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# ANXIETY AND DEPRESSION IN MIDDLE EASTERN AND NORTH AFRICAN FIRST-GENERATION COLLEGE STUDENTS: IMPLICATIONS FOR ACADEMIC SUCCESS

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ANXIETY AND DEPRESSION IN MIDDLE EASTERN AND NORTH AFRICAN  
FIRST-GENERATION COLLEGE STUDENTS: IMPLICATIONS FOR  
ACADEMIC SUCCESS

BY

MERNA NAGUIB

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF  
MASTER OF SCIENCE  
IN  
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UNIVERSITY OF RHODE ISLAND

2023

MASTER OF SCIENCE THESIS

OF

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UNIVERSITY OF RHODE ISLAND

2023

## **ABSTRACT**

Mental health disorders such as anxiety and depression are highly prevalent among first-generation college students, and can hinder their academic performance (BlackDeer et al., 2021). The current study sought to examine the prevalence of anxiety and depression among first-generation Middle Eastern/North African (ME/NA) college students and how that may impact academic performance. The data for this study came from the American College Health Association National College Health Assessment (ACHA-NCHA), which is a leadership organization that advances the health of college students and campus communities through education, research, and advocacy. The sample in this study included 37,869 participants who identified themselves as first-generation college students and as Middle Eastern/North African (ME/NA) or White. A series of logistic regressions and moderation analyses were utilized to examine the relationship between ME/NA first-generation status and anxiety and depression and its possible impact on GPA. Findings indicate that being ME/NA and first generation in college increases the likelihood of experiencing depression and having a low GPA. Results also indicate that white first-generation students have higher rates of anxiety, but a higher GPA.

## ACKNOWLEDGEMENTS

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## PREFACE

This thesis was prepared according to the University of Rhode Island graduate school Manuscript Thesis Format and follows the author guidelines for *the Journal of Mental Health and Clinical Psychology*. Upon submitting this thesis to the graduate school, this manuscript may be submitted for publication.

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## **Manuscript Publication**

This thesis was prepared according to the University of Rhode Island graduate school Manuscript Thesis Format and follows the author guidelines for *the Journal of Mental Health and Clinical Psychology*. Upon submitting this thesis to the graduate school, this manuscript may be submitted for publication.

## CHAPTER I

### INTRODUCTION

Ethnic minority groups often face significant health disparities as a result of psychosocial influences, and while there has been research conducted regarding college student mental health, ethnic minorities have only recently been studied within the mental health scope (Okazaki & Sue, 2016). Unfamiliar collegiate environments coupled with academic and social challenges have an impact on a student's overall academic performance as well as their mental health and development. Although college can be a challenging time for all students, first generation students experience unique challenges that impact their mental well-being and academic success.

First-generation students tend to feel less prepared for the adjustment period that occurs in college which is crucial in the development of positive mental health and adequate academic completion throughout one's college career (Gibbons et al., 2019). They often report feeling less supported by parents, peers, and even faculty members, and notice the overall lack of transitional adjustment support when entering college (McCoy, 2014). Research on the mental health and wellness of college students has increased exponentially in recent years especially in regard to first generation students. Nearly 56% of college students identify as first-generation and 30% of college students are first-generation students of color (Schulyer et al., 2021).

The reality of being an ethnic minority first-generation college student means that there is a lack of benefit from parental knowledge and guidance, and lower self efficacy than white first-generation students (Schulyer et al., 2021). Additionally, it is often assumed that the causes of mental health challenges are similar for college students of all

racess and ethnicities, as certain populations are neglected or assumed to respond the same way. In fact, a study conducted by Kodish and colleagues (2022) found racial/ethnic differences in rates of anxiety, depression, and suicidality among 2,090 college students. Latinx students were more likely to be severely depressed compared to white students, and African American students were found to be more anxious than white and Asian American students.

However, in terms of Middle Eastern and North African (ME/NA) college students, there is little to be known regarding their mental well-being. Transitioning from high school to college has been shown to be difficult for students of all types of backgrounds, but there is a unique challenge for first-generation ME/NA students due to the risk factors that put them at a disadvantage when it comes to academic success. Existing evidence suggests that ME/NA health differs from other minority racial and ethnic groups in the US, and therefore varying exposures can be indicators of poor mental health (Gharibian & McCarty-Caplan, 2022). An interesting finding by Lipson et al., (2018) reported that Arab American college students have the highest prevalence of mental health problems despite representing an understudied population regarding mental health.

A better understanding of various facets of ME/NA health, such as mental health for instance, would be beneficial in reducing barriers for engaging in mental health treatments and improving inclusivity in healthcare for diverse populations. The purpose of this study is to explore the association between first generation status in ME/NA college students, mental health outcomes including anxiety and depression, and GPA. This study aims to build on existing literature by distinguishing how ME/NA

first-generation college students experience depression and anxiety, and how that may impact academic success, measured in this study through GPA.

Due to the unique circumstances and challenges that first-generation college students experience, there are many psychosocial factors that influence their mental health. Factors such as socioeconomic status, cultural barriers, and gender biases can all have a negative effect on the mental well-being of a first-generation student as they are forced to adapt to a new intellectually demanding environment of higher education and the social pressures of being an emerging adult during college years (Zvolensky et al., 2016). Previous literature provides an important contribution to understanding how acculturative stress and immigrant generational differences contribute to anxiety and depression in first-generation people, but it does not provide an in-depth understanding of mental health illnesses within immigrant adolescents and emerging adults. In particular, there remains little information regarding the experiences of first-generation ME/NA students and their mental health.

## CHAPTER II

### REVIEW OF LITERATURE

Shonkoff & Phillips (2000) discuss how children are not just passive products of the culture they are raised in but are active agents who shape their own distinctive cultural context over time, and this development continues to build and transform as some children grow and transition into the college years. Depending on the age that a child or adolescent originally immigrates, or whether their parents immigrated, their cultural upbringing can have a crucial impact on their psychosocial development and therefore have an influence on their mental well-being throughout their lives.

Acculturation is defined as the process of cultural change and socialization which occurs when an individual is exposed to prolonged, continuous, first-hand experiences in a different culture with which they are not familiar. This concept has also been explained as a divergence in which a racial or ethnic minority person experiences when exposed to a different or new culture (Bahk et al., 2017).

Berry's (1980) model of acculturation and acculturative stress provides significant insight into the explanation of acculturative stress among ME/NA immigrants. This model organizes cultural acquisition and cultural retention into four categories: assimilation, separation, integration, and marginalization. Within this model, a number of outcomes can occur. An individual can either adopt the receiving culture and reject their own (assimilation), retain their own culture and reject the new/receiving culture (separation), retain their own culture and adopts the new culture as well (integration), or reject their own and the new culture all together (marginalization). Based on this knowledge, it has been assumed that the integration category is the most favorable

psychosocial outcome for young immigrants, as it allows them to partake in both cultures (David et al., 2009).

However, the degree to which integration, and therefore, acculturation is successful depends on how similar the new culture is to one's own culture and their own experiences with stigma, discrimination, and social adjustment (Rudmin, 2003). Failure or difficulty in the process of acculturation has been shown to negatively impact physiological and physical wellbeing, leading to acculturative stress (Berry & Kim, 1988). The process of acculturation can be seen on an individual level through the adoption of a new culture's customs, attitudes, behaviors, and norms, and has been linked to changes in psychological and physical well-being (Worthy et al., 2020). For example, moving from a collectivist culture to an individualistic culture and confronting these differences during childhood and adolescence can negatively impact one's development as they acclimate to a new environment (Titzmann & Fuligni, 2015).

Literature related to ME/NA immigration suggests that acculturative stress due to discrimination and stigmatization can result in elevated rates of psychological disorders such as anxiety and depression (Gharibian & McCarty-Caplan, 2022). Research within ethnic minority immigrants suggests an association among acculturation status, ethnic identity and positive psychological functioning (Chae & Foley, 2010). First-generation status has oftentimes been linked to recent immigration status and acculturative stress (Dawson & Panchandadeswaran, 2010), and racial discrimination and major racist events were related with higher levels of acculturative stress among immigrants (Finch et al., 2001). Recent immigration status increases acculturative stress because of the pressure to

learn a new language, finding a safe community to live, and establishing a social support system, all while experiencing isolation in a new country (Cervantes et al., 2013).

A recent longitudinal study conducted on culturally diverse adolescents suggested that acculturative stress can be a risk factor for depression and an increase in acculturative stress is related to an increase of depressive symptoms (Bae, 2020). In fact, a study conducted by Joo & Shin (2013) found that acculturative stress is one of the major risk factors for depression among multicultural adolescents. This is important to consider because adaptation to immigrating during childhood and adolescence contributes to improved normative developmental tasks and psychological adjustment, meaning lack of adaptation to a new culture can negatively impact psychological well-being (Juang & Syed, 2019).

### ***Mental health in diverse first-generation college students***

A first-generation student is defined as a student whose parents did not complete a 4-year college or university degree (U.S. Department of Education, 2016). Being a first-generation college student often yields increased cognitive-emotional and somatic anxiety symptoms due to the pressure of language and cultural barriers (Noel et al., 2021). A study by Abdulhamed et al., (2022) looked at anxiety and depression among first- and second-generation immigrant adolescents in Finland. They found that first-generation adolescents were much more likely to report mental health symptoms and scored higher than non-first-generation individuals on all mental health measures that were examined. Additionally, 42% of the first-generation immigrant participants reported that they could not discuss their personal worries and feelings with anyone, and more



than one-fifth of them do not talk about personal issues with their parents. This was found to be an issue among first-generation adolescents and may possibly be a predictor of mental health symptoms in college years as well.

Due to the complexity of the higher education academic system, families of first-generation students may be unable to guide them through financial barriers and social networks. Furthermore, self-stigma and perceived stigmatization of ethnic and minority college students has been shown to predict higher levels of psychological distress and untreated mental health difficulties (Cheng et al., 2013). Being a first-generation college student places individuals at unique risks for mental health issues and decreases the likelihood of seeking any sort of treatment or counseling due to perceived cultural and social stigma, as well as lack of environmental support (Garriott et al., 2017). Greater anxiety symptoms in first-generation college students have also been thought to be caused by increased acculturative stress and stress in general (Noel et al., 2021). A lack of support from family networks places extra pressure on first-generation students and in turn raises their levels of stress and anxiety (Wilbur, 2021). This suggests that individuals from different cultural backgrounds are at risk of experiencing more stress, and potential stress-inducing occurrences, due to their ethnic minority status (Arbona & Jimenez, 2014).

In contrast, it is important to consider that resilience and social support have also been shown to be protective factors against anxiety and depression among first- and second-generation immigrant adults in the United States (Held et al., 2022). An increase in physical activity, supportive family members, healthy established relationships among females, and social involvement, have all been shown to be protective factors against

developing stress, anxiety, and depression symptoms among college students (Mofatteh, 2021). Although being a first-generation student belonging to an ethnic minority in the United States has shown to be associated with elevated anxiety levels, there remains to be a lack of knowledge regarding anxiety among first-generation ME/NA college students.

### ***Anxiety and Depression in diverse first-generation college students***

Depression among diverse first-generation college students continues to be a prominent mental health challenge. The likelihood of experiencing depression is often high, with nearly 20% of students reporting depressive symptoms (Pössel et al., 2017). For first-generation students, this likelihood is much higher due to the burden of financial and academic responsibilities, and lack of social support from family. First-generation college students are more likely to have a diverse or marginalized background such as having a minority status, come from a low socio-economic household, and have immigrant families (Suwinyattichaiorn & Johnson, 2022). Therefore, they face unique mental health challenges in college as well as social and academic challenges that impact their success and mental well-being.

Jeong, Kim, & Lee (2021) conducted a cross-sectional survey comparing the psychological well-being, life satisfaction, and emotional support of first-generation college students with non-first-generation college students. The results of this study showed that first-generation college students experienced higher levels of anxiety and lower life satisfaction than non-first generation students. This correlated with previous findings which explored the use of mental health services and status of first-generation students and found greater levels of depression and stress while also reporting low mental

health service utilization (Stebbleton et al., 2014). A research study looking at depressive symptoms and mental health treatment in a diverse college student sample revealed that 40% of participants reported mild to moderate levels of depressive symptoms, while 10% reported high levels of depressive symptoms. In terms of mental health treatment utilization, white students were 3.7 times more likely to receive mental health services compared to ethnic minority students, of which there were no differences found among mental health utilization (Herman et al., 2011).

The social stigma of mental illness in many culturally diverse communities has been known to inhibit first-generation college students from seeking mental health treatments (Talebi et al., 2013). Institutional barriers such as lack of cultural and ethnic representation among mental health services can often prevent first-generation students from seeking help, particularly in a college setting where identity exploration and community connectedness is encouraged (Stephens et al., 2014). Interestingly, college students who have depression tend to have a stigmatized attitude more often than students without depression (Schwenk et al., 2010). Previous studies on college student mental health have identified characteristics associated with stigmatized attitudes towards mental illness such as lower-levels of education, strong religious beliefs, lower socio-economic status, ethnic background, younger age, and being male (Wada et al., 2019, Lally et al., 2013).

Furthermore, acculturative stress in ethnic minority students has been found to increase depressive symptoms and decrease the ability to cope with those symptoms (Mayorga et al., 2018). Greater family dysfunction, acculturative stress, and less religiosity were associated with depression among some Arab American individuals,

suggesting that acculturation strategy is related to mental health (Amer & Hovey, 2007). Despite these significant findings, there is little empirical evidence regarding how ME/NA first-generation college student mental health is impacted by their ethnicity and first-generation status and its relation to academic success, as existing literature focuses on other ethnic minority groups.

### ***Academic Success among first-generation college students***

First-generation students face many challenges throughout their college years that hinder their academic success compared to non-first-generation students. Obstacles such as family and job responsibilities, perceived weak math and english skills, as well as feelings of depression can prove to be problematic when navigating higher education and attaining academic excellence (Stebleton & Soria, 2013). In a study by Eisenberg and colleagues, a significant relationship was found between a lower GPA and depression among first-generation students. Interestingly, when utilizing a longitudinal sample, a lower GPA was also associated with co-occurring symptoms of anxiety and depression (Eisenber et al., 2009).

Another study found family achievement guilt, which is the feelings of guilt regarding one's academic success in comparison to their family members, was significantly related to more depressive symptoms and lower self-esteem among first-generation college students (Covarrubias et al., 2015). Hesitation towards seeking mental health treatments among has been shown to lead to maladaptive coping, which decreases the likelihood of high academic achievement (BlackDeer et al., 2021).

First-generation college students may also experience depression as a byproduct of struggling to achieve high grade point averages which may serve as a gauge of academic success. (Chen, 2005; Redford & Hoyer, 2017). Stigma regarding seeking mental health treatment can also deter individuals from help seeking behaviors and therefore lead to academic difficulties in college among first-generation students. This is because first-generation students often have excessive pressure on them to succeed, therefore are less likely to acknowledge the need for academic help as a way to prove they are competent enough in obtaining a higher education degree (Talebi et al., 2013).

### ***The Current Study***

To address the existing literature gap, the present study aims to examine disparities in rates of anxiety and depression among ME/NA first-generation college students and their impact on academic success. By doing so, the present study extends the current existing literature by analyzing the experiences of ME/NA college students and identifying potential discoveries regarding anxiety and depression such as to what severity, if any, does the target population experience mental health issues. Findings from this study will provide objective information that can be integrated into the development of college students' overall health and academic success through early college programming, improvement in mental health services, as well as inclusivity and representation among college student mental health awareness.

The present study hypothesizes that ME/NA college students will experience higher levels of anxiety and depression and lower GPA than white students. It is hypothesized that first generation ME/NA students will exhibit higher levels of anxiety and depression compared to white students, which will negatively impact their GPA.

*Hypothesis 1:* Being a first-generation college student from Middle Eastern and North African descent will predict elevated levels of anxiety compared to White first-generation students.

*Hypothesis 2:* Being a first-generation college student from Middle Eastern and North African descent will predict elevated levels of depression compared to White first-generation students.

*Hypothesis 3:* The interaction between Middle Eastern and North African students and first-generation status will predict high levels of anxiety and a low GPA.

*Hypothesis 4:* The interaction between Middle Eastern and North African students and first-generation status will predict high levels of depression and a low GPA.

## CHAPTER III

### METHODOLOGY

#### *Procedure*

The present study is using data from the American College Health Association National College Health Assessment (ACHA-NCHA), which is a leadership organization that advances the health of college students and campus communities through education, research, and advocacy. The NCHA assesses a broad range of health issues pertaining to college students such as mental health, nutrition, alcohol and drug use, and personal safety. The data of interest was collected using the ACHA-NCHA III version, and the survey periods were from Fall 2019 through Spring 2022 from 461 schools throughout the United States. The survey was collected via an online format and breakdown of the original sample is as follows: Fall 2019 (n = 38,679), Spring 2020 (n = 50,307), Fall 2020 (n = 13,373), Spring 2021 (n = 96,489), Fall 2021 (n = 33,204), and Spring 2022 (n = 69,131).

#### *Sample*

The original sample consisted of 301,183 individuals, with (n = 192,682) total white students and (n = 5,303) ME/NA students those who identify as undergraduate, white, ME/NA, and report first generation status through their parents' highest form of education, were included in the study as they are the population of interest (n = 48,480). Participants were excluded from the study if responses or data were missing from the composite anxiety variable, Kessler 6 questionnaire, GPA, gender, age, and enrollment status variable. Additionally, a choice was made to only include undergraduate students in the study (n = 37,869).

**Table 1** presents baseline demographic information regarding the original sample of white and ME/NA students in the dataset. In the original sample, there were (n = 192,682) white students and (n = 5,303) ME/NA students. Univariate analyses showed that the total number of white participants in the dataset had lower GPAs and lower anxiety scores than the total number of ME/NA participants. Inversely, results showed that the total number of ME/NA students had higher GPAs and higher depression scores than the total number of white students.

**Table 1.** *Demographic information for original sample of white and ME/NA students and primary study variables*

	<b>White</b>	<b>ME/NA</b>	<b>T-Test</b>
<b>GPA (M)</b>	3.42	3.50	10.31
<b>Anxiety (M)</b>	.660	.634	.619
<b>Depression (M)</b>	8.25	9.38	8.83
<b>First Gen (N)</b>	54,786	1,517	-
<b>Total (N)</b>	192,682	5,303	-

**Table 2** presents baseline demographic information regarding those who are included in the study. The final sample for the analysis was (N = 37,869) between the ages of 18 and 90 (M = 22.42, SD = 6.698). The sample for the study consisted of 72.8% (n=27,564) females and 27.2% (n=10,305) males, with 98.2% (n=37,204) identifying as white and 1.8% (n=665) identifying as Middle Eastern/North African. Of those who participated, the education level was as follows: 24.5% (n=9,271) were 1st year undergraduates, 21.5% (n=8,134) were 2nd year undergraduates, 26.4% (n=10,008) were



3rd year undergraduate students, 20.7% (n=7,836) were 4th year undergraduates, and 6.9% (n=2,620) were 5th year or more undergraduate students. Likewise, 91.7% (n=34,738) were full-time students, and 8.3% (n=3,131) were part-time students.

**Table 2.** *Demographic Characteristics of Sample (n=37,869)*

Demographic Attribute	M	Range	Std. Deviation	N	Total (%)
<b>Participant Age</b>	22.42	18-90	6.598	37,869	
<b>Participant Race</b>					
Middle Eastern/North African (1)				665	1.8
White (2)				37,204	98.2
<b>Participant Gender</b>					
Female (1)				27,564	72.8
Male (2)				10305	27.2
<b>Participant Year in School</b>	2.640	1-4	1.2445		
1st year undergraduate (1)				9271	24.5
2nd year undergraduate (2)				8134	21.5
3rd year undergraduate (3)				10008	26.4
4th year undergraduate (4)				7836	20.7
5th year undergraduate or more (5)				2620	6.9
<b>Enrollment status</b>	1.083	1-2	.2754		
Full-time (1)				34738	91.7
Part-time (2)				3131	8.3
<b>Citizenship</b>	1.050	1-2	.2191		

Citizen/no visa (1)	35953	94.9
Visa (2)	1916	5.1

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## ***MEASURES***

### **Independent Variables**

#### *Ethnicity/Race*

Ethnicity/race was measured through the question “How do you usually describe yourself?” regarding their ethnic background. Options within this question included (1) American Indian or Native Alaskan; (2) Asian or Asian American; (3) Black or African American; (4) Hispanic or Latino/a/x; (5) Middle Eastern/North African (MENA) or Arab Origin; (6) Native Hawaiian or Other Pacific Islander Native; (7) White; (8) Biracial or Multiracial; (9) My identify is not listed above (specification required). Participants were able to select multiple options in addition to indicating they are bi/multiracial, therefore, a decision was made during data analysis to omit responses from participants who identified as biracial or multiracial. This decision was made to avoid complicating the identification of the ME/NA sample.

#### *First-Generation Status*

First-generation status was also utilized as a predictor variable, and was determined through a question regarding parents’ highest level of education and answer choices were as follows: (1) Did not finish high school; (2) High school diploma or GED; (3) attended some college but no degree; (4) Associated degree or trade/technical training; (5) Bachelors; (6) Masters; (7) Doctoral or Professional; or (8) don’t know.

First-generation status was determined through answer choices 1 through 4. Due to the

nature of the question, however, the specific level of education for each individual parent is unidentified.

## **Dependent Variables**

### *GPA*

The study used GPA as a continuous outcome variable. GPA was collected from participants by asking, “What is your approximate cumulative grade average?” Options ranged from 13: A+ (3.75-4.00), 12: A (3.26-3.74), 11: A- (3.00-3.25), 10: B+ (2.84-2.99), 9: B (2.67-2.83), 8: B- (2.50-2.66), 7: C+ (2.34-2.49), 6: C (2.17-2.33), 5: C- (2.00-2.16), 4: D+ (1.76-1.99), 3: D (1.26-1.75), 2: D- (1.26-1.25); 1: F(0.00-1.00); and N/A. This variable was reverse coded to transform a GPA of A = 1 and F=13 to A=13 and F=1.

### *Anxiety*

Anxiety was measured using a 3 point composite scale created by incorporating 2 questions. The first question of the Kessler 6 (K6) screening for non-specific psychological distress which asks “During the past 30 days, how often did you feel Nervous?” with answer choices as follows: (0) *None of the time*; (1) *A little of the time*; (2) *Some of the time*; (3) *Most of the time*; (4) *All of the time*. The second measurement was from a question where participants were asked “Have you ever been diagnosed by a healthcare or mental health professional with any of the following ongoing or chronic conditions?” indicating (1) yes or (0) no and an affirmative response indicated a previous diagnosis of anxiety. The composite score had a point scale as follows: (0) Participants answered no to the diagnosis question and scored 0 to 2 on the K6 question; (1) Participants answered either yes to being diagnosed with anxiety or scored a 3 to 4 on the

K6 question; (2) Participants answered yes to being diagnosed with anxiety and scored a 3 to 4 on the K6 question. The composite score created for anxiety in which a higher score indicated more anxiety.

### *Depression*

Depression was measured through the Kessler 6 (K6) screening for non-specific psychological distress. This scale measures 5 symptoms of depression and 1 symptom of anxiety. The questions were “During the past 30 days, about how often did you feel... *Nervous, hopeless, restless or fidgety, so sad nothing could cheer you up, that everything was an effort, worthless.*” Answer choices followed a likert-scale of (0) *None of the time*; (1) *A little of the time*; (2) *Some of the time*; (3) *Most of the time*; (4) *All of the time*.

Internal consistency for the Kessler 6 in the current sample was high at  $\alpha = .894$ .

### **Data Analyses**

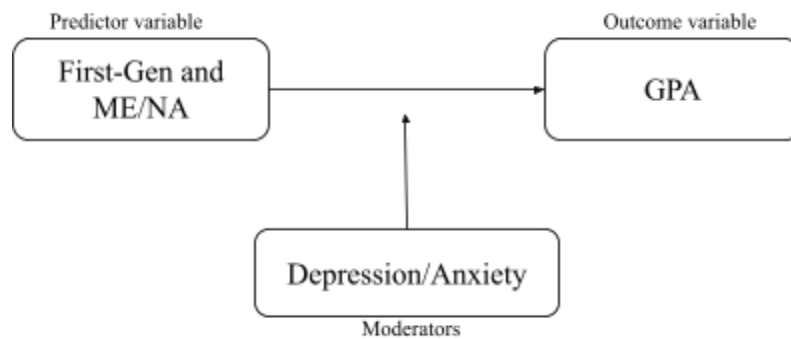
Analyses for this study were completed using Statistical Package for Social Sciences (SPSS) version 28. Univariate analyses such as t-tests, frequencies and descriptives were conducted on demographic and primary study variables to identify missing data and determine which variables needed to be recorded prior to conducting main analyses. The depression variable was recoded to utilize z-scores for regression analyses. Reliability analysis was used to test Chronbach’s alpha of the Kessler-6 depression scale and t-tests were used to test for significance between the primary study variables. Bivariate analyses, such as Pearson Product Moment Correlations, were used to identify significant associations between demographic and primary study variables.

Multivariate analyses, including a series of logistic regressions, were also used to determine if first-generation ME/NA status predicts elevated mental health (anxiety,

depression) outcomes. Interaction terms of first-generation ME/NA status X anxiety and first-generation ME/NA status X depression were entered into each multivariate model to test for moderation effects on academic outcomes (GPA). Any significant correlations between the demographic variables and dependent variables such as gender, year in school, and enrollment status, were controlled for in the regression analyses.

To address the first and second hypothesis of the study, linear regression was used. Standardized beta coefficient values from the analyses determined which variables were the strongest predictors of anxiety and depression among ME/NA and white college students. Four models were utilized for the regression model. In the first model, demographic variables were entered, in the second model, GPA was entered, in the third model, anxiety was entered, and in the fourth model, the depression variable was entered in the regression

**Figure 1.** Model of regression for first-gen ME/NA and impact of depression/anxiety on GPA



$R^2$  Change values were used to determine the amount of variance among anxiety and depression based on the addition of GPA. Variables with higher coefficient values

had a stronger effect on anxiety and depression. A moderator regression analysis was conducted to determine if the same findings were significant among ME/NA students only.

## CHAPTER IV

### FINDINGS

Preliminary analyses were conducted to determine significance of anxiety and depression between ME/NA and white students. Linear regression was conducted to estimate a regression model that best predicted anxiety and depression among first-generation ME/NA and white college students. Results showed significance of high anxiety among white students, but low anxiety among ME/NA students. Additionally, results showed significance of high depression among ME/NA students, but low depression among white students.

Correlations between predictor and outcome variables are presented in **Table 3**. Ethnicity was significantly correlated with anxiety ( $r = .31, p < .01$ ), and negatively correlated with depression ( $r = -.043, p < .05$ ). The results of the Pearson product moment correlation show a statistically significant negative relationship between ethnicity and depression ( $r = -.42, p < .01$ ). Additionally, these results also show a significant moderating relationship between higher anxiety and being white ( $r = .31, p < .01$ ). Gender was negatively correlated with ethnicity ( $r = -.012, p < .05$ ), meaning that there were more female first-generation ME/NA students participating in the survey. Three of the eight demographic variables were associated with white first-generation. Age ( $r = .045, p < .01$ ), year in school ( $r = .331, p < .01$ ), and enrollment status ( $r = .332, .120, p < .01$ ), all produced a significant positive result, signifying that an increase in these areas is correlated with being white.

**Table 3.** Pearson product correlations between demographic and primary study variables

Variable	1	2	3	4	5	6	7	8
1. Ethnicity	-							
2. Gender	-.012*							
3. Age	.007	.045**						
4. Year in school	-.002	.009	.331**					
5. Enrollment Status	.000	.001	.332**	.120**				
6. GPA	-.016**	-.069**	.024**	-.028**	-.049**			
7. Depression	-.042**	-.139**	-.126**	-.032**	-.039**	-.155**		
8. Anxiety	0.31**	-.228**	.006	.037**	.016**	-.087**	.441**	-
M	1.982	1.272	22.42	2.640	1.082	10.27	7.954	1.302
SD	.131	.445	6.958	1.244	.275	1.921	4.634	.569

\* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$

*Controlling for demographic variables:*

A multivariate regression model was utilized in **Table 4.** to estimate a regression model that best predicts anxiety and depression with respect to GPA, while controlling for significant demographic variables: gender, race, year in school, and enrollment status.

*Model 1:* In this model, male (1) was associated with a lower GPA ( $\beta = -.069$ ,  $p < .01$ ). Likewise, less years in school ( $\beta = -.022$ ,  $p < .01$ ) and full-time status (1) ( $\beta = -.046$ ,  $p < .01$ ) were associated with a lower GPA.

*Model 2:* After controlling for all demographic covariates, all factors were significant predictors of low GPA among ME/NA students,  $F(1,37864) = 75.8716$



$p < .001$ . Within factors, being first-generation ME/NA emerged as a significant predictor of a low GPA ( $\beta = -.017, p < .01$ ).

**Table 4.** Regressions predicting GPA based on ethnicity and demographic factors

Variables	<b>Model 1</b>		<b>Model 2</b>	
	$b^b(SE)$	$\beta^c$	$b^b(SE)$	$\beta^c$
<b>Biological Sex</b>	-.299(.22)	-.069**	-.300(.22)	-.069**
<b>Year in School</b>	-.033(.08)	-.022**	-.033(.08)	-.022**
<b>Enrollment Status</b>	-.322(.36)	-.046**	-.322(.36)	-.046**
<b>Ethnicity (ME/NA vs White)</b>			-.247(.75)	-.017**
<b>Adjusted <math>R^2</math></b>	.008		.008	
<b>(df)</b>	(3,37865)		(1,37864)	
<b>Model F</b>	97.509***		75.8716**	

\* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$

A regression analysis using anxiety as the dependent variable and controlling for demographic variables as well as ethnicity is shown in **Table 5**.

*Model 1:* In this model, year in school was positively associated with anxiety ( $\beta = .038, p < .01$ ), meaning the longer a student was in school the higher anxiety reported.

*Model 2:* Likewise in this model, anxiety was positively associated with Ethnicity ( $\beta = .029, p < .01$ ), meaning higher anxiety levels were reported among white students.

**Table 5.** Regressions for predicting anxiety based on ethnicity and demographic factors

Variables	<u>Model 1</u>		<u>Model 2</u>	
	$b^b(SE)$	$\beta^c$	$b^b(SE)$	$\beta^c$
<b>Biological Sex</b>	-.292(.06)	-.228	-.292(.06)	-.228
<b>Year in School</b>	.017(.02)	.038**	.017(.02)	.038**
<b>Enrollment Status</b>	.023(.10)	.011	.023(.10)	.011
<b>Ethnicity (ME/NA vs White)</b>			.125(.22)	.029**
<b>Adjusted<math>R^2</math></b>	.054		.054	
<b>(df)</b>	(3,3786)		(1,37865)	
<b>Model F</b>	715.801		545.562	

\* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$

A regression analysis using depression as the dependent variable and controlling for demographic variables as well as ethnicity is shown in **Table 6**.

*Model 1:* In this model, year in school and enrollment status were equally negatively correlated with depression, meaning those with fewer years of school ( $\beta = -.030, p < .01$ ) and those who identify as part-time (2) are more likely to be depressed ( $\beta = -.030, p < .01$ ).

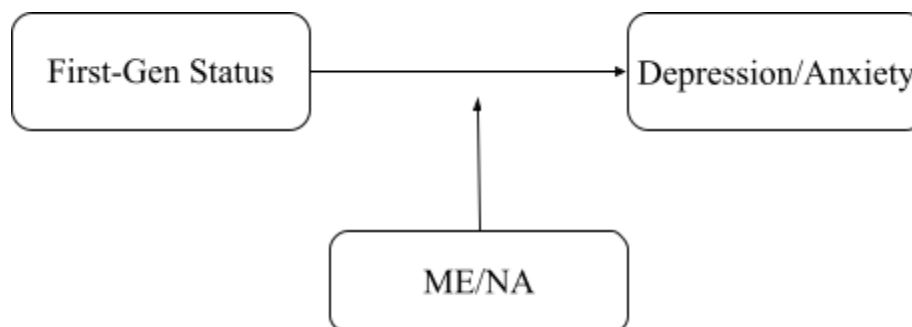
*Model 2:* After controlling for demographic variables and ethnicity, all factors were significant predictors of depression among first-generation students,  $F(1, 3787) = 1194.550, p < .01$ . Within factors, biological sex ( $\beta = -.128, p < .05$ ), year in school ( $\beta = -.030, p < .01$ ), enrollment status ( $\beta = -.030, p < .01$ ), and being ME/NA was significantly associated with higher rates of depression ( $\beta = -.044, p < .01$ ).

**Table 6.** Regressions for predicting depression based on ethnicity and demographic factors

Variables	<u>Model 1</u>		<u>Model 2</u>	
	$b^b(SE)$	$\beta^c$	$b^b(SE)$	$\beta^c$
<b>Biological Sex (Male vs Female)</b>	-0.230(.09)	-.127	-0.231(.09)	-.128*
<b>Year in School</b>	-.019(.03)	-.030**	.019(.03)	-.030**
<b>Enrollment Status</b>	-.087(.15)	-.030**	-.087(.15)	-.030**
<b>Ethnicity (ME/NA vs White)</b>			-.271(.31)	-.044**
<b>Adjusted <math>R^2</math></b>	.018		.020	
<b>(df)</b>	(3,37808)		(1,37807)	
<b>Model F</b>	233.896		194.550	

\* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$

**Figure 2.** Moderation model analysis



Two regression models were utilized to see moderation effects of ME/NA on anxiety and depression. An interaction term of ME/NA x first-gen status was used for the moderation regression models. In **Table 7**, a moderation test was run, with

first-generation as the predictor, depression as the outcome, and ME/NA as the moderating factor. There was a significant main effect found between depression and low GPA among first-gen ME/NA students ( $\beta = -.162, p < .001$ ). There was also a significant interaction between GPA and first-generation status x ME/NA ( $\beta = -.022, p < .001$ )

**Table 7.** Moderator analysis predicting low GPA due to depression in ME/NA first-generation students

Variables	<b>Model 1</b>	
	$b^b$ (SE)	$\beta^c$
<b>First-gen x ME/NA</b>	-.016(.04)	-.022***
<b>Depression</b>	-.386(.12)	-.162***
<b>Adjusted <math>R^2</math></b>	.026	
<b>(df)</b>	(2,37809)	
<b>Model F</b>	512.562	

\* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$

In **Table 8**, a moderation test was run with first-generation being the predictor, anxiety as the outcome, and ME/NA as the moderating factor. A significant main effect was found between anxiety and GPA ( $\beta = -.087, p < .001$ ). However, there was no significant interaction between GPA and first-generation status x ME/NA ( $\beta = -.013$ ).

**Table 8.** Moderator analysis predicting low GPA due to anxiety in ME/NA first-generation students

Variables	<b>Model 2</b>	
	$b^b$ (SE)	$\beta^c$
First-gen x ME/NA	-.010(.04)	-.013
Anxiety	-.167(.10)	-.087***
Adjusted $R^2$	.008	
(df)	(2,37866)	
Model F	148.514	

\* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$

## CHAPTER V

### DISCUSSION

The purpose of this study was to better understand mental health disparities among ME/NA first-generation college students, particularly as they relate to academic success. This research extends the current existing mental health literature by analyzing the experiences of ME/NA college students and identifying potential discoveries regarding anxiety and depression such as to what severity, if any, does the target population experience mental health issues. It was hypothesized that first-generation ME/NA college students will exhibit higher levels of anxiety and depression compared to white students which, in turn, will negatively impact their academic success. Through a series of logistic regression analyses, the results were significant in affirming the link between being a first-generation ME/NA college student experiencing poor mental health.

The first hypothesis for this study was disproved through the findings which indicate that students who are ME/NA and first-generation do not experience significantly elevated levels of anxiety. An interesting discovery was made, however, in that more participants reported feeling anxious but were not diagnosed than those who reported feelings of anxiety and were also diagnosed. A possible explanation for this low prevalence of treatment may be caused by attitudes towards mental health treatment among individuals of diverse cultures, particularly first-generation and immigrant individuals. This is supported by findings from Talebi and colleagues (2013), suggesting that the social stigma of mental illness in many culturally diverse communities has been known to inhibit first-generation college students from seeking mental health treatments.

The stigma surrounding mental health within Arab cultures as a whole may be the reason behind why ME/NA students had an overall lower anxiety score. Moreover, existing literature has suggested that ethnic identity can be used as a protective factor against poor mental health outcomes within ethnic minority adolescents (Stein et al., 2014). School connectedness has also been shown to be a protective factor against poor mental health outcomes, indicating that social factors pertaining to culture and contributing to one's community play a role in the mental health of first-generation ME/NA students. In line with this study's findings regarding why ME/NA students may have reported lower anxiety is supported through existing literature which found that first-generation students feel that earning a higher degree brings honor and pride to their families (Easley et al., 2012).

The second hypothesis is supported, however, as the results of the study indicate that those who are ME/NA and first-generation do experience significantly elevated levels of depression. This finding was expected and mirrors previous research on first-generation students of diverse backgrounds experiencing elevated levels of psychological distress compared to their non-first-generation counterparts (Stebleton et al., 2014). These studies, however, do not seek to examine depression and other mental health outcomes among ME/NA first generation students. In fact, previous research suggests that ME/NA college students have the highest prevalence of mental health problems despite representing an understudied population regarding mental health and have pointed out the gap in existing mental health literature (Lipson et al., 2018).

The third hypothesis is disproved, as findings indicate that the interaction between ME/NA students and first-generation status did not predict high levels of

anxiety, which did not negatively impact GPA. As mentioned previously, lower anxiety in first-generation college students may be overshadowed by other aspects. Feelings of guilt about putting one's needs first and leaving home to attend college may help to explain why ME/NA students' lower anxiety responses had little impact on their GPA. A study by Moreno (2019) supports this idea by surveying first-generation latino college graduates about their experiences of leaving home to pursue higher education. Participants reported feeling guilty for leaving their families and felt that they were abandoning their culture. However, a major motivation to mitigate feelings of guilt and selfishness was to achieve academic success in order to prove that leaving their community and family behind was worth it.

The fourth hypothesis was supported as the interaction between ME/NA students and first-generation status did predict high levels of depression, which negatively impacted GPA. This was not surprising, as first-generation students have a higher likelihood of experiencing high depression rates among other psychological symptoms due to financial burdens, academic responsibilities, and lack of familial support (Jeong, Kim, & Lee (2021). The association between mental health and academic achievement has been well documented among college students. In particular, a very recent study by Abuelezam et al., (2022) examined anxiety and depression in ME/NA students with results showing students who were less religious/did not think religion is important showed higher rates of depressive symptoms, among other mental health outcomes. This is an interesting finding, as it further suggests how religion plays an important role on ME/NA first-generation student mental health. Previous literature emphasizes the effects of depression and overall poor mental health on academic success, however, the link to



mental health and academic success among ME/NA first-generation college students has not been empirically established.

Overall, this study found that although ME/NA first-generation students indicated high depression levels, they are less anxious than their white counterparts, which may be due to the knowledge that the overwhelming stress of applying and being accepted into a university is out of the way (Moffateh, 2021). This may suggest that familial pressure to succeed academically is experienced prior to entering college, or at the beginning of college, and it gradually declines as one adjusts to the expectations and pressures of higher education. Furthermore, this may provide further insight into the experience of first-generation ME/NA students, as there are potential differences between ME/NA college students and their peers such as religiosity, which has sometimes been shown to influence health behaviors in ME/NA individuals by strengthening coping skills and improving physiological well-being (Abu-Ras & Abu-Bader, 2009).

As an example, a study by Chan and colleagues in 2015 examined religiosity across the transition to young adulthood in 413 ethnic minority college students. The results suggested that religiosity and mental health outcomes are moderated by ethnicity as religious African American students reported better mental health outcomes than religious white students. Despite this information, religiosity has been shown to be predictive of lower depression in Muslim Arabs, but higher depression in Christian Arabs, therefore the religious identity of a ME/NA individual may be an important contribution to their mental well-being in college (Amer & Hovey, 2007).

### ***Limitations***

This study explores mental health disparities among ME/NA in the United States as it relates to academic success, a topic that has not been previously researched in depth. Despite the significant contributions to the research gap in this area, a few limitations should be noted. One main limitation is that there was a disproportionately large number of white students who took the survey, therefore the results were skewed in a negative direction to account for ME/NA students being 1.8% of the sample. Since a decision was made to exclude participants who indicated they are bi/multiracial, this sample does not account for those of multiple cultural backgrounds.

Second, the NCHA survey also uses self-report measures for all variables, so a participant's perception of themselves in response to self-reported feelings of anxiety and depression may not always be objective. Additionally, since GPA was self-reported, it too may not be an accurate representation of academic success among the first-generation college students in the study. Furthermore, there were significantly more females who completed the survey, as they accounted for 72.8% of the sample. This can be explained by the growing gender gap that is occurring in higher education, with there being more women in college than men in the recent decades (Gao et al., 2020).

Third, in this study, is that due to it being a pre-existing questionnaire, a composite anxiety variable was created using two different variables regarding a previous diagnosis of anxiety and feeling nervous, which means that a participant's score for that question may have been lower than it would have been should they have had access to a mental health professional for a diagnosis of anxiety.

Furthermore, a limitation that may have influenced a bias in responses, particularly among the ME/NA students, involves the under-reporting of anxiety and depression symptoms due to internalized stigma regarding mental health among Arab cultures. As discussed earlier, since first-generation students tend to come from culturally diverse backgrounds, the communities they are a part of have been known to carry social stigma regarding mental health, which may have contributed to a lack of accurate mental health reporting (Talebi et al., 2013).

Finally, it is worthwhile to note that this data was collected during and after the COVID-19 pandemic timeframe, and it has been well documented that early adults, particularly college students experienced various mental health challenges during that time of isolation (Salimi et al., 2023). With this in mind, the study findings regarding academic performance may have been impacted not only by poor mental health in general, but by the mental health challenges faced during the lockdown period, pandemic closures and abrupt transition to online learning.

### **Future Directions and Implications**

Findings from this study are important because existing knowledge on college students assumes that mental health challenges for college students are similar across all races and ethnicities, neglecting inclusivity and understanding for diverse populations. Given the prevalence of poor mental health among college students, continued research among diverse populations such as first-generation ME/NA individuals provides further insight into a vulnerable subgroup of college students. Findings from this study can be referenced when revising standard racial and ethnic diversity initiatives across all departments and initiatives on college campuses.

University officials can use information from this study to ensure that ME/NA first-generation college students have culturally and religiously sensitive mental health care to mitigate poor mental health outcomes and racial-ethnic trauma. Universities should provide ME/NA first-generation students with safe communities by encouraging them to be involved in campus activities and clubs that are culturally and religiously sensitive. Future research regarding first-generation ME/NA college students would benefit from using a sample largely consisting of ME/NA individuals and utilizing reliable research methods.

Using a mixed methods approach could provide researchers with unique information that may not be readily available solely through predetermined questionnaires. A longitudinal study following the same group of first-generation ME/NA individuals as they transition into college may provide invaluable insight that would help explain why ME/NA students reported less anxiety but high depression. Lastly, a study examining the impact of religion on ME/NA first-generation students would expand on the findings from this study. Although this sample is representative of the U.S college population, it indicates the need for extensive future research regarding ME/NA mental health and the impact it may have on academic success.

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