenience sampling technique was used to select the students for the study allowing data to be collected in a short period. Salkind (2012) defines convenience sampling as “a group of participants from whom a sample will be drawn makes it easily accessible and easy to select” (p. 74). The disadvantages of convenience sampling are hidden biases and limited ability to generalize results (Ilker, Musa & Alkassim, 2016). Since the study population were college students with similarities the difficulties of generalizing findings from this study will be minimal. Also, hidden biases resulting from the use of convenience sampling will be minimized by ensuring that students of different ages, race, and ethnicity participate in the study by using different large enrollment classes.

The total enrollment of the target university was estimated to be around 15,000 (Minnesota State University, Mankato [MNSU], 2018). Using Krejcie and Morgan’s (1970) method of sample calculation, the sample needed for the study was 375 students. The sample consisted of students in large enrollment classes to ensure that students from diverse backgrounds had the opportunity to participate in the study.

The instructors of the large enrollment classes were contacted either via email or in person to gain permission to distribute the surveys to their respective classes. Data was collected using a supervised distribution format during normally scheduled class time. Students were debriefed about the research that a study is being conducted to assess the coping strategies university students use to manage stress. A consent form was given to the students that are eligible and wish to participate in the study to read before they completed the survey.

Instrumentation

A survey which assessed the study participants perceived level of stress and coping strategies was used to collect the descriptive data. The students were asked to fill out a traditional paper and pencil survey which consisted of three sections; Perceived Stress Scale (PSS) (Cohen, Kamarck & Mermelstein, 1983), COPE Inventory (Carver, Scheier & Weintraub, 1989) and the demographic portion which asked participants their age, year in school, sex and race.

The Perceived Stress Scale (PSS) (Cohen, Kamarck & Mermelstein, 1983) and COPE Inventory (Carver, Scheier & Weintraub, 1989) were the two self-reporting instruments that were used to assess the level of stress and coping strategies respectively after gaining permission from the authors of these psychological instruments. The Perceived Stress Scale (PSS) is a psychological instrument used to measure the perception of stress, the degree to which situations are seen to be stressful in one's life (Cohen et. al., 1983). The PSS was developed to be a predictor of the health outcomes and a global measure of the level of stress perceived by the respondent (Piercall & Keim, 2007). The PSS consisted of 14 items which asked how the participants have felt stressed during the past month and the degree to which they find their lives unpredictable, uncontrollable and overloading (Cohen et al., 1983). The scale asked respondents to answer each question with how often they have experienced that item (in thoughts and or

feelings). The response options were in a Likert format on a continuum range from never (0) to very often (4). The scores on the seven positive items were reversed and the scores summed with higher scores indicating higher stress.

The psychometric properties of the PSS have been well established (Cohen et al., 1983). Reliability data collected from two samples of college students and another sample of community group showed a coefficient alpha reliability of the PSS to be .84, .85, and .86 in each of the three samples (Cohen et al., 1983). Also, the test-retest reliability analyses conducted for the sample of college students within two days resulted in a correlation of .85 (Cohen et al., 1983). Furthermore, Cohen, Sherrod, and Clark, 1986 found a positive correlation between the result of the PSS and life-event scores, depressive and physical symptomatology, social anxiety, and maladaptive health-related behaviors. Thus, these pieces of evidence indicate the construct and concurrent validity of the PSS.

The COPE Inventory (Carver et al., 1989) assessed different ways of coping with stress. It is a self-report measure consisting of 60 items on a 4-point modified - Likert-type scale ranging from 1 (I usually don't do this at all) to 4 (I usually do this a lot). The COPE Inventory originally was designed to assess 14 coping patterns/subscales (four items each) which are active coping, positive reinterpretation and growth, mental disengagement, focus on and venting of emotions, use of instrumental social support, denial, religious coping, behavioral disengagement, restraint, use of emotional social support, substance use, acceptance suppression of competing activities and planning (Carver et al., 1989). The updated 60 item version of the COPE Inventory has humor as an additional coping mechanism (Carver, 2007). The items on the COPE were summed to produce scale scores, with higher scores reflecting greater use of a particular coping strategy.

The psychometric properties including high values of Cronbach's alpha, test-retest reliability, and significant correlations with external variables have been reported. Computed Cronbach's alpha reliability coefficients revealed values ranging from .45 - .92 for each of the subscales (Carver et al., 1989). Also, the test-retest reliability of the subscales as reported by Carver et al., (1989) in a sample of college students within six and eight weeks revealed correlations which ranged from .42-.89 and .46 -.86 respectively. The convergent validity of the COPE Inventory has been demonstrated in numerous personality measures, including optimism, control, self-esteem, internality, hardiness, self-monitoring, and anxiety (Chao, 2012). Validated versions of the COPE Inventory have been created in five other languages; Spanish, French, Greek, German and Korean (Carver, 2007). The 60-item COPE Inventory was found to cause impatience when a sample of patients were completing it partly due to its length and redundancy (Carver, 1997). The Brief COPE was thus created to overcome this shortcoming.

The Brief COPE (Carver, 1997) is a 28-item measure of coping style which consisted of 14 scales of two items each with the scales been active coping, planning, positive reframing, acceptance, humor, religion, using emotional support, using instrumental support, self-distraction, denial, venting, substance abuse, behavioral disengagement and self-blame. Each item presents a coping action that individuals may adopt under stress or in difficult situations. For each item, respondents specify whether they have used the coping response on a four-point multiple choice scale ranging from 1 (I usually don't do this at all) to 4 (I usually do this a lot). Similar to the full COPE, the items on the Brief COPE are summed to produce scale scores, with higher scores reflecting greater use of a particular coping strategy.

The psychometric properties of the Brief COPE have also been established, a reliability analysis conducted for the Brief COPE revealed alpha reliabilities which met or exceeded the

value of .50 and this supports the internal reliability of the abbreviated scale (Carver, 1997). The validated versions of the Brief COPE have been created in five other languages; Spanish, French, Greek, German and Korean (Carver, 2007).

Data Analysis

Descriptive statistics was used to analyze the participant's responses to the individual items and the total summated scores of both the PSS and Brief COPE. A Pearson correlation was used to analyze the statistical association between perceived levels of stress and coping strategy used. All analyses were conducted using the *Statistical Package for Social Sciences (SPSS)* version 25.

Table 1

Table of Specification

Research Questions (RQ)	Survey Items to be used to assess RQ	Level of data (Nominal, Ordinal, Interval/Ratio)	Analysis needed to assess RQ
What is the perceived level of stress experienced by students at a large Midwestern university?	-Individual items on the Perceived Stress Scale - Total summated scores of the Perceived Stress Scale	Ordinal – (individual items on the survey) Interval- (total summated score)	Descriptive Statistics including frequencies, percentages, and measures of central tendency, and dispersion
What are the coping strategies or stress management strategies used by students at a large Midwestern university?	-Individual items on the Brief COPE Inventory -Total summated scores of the 14 subscales of the Brief COPE Inventory (active coping, planning, positive reframing, acceptance, humor, religion, using emotional support, using instrumental support, self-distraction, denial, venting, substance abuse, behavioral disengagement and self-blame)	Ordinal – (individual items on the survey) Interval - (total summated score)	Descriptive Statistics including frequencies, percentages, and measures of central tendency and dispersion

Research Questions (RQ)	Survey Items to be used to assess RQ	Level of data (Nominal, Ordinal, Interval/Ratio)	Analysis needed to assess RQ
What is the relationship between the perceived level of stress experienced by students at a large Midwestern university and the coping strategy that is adopted?	-A total summated score of the Perceived Stress Scale - Total summated scores of the 14 subscales of the Brief COPE Inventory	Interval (total summated score) Interval- (total summated score)	Pearson Correlation

Summary

The data for the study was collected from two self-reporting instruments from a non-random convenience sample of university students to assess perceived stress levels and coping strategies utilized. The Perceived Stress Scale measured the stress levels of participants and the Brief COPE assessed the participants' different ways of coping with stress. The data was analyzed using descriptive statistics to assess the stress levels and coping strategies and also a Pearson correlation assessed the relationship between stress levels and coping strategies utilized.

Chapter Four: Results

The purpose of this study was to assess the relationship between perceived stress levels and the coping strategies used by university students. The data collected was analyzed using the *Statistical Package for Social Sciences* version 25. The study answered the following research questions.

1. What is the perceived level of stress experienced by students at a large Midwestern university?
2. What are the coping strategies or stress management strategies used by students at a large Midwestern university?
3. What is the relationship between the perceived level of stress experienced by students at a large Midwestern university and the coping strategies that are adopted?

Participants

The data for this research study were collected in person from undergraduate college students enrolled at a large midwestern university, using a 46-item printed survey. The sample size was a nonrandom convenience sample of 368 students with a response rate of 98%.

Demographic Results. The participants ages were from 18-20 years ($n = 290$, 78.8%), 21-24 years ($n = 72$, 19.5%) and 25-27 years ($n = 6$, 1.6%). Majority of the participants were females ($n = 199$, 54.1%) with males making a smaller percentage ($n = 169$, 45.9%). The ethnic distribution of the sample was predominantly Caucasian ($n = 292$, 79.3%) with the least being Pacific Islander ($n = 1$, .3%).

Additionally, students were asked about their highest educational level; most reported being in the first semester of college ($n = 158, 42.9\%$). Students were also, asked whether they were international or domestic students, most of the participants were domestic students ($n = 345, 93.8\%$) with the remainder being international students ($n = 23, 6.2\%$). The demographic characteristics of the sample are provided in Table 1.

Table 2

Demographic Information

Characteristics	n	%
Age		
18	69	18.8
19	143	38.9
20	78	21.2
21	36	9.8
22	16	4.3
23	14	3.8
24	6	1.6
25	2	.5
26	3	.8
27	1	.3

Characteristic	n	%
Year in school		
One semester of college/university or less	158	42.9
One year of college/university	96	26.1
Two years of college/university	58	15.8
Three years of college/university	43	11.7
Four or more years of college/university	13	3.5
Ethnicity/Race		
White/ Caucasian	292	79.3
Black/African-American	25	6.8
American Indian/Native American/Alaskan Native	3	.8
Asian	30	8.2
Pacific Islander	1	.3
Other	17	4.6

What is the perceived level of stress experienced by students at a large Midwestern university?

Participants were asked to respond to 14 questions which measured their stress levels by indicating how stressed they have been over a month. The response options were scored in a Likert format with 0 = never, 1= almost never, 2= sometimes, 3=fairly often and 4= very often. The total scores were computed after the scores on the seven positive items on the scale were reversed with higher scores indicating higher stress. The mean stress score for participants was 25.60 (SD = 7.96). Majority of the participants ($n = 265$, 72%) had scores from 20-38. Table 2 illustrates the stress scores obtained from the study sample.

Table 3

Total Stress Scores

Score	n	%
0-19	84	22.8
20-38	265	72.0
39-56	19	5.2

What are the coping strategies or stress management strategies used by students at a large Midwestern university?

The participants were asked to answer 28 items that describe the coping strategies they use. The response options were scored in a rating scale format. The coping strategies as described by Carver (1997) were grouped into 14 categories or subscales with two items under each; self-distraction, active coping, denial, substance use, use of emotional support, use of

instrumental support, behavioral disengagement, venting, positive reframing, planning, humor, acceptance, religion and self-blame. The total scores were computed, and descriptive statistics were conducted to determine the coping strategies used by the sampled college students. The minimum score on the scale was two with the maximum being eight. The coping strategies most commonly used were active coping ($M = 5.52$, $SD = 1.359$) and self-distraction ($M = 5.55$, $SD = 1.760$). The other commonly used coping strategies were positive reframing ($M = 5.19$, $SD = 1.650$), acceptance ($M = 5.43$, $SD = 1.571$) and planning ($M = 5.36$, $SD = 1.56$). Denial and substance abuse were the least used coping strategy ($M = 2.66$, $SD = 1.209$) and ($M = 3.12$, $SD = 1.711$) respectively. Table 3 illustrates the mean scores obtained for each of the subscales.

Table 4

Scores on Coping Strategies

	N	Mean (M)	SD
Self-distraction	368	5.55	1.760
Active Coping	368	5.52	1.359
Acceptance	368	5.42	1.571
Planning	368	5.36	1.560
Positive Reframing	368	5.19	1.650
Instrumental Support	368	4.78	1.760
Self Blame	368	4.76	1.894
Emotional Support	368	4.74	1.841

	N	Mean (M)	SD
Humor	368	4.48	1.994
Venting	368	4.02	1.565
Religion	368	3.69	1.933
Behavioral Disengagement	368	3.17	1.439
Substance Abuse	368	3.12	1.711
Denial	368	2.66	1.209

What is the relationship between the perceived level of stress experienced by students at a large Midwestern university and the coping strategies that are adopted?

Pearson correlations were computed to analyze relationships between perceived stress levels and coping strategies. The results revealed a negative statistically significant relationship between total stress scores and active coping. The results also revealed a positive statistically significant relationship between total stress scores and eight coping mechanisms (planning, emotional support, instrumental support, self-distraction, denial, venting, substance abuse). A positive relationship was found between total stress scores, behavioral disengagement and self blame. The findings are shown in Table 5.

Table 5*Significant relationship between total stress scores and coping strategies*

Coping Strategy	r-score	p-value
Active coping	-.203	.000
Planning	.144	.006
Emotional support	.174	.001
Instrumental support	.158	.002
Self-distraction	.350	.000
Denial	.370	.000
Venting	.398	.000
Substance Abuse	.263	.000
Behavioral Disengagement	.559	.000
Self-blame	.553	.000

Summary

The purpose of the study was to assess the relationship between the perceived levels of stress and coping strategies used by university students. The researcher examined the participants' perceived levels of stress and the coping strategies used. Additionally, the researcher examined the relationship between total stress scores and the following coping strategies; active coping, planning, positive reframing, acceptance, humor, religion, emotional

support, instrumental support, self-distraction, denial, venting, substance abuse, behavioral disengagement, and self-blame. The respondents reported a moderate level of stress and the common coping strategies identified were active coping, planning and self-distraction. There was no significant relationship between stress levels and the coping mechanism of positive reframing, acceptance, humor, and religion but a significant relationship was found between stress levels and the coping mechanisms of planning, active coping, emotional support, instrumental support, self-distraction, denial, venting, substance abuse, behavioral disengagement, and self-blame.

Chapter Five: Discussion, Conclusion, and Recommendations

The chapter presents a summary of the study findings and recommendations for stress management and later studies. The chapter is organized into summary and discussion, recommendations for practice, and subsequent studies.

Discussion and Conclusion

College is considered to be the onset of adulthood for students, and it comes along with new challenges and responsibilities (Baghurst & Kelley, 2014). These new challenges and responsibilities may overwhelm students and cause them to feel helpless and unable to cope with the task associated with college life (Darling, McWey, Howard & Olmstead, 2007). The literature on stress among college students shows that stress is predominant. For instance, Pierceal and Keim (2007) found that 75% to 80% of college students are moderately stressed, Brougham et al. (2009) reported that an average of 52% of college students experience high levels, whereas ACHA (2018) report shows that a little over 45% of college students are more than average stress. This study also found a similar trend among college students - about 72% of college students were found to be moderately stressed whereas 5.2% were severely stressed.

The study also assessed the coping strategies students used in managing stress. The results show that the majority of students used self-distractive behavior (watching movies or TV, shopping, daydreaming and among others) in managing stress followed by active coping strategies (problem -solving strategies), and planning (thinking about what steps to take). This result is consistent with other studies (Catron, 2005; Coiro et al., 2017), which found that the majority of students engage in disengagement coping strategies to manage stress. Denial and substance abuse were the least used stress coping strategies. This finding supports other studies (Coireo et al., 2017; Chao, 2011; Pierceal & Keim 2007) which report that college students

indulge in behaviors such as the use of alcohol and illegal drugs to manage stress. Contrary to other studies (Brougham et al., 2009; Dyson & Renk, 2006; Pierceal & Keim, 2007) which found emotional support as the predominant stress coping strategy used by students, this study found it to be the eighth most-used stress coping techniques assessed.

Finally, this study assessed the relationship between college students stress levels and coping strategies used. This study found a negative statistically significant relationship between total stress scores and active coping. This finding supports other studies (Baghurst & Kelley, 2014; Robinso and Godbey, 2005; VanKim & Nelson, 2013) which reported that active coping is effective in lowering college students' level of stress. Additionally, the current study found a positive statistically significant relationship between total stress scores and self-distraction, denial, substance abuse, venting, behavioral disengagement and self-blame. Similar to other studies, (Brougham et al. 2009; Chao, 2012; Deatherage et al. 2014; Sideridis, 2008), the result of this study shows that coping strategies such as self-distraction, denial, venting, substance abuse, behavioral disengagement, and self-blame were maladaptive or dysfunctional coping strategies - many students can still feel anxious after engaging in these dysfunctional coping strategies because their stress is unresolved.

The current study also found a positive statistically significant relationship between total stress scores, planning, and emotional support. This finding is contrary to what was reported by other studies. For instance, Robinso and Godbey (2005) found that time management enhances productivity and in turn reduces stress, whereas King et al. (2012) and Stanton, Kirk, Cameron, and Danoff-Burg (2000) reported that emotional support was effective in providing the necessary buffer for college students to manage stress.

Recommendations for Health Education Practice

This study confirms the prevalence of stress and the use of both adaptive and maladaptive coping strategies among college students. Health educators should continue to encourage students to frequently use adaptive coping strategies such as active coping techniques in managing stress. This can be done through the organization of workshops where students can be educated or informed about stress management and the use of educational materials such as posters and brochures which will have information on adaptive coping strategies. It is also essential that college students are taught to identify their stressors and find ways to reduce their impact. The identification of what causes stress in college students is an important step in stress management as they would be able to find specific actions to take to reduce the impact of the stressor. In addition to this, health education professionals may need to explore programs through conduction of researches. This would help students to identify alternative ways of managing stress as coping strategies differ based on the individual. The conduction of ongoing assessments in the university community would help in the identification of the wellness needs of the students and this would enhance the planning of these programs. An interactive online stress intervention for college students known as *MyStudentBody-Stress* which is a text-based website containing information for stress management have been shown to increase use of stress reducing strategies and decrease anxiety in students (Chiauzzi, Brevard, Thurn, Decembrele, & Lord, 2008). This online program is available throughout the semester and provides students with health education, self-assessments, tools and strategies to cope with stress. The implementation of such programs by universities would increase access to utilization of health and wellness services as students receive feedback from their assessments and they are directed to the available resources on campus. College health educators can reach a large number of

students to provide stress management education and intervention and can track the effectiveness of the interventions through the follow-up assessments. Furthermore, regular workshops on stress, coping strategies, and healthy lifestyle should be organized for students, especially first-year college students, where they can be taught how to manage their stressors through the use of stress-reducing strategies such as time management, yoga and meditation. The introduction of these stress management programs as part of the general courses of universities is also recommended. By discussing the benefits of using effective coping strategies; health educators can increase the likelihood students will use these stress management techniques. There should also be increased promotion of stress management resources such as drop-in counselling clinics and relaxation stations on campuses where students can stop by at any moment and get the needed help. This would create awareness, increase visibility of these resources and their accessibility to students.

Recommendations for Future Research

This study provides a snapshot of the perceived level of stress among college students. Since stress among college students can span more throughout the semester, longitudinal research to understand students' experiences during the period of their study at university should be undertaken. Data could be collected on the stress levels of a specific cohort of students during the first part of the semester to the mid-semester and at the end of the semester. A stress management seminar or course could be introduced to the students in the first semester and they would be evaluated at the end of the semester to assess how effective the intervention was. The findings from such a study could be fed back into the existing support systems, which will enable colleges to develop more effective policies and target appropriate resources to promote adaptive stress coping strategies. The study was limited to undergraduate students in a Midwestern

university thus the findings cannot be generalized; additional studies should continue to assess stress and coping strategies in a larger population. Future studies should also examine how the coping strategies of planning and emotional support mediates college students stress as these are adaptive coping strategies and have been shown to be effective in reducing stress. In this study, these coping strategies were used frequently but were associated with increased stress levels. The more understanding we gain about college student stress management behavior, the more they can be helped to effectively manage their stress and overall improve their health.

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Appendices

Appendix A

Institutional Review Board Letter of Approval



February 24, 2019

Dear Joseph Visker, PhD:

Re: IRB Proposal entitled "[1399575-2] Assessment of Perceived Stress Levels and Coping Mechanisms among University Students"
Review Level: Level [1]

Your IRB Proposal has been approved as of February 24, 2019. On behalf of the Minnesota State University, Mankato IRB, we wish you success with your study. Remember that you must seek approval for any changes in your study, its design, funding source, consent process, or any part of the study that may affect participants in the study (see <https://grad.mnsu.edu/irb/revision.html>). Should any of the participants in your study suffer a research-related injury or other harmful outcome, you are required to report them to the Associate Vice-President of Research and Dean of Graduate Studies immediately.

When you complete your data collection or should you discontinue your study, you must submit a Closure request (see <https://grad.mnsu.edu/irb/closure.html>). All documents related to this research must be stored for a minimum of three years following the date on your Closure request. Please include your IRBNet ID number with any correspondence with the IRB.

Cordially,

Handwritten signature of Bonnie Berg in black ink.

Bonnie Berg, Ph.D.
Co-Chair

Handwritten signature of Jeffrey Buchanan in black ink.

Jeffrey Buchanan, Ph.D.
IRB Co-Chair

Handwritten signature of Mary Hadley in black ink.

Mary Hadley, Ph.D.
IRB Coordinator

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Minnesota State University, Mankato IRB's records.

Appendix B

Survey Consent Form

Title: Assessment of Perceived Levels of Stress and Coping Mechanisms Among University Students

Faculty Advisor: Dr. Joseph D. Visker, Department of Health, Science, Minnesota State University, Mankato;

Student Investigator: Nancy Adomako Saahene

IRBNet #: 1399575

What is the purpose of the study?

You are being invited to take part in a survey research study designed to assess the relationship between perceived stress and coping strategy use among university students.

What is the purpose of this form?

This consent form gives you the information you will need to help you decide whether to be in the study or not. Please read the form carefully. You may ask any questions about the research, the possible risks and benefits, your rights as a volunteer, and anything else that is not clear. When all of your questions have been answered, you can decide if you want to be in this study or not.

Why am I being invited to participate?

You are being invited to take part in this study because you are a student at Minnesota State University, Mankato. Participation is voluntary. If you choose not to take the survey or are not eligible, you need not proceed through the survey. You may turn it in blank. Only individuals ages 18 years of age and above are permitted to take the survey.

What will happen during this study and how long will it take?

If you agree to take part in this study, your involvement will last for approximately 15-20 minutes. You are being asked to complete a survey that will assess your perceived stress level and the extent to which you utilize various coping strategies. Your completion of the survey marks the end of participation in this study.

What are the risks of this study?

There are few reasonably foreseeable risks in completing the survey. However, while the risk is extremely low, when collecting demographic data (such as age and race) there is a minute probability of a breach in confidentiality/anonymity. Further, this survey asks questions about your stress and whether or not you use alcohol or drugs to cope with stress. You may feel uneasy answering these questions. You are free to skip ANY question you do not feel comfortable answering. Please also do not put your names or any other identifying marks on the survey. Your responses will remain anonymous.

What are the benefits of this study?

There are no benefits to you the participant for completing this study. However, it is hoped that the information gained from this study will allow health professionals to better understand coping strategies that may be correlated with reduced stress. This will allow health educators to plan programs to teach coping strategies that may reduce stress among university students.

Who will see the information?

The information you provide during this research study will be kept confidential. To help protect your confidentiality, we will ensure that only the Principle Investigator and student investigators will have access to the completed surveys. Your name will NOT be attached to the survey nor will any other information capable of personally identifying you. Surveys will be stored in a secure location and all surveys will be destroyed within 5 years of completion of this study. The study will be completed by April 30, 2019. We will take all reasonable steps to protect your identity. If the results of this project are published your identity will not be made public.

Do I have a choice to take part in this study?

If you decide to take part in the study, it should be because you really want to volunteer. You will not lose any benefits or rights you would normally have if you choose not to volunteer. You can stop at any time during the study and still keep the benefits and rights you had before volunteering. You will not be treated differently if you decide to stop taking part in the study. The decision whether or not to participate will not affect your relationship with Minnesota State University, Mankato, and refusal to participate will involve no penalty or loss of benefits. If you have any questions about this research study, contact Dr. Joe Visker at 507-389-2757 or joseph.visker@mnsu.edu If you have any questions about participants' rights and for research-related injuries, please contact the Administrator of the Institutional Review Board at (507) 389-1242.

All participants have the right to a copy of the consent form. You have been provided a copy for your records. Thank you for your time and if you have any questions or concerns, please free to contact the Dr. Joseph Visker (Primary Investigator).

Handing in a survey with responses on it indicates that you are at least 18 years of age and consent to participate in the research.

Joseph D. Visker, PhD, MCHES®, FESG
Associate Professor
Department of Health Science
Minnesota State University, Mankato
College of Allied Health and Nursing
Office: HCN 205
Phone Number: 507-389-2757
Email: joseph.visker@mnsu.edu

IRBNet #: 1399575

Appendix C

Survey Instrument

Assessment of Perceived Levels of Stress and Coping Mechanisms among University Students

Part A: Information about You

Directions: Please respond to the following questions.

1. What is your age? (Please write your age in the space provided)

_____ Years

2. What is your sex (Please circle appropriate response)

a. Male

b. Female

c. Other identification

3. Are you an international student? (Please circle appropriate response)

A. Yes

b. No

4. What highest level of education have you completed? (Please check one)

a. One Semester of College/University or less

b. One Year of College/University

c. Two Years of College/University

d. Three Years of College/University

e. Four or More Years of College/University

5. Which of the following best describes your race? (Please circle all that apply)

a. White or Caucasian

b. Black or African American

c. American Indian, Native American, or Alaskan Native

d. Asian

e. Pacific Islander

f. Other

Part B. Perceived Stress Scale

INSTRUCTIONS:

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 your response by checking the appropriate box representing HOW OFTEN you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

		Never	Almost Never	Sometimes	Fairly often	Very often
		0	1	2	3	4
1	In the last month, how often have you been upset because of something that happened unexpectedly?					
2	In the last month, how often have you felt that you were unable to control the important things in your life?					
3	In the last month, how often have you felt nervous and "stressed"?					
4	In the last month, how often have you dealt successfully with day to day problems and annoyances?					
5	In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?					
6	In the last month, how often have you felt confident about your ability to handle your personal problems?					
7	In the last month, how often have you felt that things were going your way?					
8	In the last month, how often have you found that you could not cope with all the things that you had to do?					
9	In the last month, how often have you been able to control irritations in your life?					
10	In the last month, how often have you felt that you were on top of things?					

		Never	Almost Never	Sometimes	Fairly often	Very often
		0	1	2	3	4
11	In the last month, how often have you been angered because of things that happened that were outside of your control?					
12	In the last month, how often have you found yourself thinking about things that you have to accomplish?					
13	In the last month, how often have you been able to control the way you spend your time?					
14	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?					

Part C. Brief COPE Inventory

These items deal with ways you've been coping with the stress in your life. These items ask what you've been doing to cope. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can

	I haven't been doing this at all	I've been doing this a little bit	I've been doing this a medium amount	I've been doing this a lot
	1	2	3	4
1. I've been turning to work or other activities to take my mind off things.				
2. I've been concentrating my efforts on doing something about the situation I'm in.				
3. I've been saying to myself "this isn't real."				
4. I've been using alcohol or other drugs to make myself feel better.				
5. I've been getting emotional support from others.				
6. I've been giving up trying to deal with it.				
7. I've been taking action to try to make the situation better.				
8. I've been refusing to believe that it has happened.				
9. I've been saying things to let my unpleasant feelings escape.				
10. I've been getting help and advice from other people.				

	I haven't been doing this at all	I've been doing this a little bit	I've been doing this a medium amount	I've been doing this a lot
	1	2	3	4
11. I've been using alcohol or other drugs to help me get through it.				
12. I've been trying to see it in a different light, to make it seem more positive.				
13. I've been criticizing myself.				
14. I've been trying to come up with a strategy about what to do.				
15. I've been getting comfort and understanding from someone.				
16. I've been giving up the attempt to cope.				
17. I've been looking for something good in what is happening.				
18. I've been making jokes about it.				
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping				
20. I've been accepting the reality of the fact that it has happened.				
21. I've been expressing my negative feelings.				
22. I've been trying to find comfort in my religion or spiritual beliefs.				
23. I've been trying to get advice or help from other people about what to do.				
24. I've been learning to live with it.				
25. I've been thinking hard about what steps to take.				
26. I've been blaming myself for things that happened.				
27. I've been praying or meditating.				
28. I've been making fun of the situation.				

Source: Carver, S. C. (1997). You want to measure coping but your protocol is too long: Consider the Brief COPE. *International Journal of Behavioral Medicine*, 4(1), 92-100.

Carver, S. C., Weintraub, K. J., & Scheier, F. M. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56(2), 267-283.

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