

Perceived Stress in College Students: Prevalence, Sources, and Stress Reduction Activities

by

Marcus Gbatongoh Sesay

Master of Public Health, California Baptist University, 2019

Thesis Submitted in Partial Fulfillment
of the Requirements for the Degree of
Master of Public Health

California Baptist University

August 2019

© 2019

Marcus Gbatongoh Sesay

The College of Health Science

California Baptist University

Riverside, California

This is to certify that the Master's Thesis of

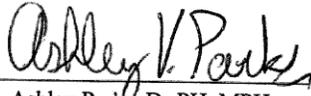
Marcus Gbatongoh Sesay

has met the thesis requirements
for the degree of
Master of Public Health

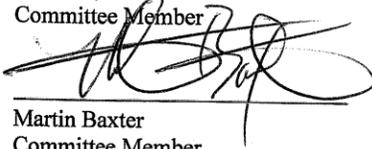
Approved by:



Dr. Sangmin Kim, Ed.D, MCHES
Committee Chair



Dr. Ashley Parks, Dr.PH, MPH,
MCHES, CPH
Committee Member



Martin Baxter
Committee Member

Abstract

The purpose of this study was to investigate levels of stress, causes of stress, and coping strategies among freshmen and senior college students. For this purpose, the Perceived Stress Scale (PSS) developed by Cohen, 1983 was used to help understand how different situations affect college students' feelings and perceived stress. A convenience sample of 123 college students at a Southern California comprehensive university was used. Inferential Statistics, such as t-tests and Pearson correlations, were performed to test group independence and the relationship between variables. Although the findings of this study showed that freshmen college students reported more stress than senior college students, the perceived stress level difference was not statistically significant. Pearson correlation coefficients showed a weak positive relationship that was not statistically significant ($r(121) = .003, p = .97$). The findings suggested that academic and financial obligations are the largest stressors for college freshmen and senior students. Yoga, reading, training, smoking, and drinking are various coping mechanisms used by the sample in this study to handle stress. Findings of this study can be used to create better stress coping strategies for college students. Further research is needed to draw more reliable conclusions on perceived stress levels among college students.

Keywords: Stress, College students, Freshman, Senior, Prevalence, Coping strategies

Acknowledgments

I am very grateful to the entire staff in the Public Health Department and to those who have directly imparted their knowledge to me.

Let me express my sincere thanks and appreciation to Dr. Sangmin Kim for acting as my academic advisor throughout the entire thesis process. Without his guidance and steadfast support, this thesis would not have been possible.

I wholeheartedly recognize the contributions of my committee members Dr. Ashley Parks and Martin Baxter from the Emergency Management Department for helping me edit the content of my thesis.

Finally, I would like to thank my dear, lovely wife Mrs. Isabella Sarian Hartley Sesay and my beautiful daughter Macbella Princess Sesay for their constant support, understanding, and patience with me throughout my entire academic career.

Table of Contents

TABLE OF CONTENTS III

LIST OF TABLES..... IIII

REVIEW OF LITERATURE..... 1

 INTRODUCTION 1

 LEVELS OF STRESS..... 2

 Gender..... 2

 Levels of stress and years in college..... 3

CAUSES OF STRESS..... 3

 Academic workload as a cause of stress 3

 Finances as a cause of stress..... 5

COPING STRATEGIES 7

 Coping strategies among gender 8

PURPOSE OF THE STUDY 8

RESEARCH QUESTIONS 9

RESEARCH HYPOTHESES 9

METHOD 10

 DESIGN 10

 PARTICIPANTS 10

 PROCEDURES..... 10

 INSTRUMENT..... 10

 INDEPENDENT VARIABLES AND DEPENDENT VARIABLES..... 11

 DATA ANALYSIS 11

RESULTS 12

 DEMOGRAPHIC INFORMATION 12

 MAJOR FINDINGS 12

 Research Question 1 12

 Research Question 2 13

 Research Question 3 13

DISCUSSION..... 14

 SUMMARY OF MAJOR FINDINGS 14

 PUBLIC HEALTH IMPLICATIONS 15

 STUDY LIMITATIONS 17

 STUDY RECOMMENDATIONS..... 18

REFERENCES..... 20

APPENDIX A: PERCEIVED STRESS SURVEY 24

APPENDIX B: REDACTED THESIS APPROVAL..... 26

APPENDIX C: TABLES..... 27

List of Tables

Table 1. Sex of Respondent	27
Table 2. Respondent year in college	27
Table 3. Student Comparison of Stress Levels	28
Table 4. Correlation between Perceived Stress Level and Coping Strategies.....	30
Table 5. Relationship between Perceived Stress and Academic Achievement	31
Table 6. Comparison of Student Coping Score	31
Table 7. Comparison of Student year in college and Coping Strategies.....	32

Review of Literature

Introduction

College years represent a period of increased exposure to stressful life challenges for young adults, and stress is the primary topic of conversation among freshmen college students and senior college students. Young adults entering college find it exciting but also stressful and demanding; depression and stress are major health issues among college students across the world (Ansari, Adetunji, & Oskrochi, 2014). The journey of transitioning from high school into college is characterized as stressful and could lead to psychological, academic, and social shock (Yikealo, Tareke, & Karvinen, 2018). In many countries, including the United States, college students are at a high risk for health problems, alcohol use, drug use, and substance abuse (Varghese, Norman, & Thavaraj, 2015). According to a journal article on academic stress and its sources among university students, stress has become part of students' academic life because of the high expectations' parents place on them while they are in college (Reddy, Menon, & Thattil, 2018). Parents are not the only ones imposing a high expectation on students, though, for to achieve better grades and academic success, college students impose higher pressure on themselves (Yikealo et al., 2018). A study on how students' cope with stress revealed that students who had been in college longer maturely coped with difficult situations but tended to withdraw from difficult life situations (Shahmohammadi, 2011). Importantly, high-stress levels among college students can result in a reduction in academic performance and harm their physical and mental well-being (Pariat, Rynjah, Joplin, & Kharjana, 2014).

Dr. Hans Selye, the father of modern stress, as reported by Fink (2010), defined stress as the non-specific response of the body to any demand for change. Steinberg and Ritzmann (1990) described stress as an underload or overload of matter, energy, or information input to or output

from a living system. Topper (2007) defined stress as any factor acting internally or externally that makes it difficult to adapt and induces an increased effort on the part of an individual to maintain a state of equilibrium.

Researchers have argued that stress is a physical or psychological stimulus that can produce a mental or physiological reaction that may lead to illness (Varghese et al., 2015). Stress is considered a medical condition when it continues for an extended period and can lead to the diagnosis of depression, anxiety, or other severe mental health problems (Altaf & Kausar, 2013). For example, a reduced immune system is a psychological implication of perceived stress in college students. Furthermore, stress is very personal in that stressors can be either perceived as positive or negative.

Levels of Stress

College students are a high-risk group for being exposed to medium or high levels of stress and various health issues such as anxiety and depression (Topper, 2007). Among college students, perceived levels of stress can be influenced by multiple factors, including gender, year in college, major, and academic workload.

Gender. In a study on the stress levels of college students, Pariat et al. (2014) revealed that the majority (38.9%) of the participants (both male and female) were experiencing very low stress. However, among the participants, females were reported to have higher stress levels (23.9%) compared to their male counterparts (15%). A study conducted on levels of stress among college students found that female students reported a higher level of self-imposed stress and reported more physiological reactions to stressors than males. Males reported lower stress levels because they are taught to be masculine and not show emotional weakness (Yikealo et al., 2018). Chen, Wong, Ran, and Gilson (2009) conducted a study to describe the relationship

between college stress, coping strategies, and psychological well-being using 342 participants at six different universities. The study revealed that male students reported higher levels of stress, worse psychological well-being, and less inclination towards using positive coping strategies. Thawabieh and Qaisy (2012), in the study assessing stress among university students, found that female students have more stress level than males.

Levels of stress and years in college. According to the literature, undergraduate students are often cited to be more likely to have reported high-stress levels. In a study conducted on stress differences between college freshmen and senior students, the findings revealed that freshmen college students reported more stressful experiences (37%) than college seniors who reported less stressful experiences (32%) (Gaither, 2000). Misra and Mckean (2000), in their study using 249 students' participants to determine levels of stress and anxiety, found that undergraduate college students experienced higher levels of stress associated due to academic workloads, financial commitments, and lack of time management skills. According to some research, the senior year of college is often regarded as a time of increased demands and expectations, making it an overall stressful period (Toews, Lockyer, Dobson, & Brownell, 1993). However, Thawabieh and Qaisy (2012) found that freshmen college students had higher social stress than senior college students.

Causes of Stress

The causes of stress might involve many different aspects of college student activities, and there are some individual variations when it comes to how individuals perceive events as stressful or not.

Academic workload as a cause of stress. An academic workload is a significant source of stress for most college students (Feld, 2011). According to Szafran (2002), an academic

workload can be measured in terms of units taken and course difficulty. The sources of academic-related stress include the number of units registered, fear of falling behind classes, time management, demands for projects, class presentation, and self-motivation to study (Tyrrell, 1992). College students cited examinations, research papers, necessary study skills, and paper presentations as academic stressors (Yikealo et al., 2018). Most freshmen students perceived presenting papers as the most challenging academic accomplishment required of them (Ong & Cheong, 2009).

Academic stress affects the concentration levels of college students and their abilities to accomplish their best academic performance. Achieving a successful academic career goes beyond just studying. College students will find it stressful when assignments are due, which mostly affects those who cannot manage their time correctly. For instance, according to one study, senior college students' stress levels increased during the last week for their examinations or tests (Ong & Cheong, 2009). Freshmen college students could face new teaching methods, new academic requirements, new facilities, and new relationships among other students, which may then become stressors in their lives (Altaf & Kausar, 2013).

According to Varghese et al. (2015), there is an inverse relationship between perceived stress and academic performance; that is, the higher the stress experienced by students, the lower their academic performance. College students' learning abilities and academic performance may be impaired by social, emotional, physical, and family problems. In a study conducted on stress differences between college freshmen and seniors, it was found that college freshmen reported stressful experiences to be related to their academics, such as too many assignments due all at once, while most seniors reported situations, such as making important decisions about their future, as stressful (Gaither, 2000). In one study, Gaither (2000) found that many of the college

seniors suffered from acute stress symptoms, but freshmen college students reported severe stress symptoms. Altaf's and Kausar's (2013) study revealed that academic stress is higher among freshmen students than seniors because senior students have been in college for a more extended period and have already adjusted to academic stress as compared to freshmen students who are just starting to experience a heavier academic workload.

Finances as a cause of stress. Financial stress is a widespread concern among college students. College students are faced with several financial challenges, including tuition payment, managing finances, and other personal needs. Within the research, college students' financial stressors varied and can consist of the cost of tuition, living expenses, educational expenses, overspending or credit card debt, and students loan debt. College students' desire for higher education and the continuously increasing cost of college tuitions have affected many college students and households in the United States (Cho, Xu, & Kiss, 2015). Many contemporary college students have relied heavily on student loans to pay for their education (Heckman, Lim, & Montalto, 2014). In a study on anticipated debt and financial stress among medical students, results revealed that students perceived financial stress as related to both their current and anticipated debt levels (Morra, Regehr, & Ginsburg, 2008). Likely debt levels among college students accounted for 11.5% of the variance in stress when compared to current debt (Morra et al., 2008).

The College Board (2014) report on variation in tuition and fees stated that the median published tuition and fee price for full-time undergraduate students at public and private institutions in 2014-2015 was \$11,550. The report also showed an .1% increase of public four-year institutions' published tuition and fees (College Board, 2014).

The institution selected may also cause financial stress for students. The College Board's (2014) report on trends in college pricing between 2013-14 and 2014-15 showed that average published tuition and fee prices for higher education increased by 2.9% for in-state students in the public four-year sector, by 3.3% for out-of-state students in the public four-year sector and for in-district students at public two-year colleges, and by 3.7% at private nonprofit four-year institutions. The Consumer Financial Protection Bureau (2012) reported an estimate of 38 million college students to have outstanding loans at an accumulated total of over \$1.1 trillion. The Forbes (2018) reported an estimate of 44 million college student borrowers with a total loan debt of \$1.5 trillion. These reports show how the financial burden of student loans and paying for college can be stressful for college students.

Moreover, the College Board (2014) reported an estimated 60% of college students who earned their bachelor's degrees between 2012-2013 have student loan debt amounting to \$27,300. College students who are from low-income families are more likely to accumulate substantial financial debt before completing their four-year programs and reported financial difficulties as one of their sources of stress (Northern, O'Brien, & Goetz, 2010). Low-income college students depend on student loans to cover the cost of their tuition, and financial aid is often regarded as inadequate to offset students' financial costs and needs. Because of the increase in academic tuition, and the insufficient financial aid, students often turn to credit cards to pay for their immediate needs and college tuition remaining balances (Nora, Barlow, & Crisp, 2006). This makes the estimate of \$27,300 in debt upon completion of college on the low end for students, particularly those from lower socioeconomic statuses.

A study conducted to investigate other factors related to financial stress among college students identified two stressors often cited by students: the expectation of accumulating too

much debt before the end of their four years and not having enough money to socialize with friends (Heckman et al., 2014). These stressors are verified by the College Board's (2016) study of college pricing trends which found that college students are faced with rising costs for attending college without an equivalent increase in financial aid that will cover their entire costs (College Board, 2016). This leaves students lacking in funds pay college costs or for other needs.

Coping Strategies

Coping strategies among college students can be highly personal, and what helps one student or group of students may not help the other. Because of the harmful effect of stress on academic achievement, college students often engage in different coping styles to deal with their stressors. Lazarus and Folkman (1984) defined coping as an array of conscious behaviors and mental efforts employed to deal with a stressful event or situation and minimize its negative consequences. According to Park and Adler (2003), coping is when an individual master conditions that tax or exceed adaptive resources. Effective coping allows students to tolerate, minimize, accept, or ignore what they cannot master (Lazarus & Folkman, 1984, p. 140).

A coping strategy refers to a technique of coping adopted for a specific context (Lazarus, 1977). Coping strategies accentuate a range of emotional regulation strategies, thought processes, and behaviors. Mathew (2017), in his work on stress and coping strategies among college students, argued that coping is found in an individual's psychological response to stress, their appraisals of events, their attention, and their goals or the outcomes they desire (Mathew, 2017). A study on coping styles as a predictor of health and well-being across college freshmen revealed a positive relationship between using both problem-focused coping and emotion-focused coping (Park & Adler, 2003). Within the study, students who used both styles had less physical health deterioration (Park & Adler, 2003). Wilks (2008) found that college students'

academic stress rises when their academic-related demands exceed their available resources to cope.

Coping strategies among gender. According to Ptacek et al.'s (1994) study on gender differences in coping with stress, it was found that males and females share similar cognitive appraisal of a stressful situation but reported differently in preparatory coping. Females reported seeking social support using emotion-focused coping to a greater extent than males, while males reported to have used relatively more problem-focused coping than females. Matud's (2004) study on gender differences in stress and coping styles, using a sample population of 2,816 participants, found that women recorded higher emotional and avoidance coping styles than men and scored lower on rational and detachment strategies. Matud also revealed that men were found to have more emotional inhibition than women. Matud supported the findings of Ptacek et al. (1994), concluding that women experience more stress than men, and their coping strategy is more emotion-focused than their male counterpart's coping strategy. Mathew (2017) found that students are suffering from different kinds of stress and they do not have proper coping mechanisms to combat stress. The most often used activities to cope with stress among freshman and senior college students is talking to family and friends, leisure activities, and exercising whereas the less desirable coping strategies are drinking alcohol, smoking, and using illegal drugs (Pierceall & Kiem, 2007).

Purpose of the Study

The purpose of this study was to investigate levels of stress, causes of stress, and coping strategies among freshmen and senior college students.

Research Questions

This study addressed the following research questions:

1. Do perceived stress levels differ between freshmen college students and senior college students?
2. Is there any correlation between levels of stress and coping strategies in college students?
3. Is there any relationship between stress and academic achievement between freshmen college students and senior college students?

Research Hypotheses

1. There is no significant difference among freshmen college students' perceived stress levels and senior college students' perceived stress levels.
2. There is no correlation between levels of stress and coping strategies.
3. There is no significant relationship between stress and academic achievement of freshmen college students and senior college students.

Method

Design

This was a cross-sectional study that investigated perceived stress levels, causes of stress, and coping strategies among freshmen and senior college students.

Participants

A convenience sample of 123 students was recruited from college freshmen and senior students in 2017. Of the 123 participants, 47.2% ($n = 58$) were freshmen college students and 52.8% ($n = 65$) were senior college students.

Procedures

Participants were asked to complete a two-page Perceived Stress Scale (PSS-10) developed by Cohen (1983) that was specifically designed to measure college students' stress levels (Appendix A). The research was conducted using a secondary data. IRB approval was granted to the researcher to conduct his research (Appendix B).

Instrument

This study used the PSS-10, which is the most widely used psychological instrument for measuring perceptions of stress. The scale is used to measure the degree to which situations in one's life are considered stressful. The PSS-10 was developed by Cohen to measure college student's levels of stress, causes, and coping strategies (Appendix A). Additional questions were asked about the subjects' demographic information. The PSS-10 scores are obtained by reversing the scores on the four positively stated items, for example, 0 = 4, 1 = 3, 2 = 2, 3 = 1, and 4 = 0 and then sum across all ten items. Item number 4, 5, 7, and 8 are the positively stated items. For example: "*In the last month, how often have you felt that you were on top of things?*" The higher

the PSS score, the more likely it is that the individual will perceive his or her environmental demands as exceeding his or her ability to cope.

Independent variables and Dependent variables

The independent variables were gender, years in college, and GPA. The dependent variables were stress, causes of stress, and coping strategies.

Data Analysis

The Statistical Package for the Social Sciences (SPSS) version 26 was used to analyze key variables. Descriptive statistics were used to summarize levels of stress, causes, and stress management techniques. Inferential Statistics, specifically t-tests and Pearson correlations (r), were performed to test group independence and correlation between variables.

Results

Demographic Information

A convenience sample of 123 college students from a Southern California university was used for this study. Of all participants, 42% ($n = 52$) were male and 58% ($n = 71$) were female as shown in Table 1. Of the 123 participants, 47% ($n = 58$) were freshmen college students and 53% ($n = 65$) were senior college students as shown in Table 2.

Major Findings

The PSS-10 stress score for college freshmen was ($M = 20.00$, $SD = 6.79$), and for college seniors it was ($M = 17.63$, $SD = 6.90$). This indicates that freshmen college students experience more stress than senior college students. Furthermore, the mean coping score for freshmen was ($M = 18.25$, $SD = 1.92$), while the mean coping score for seniors was ($M = 17.86$, $SD = 1.85$). This indicates that, of the ten causes of stressors, both freshmen and seniors reported that academic workload and financial obligations were the two common causes of stress. Freshmen college students reported that academic workload was “very often” a source of stress (32%) and financial obligations were “fairly often” a source of stress (25%). College seniors reported that academic workload was “very often” a source of stress (38%) and financial obligations were “fairly often” a source of stress (31%).

Research Question 1. The first research question investigated was, “*Do perceived stress levels differ between freshmen college students and senior college students?*” The alternative hypothesis was, “*There is no significant difference among freshmen college students’ perceived stress levels, and senior college students’ perceived stress levels.*” An independent samples t-test was performed to test the hypothesis. No significant difference was found ($t(121) = 1.92$, $p = .06$). The mean perceived stress levels score among college freshmen students ($M = 20.00$, $SD =$

6.79) was not significantly different from the mean score of college senior ($M = 17.63$, $SD = 6.90$). These results suggest that perceived stress does not differ based on year in college (Table 3).

Research Question 2. The second research question investigated was, “*Is there any correlation between levels of stress and coping strategies in college students?*” The alternative hypothesis was, “*There is no correlation between levels of stress and coping strategies.*” A Pearson’s correlation was performed to test the hypothesis. An extremely weak negative correlation was found, meaning no significant association was found ($r(121) = -.007$, $p = .94$) as shown in Table 4. The results suggest that perceived stress level does not have a relationship with coping strategies. An inverse relationship exists between perceived stress levels and coping strategies.

Research Question 3. The third research question investigated was, “*Is there any relationship between stress and academic achievement between freshmen college students and senior college students?*” The alternative hypothesis was, “*There is no significant relationship between stress and academic achievement of freshmen college students and senior college students.*” Pearson’s correlation was performed to test the hypothesis. An extremely weak positive relationship was found ($r(121) = .003$, $p = .97$), meaning that there was no statistically significant relationship. Perceived stress is not related to academic achievement as shown in Table 5.

Discussion

Summary of Major Findings

The first research question explored the perceived stress level differences between freshmen college students and senior college students. The main findings of this study concluded that the PSS-10 stress scores for freshmen college students was higher than that of senior college students. However, the results obtained from this study were not statistically significant ($t(121) = 1.916, p = .06$). The findings of this study are consistent with the findings of Gaither (2000), where freshmen college students (37%) reported to have more stressful experiences than college seniors (32%) who reported less stressful experiences.

In this study, it was hypothesized that the mean score of perceived stress differ among genders. The study did not show that a statistically significant difference occurred because of the gender variable ($t(121) = -.260, p = .80$). According to the findings of this study, female college students reported to have experienced higher stress than male college students. The results of this study are similar to the results of the studies carried out by Pariat et al. (2014) and Thawabieh and Qaisy (2012). The results of this study do present some inconsistencies with the findings of Chen et al. (2009), where the study revealed that male students reported a higher level of stress than female students.

The second research question explored the correlation between levels of stress and coping strategies among college students. This study found a weak negative correlation that was not statistically significant ($r(121) = -.007, p = .94$). The study found that college students used both positive and negative coping strategies, like yoga, training, praying, family, reading, shopping, movies, music, friends, TV, drinking, and smoking. However, freshmen college students and senior college students identified yoga, movies, and training as the top three positive coping

strategies, and drinking and smoking as the top two negative coping strategies. The results of this study are inconsistent with Pariat et al.'s (2014) findings, which stated that college students thought positive coping strategies like meditation, prayer, and sleep were found to be very helpful to combat stress (significant at .05 level). The result is also consistent with the findings of Pierceall and Kiem (2007). However, the results of the study are supported by the findings of Mathew (2017) who stated that each student suffers from different kinds of stress and students may lack proper coping strategies to combat stress.

The third research question examined the relationship between stress and academic achievement between freshmen college students and senior college students. A weak positive correlation that was not statistically significant was found ($r(121) = .003, p = .97$). This study contradicts the findings of Varghese et al. (2015), which stated that an inverse relationship existed between perceived stress and academic performance. That is, the higher the stress experienced by students, the lower their academic performance. Almost most of the participants (42.3%; $n = 52$), fairly often felt academic work added to their level of stress. The findings of the study seem to be consistent with the study by Ong and Cheong (2009), which showed that the top five most frequently reported stressors were academic workload, too many tests, challenging courses, and exam grades.

Public Health Implications

Young adults transitioning from high school to university are often moving away from home for the first time. During this period, they are cut off from family and friends who have provided significant social support in their lives. A student graduating from high school and wanting to go to college for higher education finds life exciting but the transition period can also

be very stressful. In college, a lot has to be done in the limited time available. Student accommodations, finance, food, and travel can all present daunting problems in the first week.

In this study, freshmen college students and senior college students used both positive and negative tools as their coping mechanisms. College students' smoking and alcohol consumption constitute a significant challenge for the health and well-being of students. Alcohol consumption affects long-term memory and concentration levels as well as psychomotor tasks. The study presents a moderate stress level among freshmen college students and senior college students. However, increased stress will predict a higher likelihood of smoking and alcohol consumption. Student stress that is not resolved through positive coping strategies may impact the student's cognitive, emotional, physical, and behavioral well-being.

Cognitive symptoms include memory loss, inability to concentrate, poor judgment, pessimistic approach or thought, anxious or racing thoughts, and constant worrying. Emotional symptoms include moodiness, irritability, short temper, agitation, inability to relax, feeling overwhelmed, sense of loneliness, isolation, and sadness. Physical symptoms include headache and pains, diarrhea or constipation, increased frequency of urination, indigestion, changes in blood glucose, nausea, dizziness, chest pain, rapid heartbeat, loss of sex drive, frequent colds, and in women irregular periods. Behavioral symptoms include increased or decreased appetite, sleeping less or too much, isolating oneself, procrastinating, neglecting duties, taking alcohol, cigarettes or drugs to relax, and nervous habits such as nail-biting or pacing. Each of these areas can greatly affect the mental and physical health of college students, therefore teaching them positive coping strategies to reduce stress is important. College freshmen and seniors stress reduction may include eating well, making new friends, setting clear goals, engaging in sports activities, seeking full-time employment, and studying part-time.

Based on the findings from the present study, it is essential for future prevention efforts by college administration to reduce the rate of smoking and alcohol consumption among college students. College administrators can utilize the findings of this study to develop counseling programs on smoking and drinking on college campuses. College students can use the results of this study to adopt positive coping tools like yoga, training, and reading. College administration can also include yoga in the general education curriculum for which students can register at zero units.

Study Limitations

There were several limitations to this study. First, data were collected in the fall semester of 2017, which is the beginning of the academic session; therefore, students' perceived stress levels might vary at this time as compared to the end of the semester or end of the academic school year. Additionally, a convenience sample of 123 participants was used for this research. The sample excludes a higher proportion of the population on campus. Since the sample for this study is not a representative of the entire student population, the results of the study cannot speak for the whole of the student population. The use of a convenience sample may result in low external validity of the study. Respondents may have been affected by social acceptability bias and self-report bias when answering questions. College student stress and coping strategies were assessed only with self-reported measures, and the college environment and context were not evaluated. The results cannot be generalized to apply to other methods of investigation. Finally, the current findings only explained perceived stress and coping strategies of students on campus. The study focused on only the general stress of college student and not their specific stressors. The findings cannot be generalized to include other stressors, such as sexual harassment, campus violence, etc.

Study Recommendations

College students using alcohol and drugs as a coping strategy to reduce stress can create problems. These problems are not only limited to those students who engage in this behavior but also for their peers. Students' illicit behavior may cause other students to suffer a range of consequences from having their sleep or study interrupted to being physically and/or sexually assaulted.

With this in mind, there are several recommendations for policy stemming from the results of this study and literature review:

1. To reduce the use of drug and alcohol consumption among college students on campus, universities should incorporate drug and alcohol screening as a mandate for entering the first year. The screening exercise can be conducted regularly.
2. Introduce the Drug-Free Schools and Campuses Act to all freshmen college students.
3. Develop policies that prohibit the unlawful use, possession, sale, or distribution of alcohol or controlled substances by all students and campus employees.
4. Include in the university's policy specific federal, state, and local laws that apply within the campus' jurisdiction and the penalties that will be imposed for violations.
5. All social event on campus must be registered and approved by the college authorities.
6. Include in the curriculum for students a mandatory, zero-unit course in yoga, martial art, and/or music.
7. Restrict outdoor advertising of alcohol and other substances within the vicinity of the college campus.
8. Develop effective pro-health and safety messages that would counter alcohol advertising on television or social media.

9. Reduce the number of registered classes for freshmen college students.

To implement the abovementioned policies as well as lead to an overall reduction of students' stress:

1. College administrators can seek funding to implement feeding programs for low-income students.
2. Prohibit the sale of alcohol and cigarettes within and around the college campus.
3. Encourage social clubs that promote sports, homework assistance, and healthy eating habits.
4. Establish an exercise center and encourage students to use the facility regularly.
5. Create counseling programs that educate students according to the nature of the problems they face, clarify the causes, and discuss how to treat the problems.
6. Encourage students to use the no-cost mental health counselors available in campus wellness centers.
7. Take advantage of social media to promote suitable coping activities like yoga, prayer, exercise, and reading.
8. Develop campus health promotion apps that encourages student to engage in positive coping activities.

References

- Altaf, S., & Kausar, H. (2013). Effect of perceived academic stress on students' performance. *FWU Journal of Social Sciences*, 7(2), 146-151 146.
- Ansari, W. E., Adetunji, H., & Oskrochi, R. (2014). Food and mental health: Relationship between food and perceived stress and depressive symptoms among university students in the United Kingdom. *Central European Journal of Public Health*, 22(2), 90-7.
- Cho, S.H., Xu, Y., & Kiss, D.E. (2015). Understanding students loan decisions: A literature review. *Family and Consumer Sciences Research Journal*, 43(3), 229-243.
<https://doi.org/10.1111/fcsr.12099>
- College Board (2014). Trends in college pricing. Retrieved from
http://trends.collegeboard.org/college_pricing
- Feld, L.D. (2011). Student stress in high-pressure college preparatory schools. Retrieved from
https://wescholar.wesleyan.edu/cgi/viewcontent.cgi?article=1684&context=etd_hon_the_ses
- Gaither, A. S. (2000). Stress differences between college freshman and senior students. Johnson C. Smith University. Retrieved from
https://s3.amazonaws.com/academia.edu.documents/54059054/Stress_differences_between_college_freshmen_and_senior_students_1.pdf?response-content-disposition=inline%3B%20filename%3DStress_differences_between_college_fresh.pdf&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIWOWYYGZ2Y53UL3A%2F20190814%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Date=20190814T105310Z&X-Amz-

Expires=3600&X-Amz-SignedHeaders=host&X-Amz-

Signature=2fee23943c9c4de2aed8093b5d29b119fb46929afeb36582f478648eda5777cb

Heckman, S., Lim, H., & Montalto, C. (2014). Factors related to financial stress among college students. *Journal of Financial Therapy*, 5(1) 3. <https://doi.org/10.4148/1944-9771.1063>

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer Publishing Company.

Mathew, C. P. (2017) Stress and coping strategies among college students. *IOSR Journal of Humanities and Social Science*, 22(8), 40-44.

Matud, M. (2004). Gender differences in stress and coping styles. *Personality and Individual Differences*, 37, 1401-1415. doi: 10.1016/j.paid.2004.01.010.

Misra, R., & McKean, M. (2000) College students' academic stress and its relation to their anxiety, time management, and leisure satisfaction. *American Journal of Health Studies*, 16(1), 41-51.

Morra, D. J., Regehr, G., & Ginsburg, S. (2008). Anticipated debt and financial stress in medical students. *Medical Teacher*, 30(3), 313-315. doi: 10.1080/01421590801953000.

Nora, A., Barlow, L., & Crisp, G. (2006) Examining the tangible and psychosocial benefits of financial aid with student access, engagement, and degree. *Sage Journal*. Retrieved from <https://doi.org/10.1177%2F0002764206289143>.

Northern, J. J., O'Brien, W. H., & Goetz, P. W. (2010). The development, evaluation, and validation of a financial stress scale for undergraduate students. *Journal of College Student Development*, 51(1), 79-92. doi: 10.1353/csd.0.0108.

Ong, B., & Cheong, K. C. (2009). Sources of stress among college students—the case of a credit transfer program. *College Student Journal*, 1279-1286.

- Pariat, L., Rynjah, A., & Kharjana, M. G. (2014). Stress levels of college students: Interrelationship between stressors and coping strategies. *Journal of Humanities and Social Science, 19*(8), 40-46.
- Park, C., & Adler, N. (2003). Coping style as a predictor of health and well-being across the first year of medical school. *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association, 22*, 627-31. 10.1037/0278-6133.22.6.627.
- Pierceall, E.A., & Keim, M.C. (2007). Stress and coping strategies among community college students. *Community College Journal of Research and Practice*. Retrieved from <https://doi.org/10.1080/10668920600866579>
- Ptacek, J. T., Smith, R. E., & Dodge, K. L. (1994). Gender differences in coping with stress: When stressor and appraisals do not differ. *Personality and Social Psychology Bulletin, 20*, 421–430.
- Qaisy, D. A. (2012). Assessing stress among university students. *American International Journal of Contemporary Research*. Retrieved from https://www.aijcrnet.com/journals/Vol_2_No_2_February_2012/13.pdf
- Reddy, K. J., Menon, K. R., & Thattil, A. (2018). Academic stress and its sources among university students. *Biomed Pharmacol J, 11*(1).
- Shahmohammadi, N. (2011). Students' coping with stress at high school level, particularly at 11th & 12th grade. *Procedia – Social and Behavioral Sciences, 395-401*. Retrieved from <https://doi.org/10.1016/j.sbspro.2011.10.078>

- Steinberg, A., & Ritzmann, R. F. (1990). A living systems approach to understanding the concept of stress. *Behavioral Science*, 35(2), 138-146.
<http://dx.doi.org/10.1002/bs.3830350206>
- Szafran, Robert. (2002). The effect of academic load on success for new college students: Is lighter better? *NACADA Journal*, 22, 26-38. doi: 10.12930/0271-9517-22.2.26.
- T. SelvinJebaraj Norman Reney P. Varghese, Dr & Thavaraj, Samuel. (2015). Perceived stress and self-efficacy among college students: A global review. *International Journal of Human Resource Management and Research (IJHRMR)*, 5, 15-24. doi: 10.2139/ssrn.2703908.
- Toews, J. A., Lockyer, J. M., Dobson, D. J., & Brownell, A. K. (1993). Stress among residents, medical students, and graduate science (MSc/PhD) students. *Academic Medicine*, 68(10, Suppl), S46-S48. Retrieved from <http://dx.doi.org/10.1097/00001888-199310000-00042>
- Tyrrell, J. (1992). Sources of stress among psychology undergraduates. *The Irish Journal of Psychology*, 13(2), 184-192. Retrieved from <http://dx.doi.org/10.1080/03033910.1992.10557878>
- Wilks, S. E. (2008). Resilience amid academic stress: The moderating impact of social support among social work students. *Advances in Social Work*, 9(2), 106125.
- Yikealo, D., Tareke, W., & Karvinen, I. (2018). The level of stress among college students: A case in the College of Education, Eritrea Institute of Technology. *Open Science Journal*, 3. doi: 10.23954/osj.v3i4.1691.

- | | | |
|---------------------------|------------------------------|-----------------------------|
| j. Shopping | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| k. Drinking alcohol | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| l. Smoking cigarettes | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| m. Watching YouTube video | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| n. Walking | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

For each of the following questions below, circle the response that best characterizes how you feel about the statement below:

0=Never, 1= Almost never, 2=Sometimes, 3=Fairly often, 4=Very often

12. How often do you feel academic work adds to your level of stress? _____
13. How often do you feel your extracurricular activities add to your levels of stress? _____
14. How often do you feel your job adds to your stress level? _____
15. How often do you feel your financial obligations add to your stress level? _____
16. How often do you feel friends adds to your level of stress? _____
17. How often do you feel significant others adds to your level of stress? _____
18. How often do you feel family add to your level of stress? _____
19. What year are you?
 Freshman
 Sophomore
 Junior
 Senior
20. What is your gender?
 Male Female
21. How many units are you taking? _____ (enter in units)
22. How many hours do you work a week? _____ (enter in number of hours)
23. What is your GPA? _____ (write your GPA in number: e.g., 3.10)

Appendix B: Redacted Thesis Approval

Institutional Review Board

Fri 4/26, 12:16 PM

RE: IRB Review

IRB No.: 097-1819-NHSR

Project: Stress Levels among College Students

Date Complete Application Received: 4/26

Principle Investigator: Marcus Sesay

Faculty Advisor: Sangmin Kim

College/Department: CHS

IRB Determination: Not Research with Human Participants– IRB review has determined that this project does not meet the federal guidelines for research with human participants (definitions available in the IRB handbook) and is thus not regulated by the IRB. We will retain copy of your submission, and this determination letter. Please reach out if you have any questions.

Future Correspondence: If you have any questions about this determination, please refer all queries to irb@calbaptist.edu, being sure to include all PIs, Co-PIs, and Faculty Advisors (as relevant) and reference the assigned IRB number.

Date: April 26, 2019

Appendix C: Tables

Table 1

Sex of Respondent

		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
<i>Valid</i>	<i>Male</i>	<i>52</i>	<i>42.3</i>	<i>42.3</i>	<i>42.3</i>
	<i>Female</i>	<i>71</i>	<i>57.7</i>	<i>57.7</i>	<i>100.0</i>
	<i>Total</i>	<i>123</i>	<i>100.0</i>	<i>100.0</i>	

Note: Table 1 shows that out of the sample of 123 respondents, there were 42% (n = 52) male participants and 58% (n = 71) female participants.

Table 2

Respondents' year in college

		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
<i>Valid</i>	<i>Freshmen</i>	58	47.2	47.2	47.2
	<i>Senior</i>	65	52.8	52.8	100.0
	<i>Total</i>	123	100.0	100.0	

Note: Table 2 shows that out of the sample of 123 respondents, there were 47% (n = 58) college freshmen and 53% (n = 65) college seniors.

Table 3

Student Comparison of Stress Levels

		<i>N</i>	<i>Mean</i>	<i>Std Deviation</i>	<i>Std. Error Mean</i>	<i>t-test</i>
<i>Stress Total</i>	<i>Freshman</i>	58	20.00	6.78	.89	.06
	<i>Senior</i>	65	17.63	6.90	.86	

Note: The mean difference between freshmen college students and senior college students concerning perceived stress levels were not significant.

Table 4

Correlation between Perceived Stress Level and Coping Strategies

		<i>Stress Total</i>	<i>Coping Score</i>
<i>Stress Total</i>	<i>Pearson Correlation</i>	<i>1</i>	<i>-.007</i>
	<i>Sig. (2-tailed)</i>		<i>.94</i>
	<i>N</i>	<i>123</i>	<i>122</i>
<i>Coping Score</i>	<i>Pearson Correlation</i>	<i>-.007</i>	<i>1</i>
	<i>Sig. (2-tailed)</i>	<i>.94</i>	
	<i>N</i>	<i>122</i>	<i>122</i>

Note: An extremely weak negative association between perceived levels of stress and coping strategies. r = Pearson's Correlation. $P > 0.05$.

Table 5

Relationship between Perceived Stress and Academic Achievement

		<i>Stress Total</i>	<i>What is your GPA?</i>
<i>Stress Total</i>	<i>Pearson Correlation</i>	<i>1</i>	<i>.003</i>
	<i>Sig. (2-tailed)</i>		<i>.97</i>
	<i>N</i>	<i>123</i>	<i>123</i>
<i>What is your GPA</i>	<i>Pearson Correlation</i>	<i>.003</i>	<i>1</i>
	<i>Sig. (2-tailed)</i>	<i>.97</i>	
	<i>N</i>	<i>123</i>	<i>123</i>

Note: An extremely weak positive relationship of perceived stress and academic achievement that was not significant. r = Pearson's Correlation. $P > 0.05$.

Table 6

Comparison of Student Coping Score

		<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Std. Error Mean</i>
<i>Coping Score</i>	<i>Freshman</i>	57	18.25	1.92	.25
	<i>Senior</i>	65	17.86	1.85	.23

Note: The mean difference between freshmen and senior concerning coping score were not significant.

Table 7

Comparison of Student year in college and Coping Strategies

		<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Std. Error Mean</i>
<i>yoga</i>	<i>Freshman</i>	58	1.91	0.28	0.04
	<i>Senior</i>	65	1.88	0.33	0.04
<i>training</i>	<i>Freshman</i>	57	1.61	0.49	0.07
	<i>Senior</i>	65	1.69	0.47	0.06
<i>praying</i>	<i>Freshman</i>	58	1.22	0.46	0.06
	<i>Senior</i>	65	1.15	0.36	0.05
<i>music</i>	<i>Freshman</i>	58	1.05	0.22	0.03
	<i>Senior</i>	65	1.05	0.21	0.03
<i>TV</i>	<i>Freshman</i>	58	1.43	0.50	0.07
	<i>Senior</i>	65	1.34	0.48	0.06
<i>movies</i>	<i>Freshman</i>	58	1.38	0.49	0.06
	<i>Senior</i>	65	1.31	0.47	0.06
<i>reading</i>	<i>Freshman</i>	58	1.55	0.50	0.07
	<i>Senior</i>	65	1.62	0.49	0.06
<i>friends</i>	<i>Freshman</i>	58	1.17	0.38	0.05
	<i>Senior</i>	65	1.06	0.24	0.03
<i>family</i>	<i>Freshman</i>	58	1.31	0.50	0.07
	<i>Senior</i>	65	1.26	0.44	0.05
<i>shopping</i>	<i>Freshman</i>	58	1.78	0.46	0.06
	<i>Senior</i>	65	1.64	0.48	0.06
<i>drinking</i>	<i>Freshman</i>	58	1.91	0.34	0.04
	<i>Senior</i>	65	1.88	0.33	0.04
<i>Smoking</i>	<i>Freshman</i>	58	1.91	0.28	0.03
	<i>Senior</i>	65	1.98	0.12	0.02

Note: The mean difference between freshmen and senior concerning coping strategies were not significant.