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An Analysis of Mental Health, Psychosocial Stressors, and Social Support Among Latinx Students Who Relocate for College

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AN ANALYSIS OF MENTAL HEALTH, PSYCHOSOCIAL STRESSORS, AND SOCIAL SUPPORT AMONG LATINX STUDENTS WHO RELOCATE FOR COLLEGE

A Thesis

by

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ABSTRACT

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Relocating for college is one facet of the college adjustment process that has been scarcely explored. Research suggests that relocated students report more severe depression symptoms (Reyes-Rodriguez et al., 2012), poorer social adjustment (Brooks & Dubois, 1995), and worse mental health overall (King et al., 2011) compared to nonrelocated students. This study hypothesized that relocated Latinx college students would experience more severe mental health concerns (depression, anxiety, and stress), psychosocial stress (acculturative stress, loneliness, and sense of belonging), and perceived social support than their nonrelocated counterparts. 159 underclassmen with permanent residence in a South Texas community were surveyed in a cross-sectional study. Relocators reported a stronger sense of belonging and higher perceived social support compared to nonrelocated students. These findings suggest that moving away may have some beneficial outcomes for students and can be significant for college access and success stakeholders at the secondary and higher educational levels.

DEDICATION

I am dedicating this thesis to the Mission, Texas, community that has provided immense support as I completed my master's courses and thesis. I am extremely grateful to have encountered so many kind and uplifting individuals in these past few years during my graduate school journey. To those I have befriended at Bannworth Park on my runs and swims, TruFit while weightlifting, Jitterz Coffee Bar when I needed a place to focus and write, and El Sancho Tex Mex BBQ when I craved a good taco on the weekend, thank you for the warmth, joy, laughs, and mad love you have given me. I am proud to call Mission my home. And of all the residents, I send my most heartfelt thank you to my brother who has been my biggest supporter and best friend through it all. Thank you for being there for me time and time again.

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CHAPTER I

INTRODUCTION

Relocating for college is one of many stressful events that may increase mental health issues encountered by first-year college students. Students who move far from home to attend college tend to have increased levels of depression, anxiety, and stress and may have a more challenging time transitioning into college compared to students who do not move for college (e.g., Fisher & Hood, 1987; Fisher & Hood, 1988; King et al., 2011; Reyes-Rodriguez, 2012). Latinx college students are more at-risk for mental health problems as a result of the additional psychosocial stressors they may experience. Latinx students are more likely to identify as low-income or the first in their family to go to college (Santiago et al., 2019). They may face higher levels of acculturative stress and loneliness and feel a lack of sense of belonging to their campus (Santiago et al., 2019). These stressors have been frequently associated with increased levels of psychological distress experienced by Latinx students (e.g., Crockett et al., 2007; Saldaina, 1994; Wong et al., 2017). Though Latinx students may undergo more types of stresses than their White peers, there are protective factors that could buffer the stressful effects of adjustment, such as social support (e.g., Alvan et al., 1996; Suwinyattichaiporn & Johnson, 2020). Although the effect of relocating on mental health has been primarily studied in White or international samples, it has not been empirically examined in Latinx students. Therefore, this study will review literature pertaining to the aspect of relocating, college student mental health, and psychosocial stressors common for Latinx students. Then, this study will reveal whether the

selected psychosocial stressors, protective factors, and mental health concerns will differ between non-relocating and relocating ethnic minority student groups.

Moving for College

Moving may be an entirely positive experience for some first-year students who seek out new experiences away from home, but it may be psychologically taxing for other students who struggle more with the adjustment to their new environment and college. As it is, college is a stressful experience and choosing to relocate for college may exacerbate that stress. Many aspects of relocating are generally considered stressful such as moving to a new residence, residing in different living conditions, changing recreational and social activities, seeing one's family less, etc. (Holmes & Rahe, 1967). One pilot study found that first-year students who had relocated for college ("relocators") were more likely to report a decline in their physical and mental health than students who did not relocate ("non-relocators"; King et al., 2011). Compared to non-relocators, relocators had poorer diets and quality of sleep and exercised less. Relocators were more likely report increased alcohol and caffeine consumption. Additionally, relocators felt more anxious, stressed, and lonely than non-relocators. Overall, 60% of relocators reported a decline in their mental health during the first-year transition whereas around 40% of non-relocators reported the same decline (King et al., 2011). Other studies have reported similar relationships between relocating and increased psychological distress, such as homesickness (Pisco et al., 2017; Stroebe et al., 2002; Tognoli, 2003), poorer social adjustment (Brooks & Dubois, 1995); and depression and anxiety (Fisher & Hood, 1987; Reyes-Rodriguez et al., 2012). Relocating is suggested to intensify the multifaceted challenge of adjusting to college, but this has mostly only been observed in White college student samples (e.g., Brooks & Dubois, 1995; King et al., 2011; Stroebe et al., 2002; Pisco et al. 2017).

Common Mental Health Concerns on College Campuses

With mental health concerns, such as depression, anxiety, and stress increasing in prevalence and severity on college campuses, it's beneficial to learn whether relocation is related to the rise in these mental health issues. The most common mental health concerns for college students are anxiety, depression, and stress (LeViness et al., 2019). In the spring of 2011, the American College Health Association (ACHA) surveyed approximately 23,000 undergraduates from 44 universities and found that 11.8% of students reported that they had been diagnosed or treated for anxiety, 11.1% for depression, and 7.3% for both within the past 12 months. About 52% of the sample felt that they were experiencing 'more than average' or a 'tremendous' level of stress within the past year. The same survey was conducted in the spring of 2019 and found that 24% of students had been diagnosed or treated for anxiety, 20% for depression, and 16.6% for both within the past 12 months. About 56% of the sample felt that they were experiencing 'more than average' or a 'tremendous' level of stress within the past year. Stress levels marginally increased between the 2011 and 2019 ACHA surveys, however, the comorbidity of depression and anxiety more than doubled in prevalence. Mental health concerns like depression, anxiety, and stress may be common but also seem to be increasing in prevalence on college campuses.

Furthermore, the severity of mental health symptoms in college students is concerning. For instance, Eisenberg et al. (2019) sampled over 60,000 undergraduate and graduate students in the United States and assessed their depression and anxiety severity levels using the Patient Health Questionnaire (PHQ-9) and General Anxiety Disorder (GAD-7), respectively. With the assessments, the study found that 36% of the sample met criteria for moderate or severe major depressive disorder (MDD) and 31% met criteria for moderate or severe generalized anxiety

disorder (GAD). The finding that many college students could have a moderate or severe mental health concern emphasizes the need to research factors (e.g., academic, personal, social) that impact the pervasiveness of mental health concerns on college campuses.

Mental health concerns may not be a new experience for many college students. In fact, many college students likely had pre-existing mental health concerns before starting college. The National Survey on Drug Use and Health (NSDUH; 2019) found that approximately one-fifth of 16 and 17-year-olds in the U.S. had experienced at least one major depressive episode (MDE) within the past year. Furthermore, the World Health Organization (WHO) found that 83% of college students with a mental health concern had experienced the onset of an anxiety, mood, behavioral, or substance disorder before college (Auerbach et al., 2016). High school students may experience stressors (e.g., academic course load, extracurricular activities, familial obligations, or social expectations) that lead to the manifestation of mental health concerns during adolescence, but stressors may differ or intensify during college. First-year college students may find their academics are more challenging, be concerned about affording tuition and housing, or struggle to make new friends. If they have relocated, they may feel homesick or lonely in their new college community. The stressors involved before and during the college transition could help account for the prevalence and severity of mental health concerns observed in college students.

In addition, high school and college students today may also be taking on the remnants of the turmoil and mental health concerns that manifested or were heightened during the COVID-19 pandemic. The pandemic caused lengthy stay-at-home mandates to be implemented across the U.S. in March 2020 and led to rough and often chaotic transitions from in-person class to all remote or seeing friends daily at school to no longer being permitted to visit one another

(Copeland et al., 2021). Copeland et al. (2021) conducted a longitudinal study of college students and found that students reported an increase in externalizing symptoms and issues with attention after the start of the pandemic. A cross-sectional study of over 2,000 students enrolled in a Texas university found that nearly half of the sample met criteria for moderate-to-severe depression and over one-third of students met criteria for moderate-to-severe anxiety (Wang et al., 2020). With college mental health levels already alarmingly high, the additional stressors students encountered related to the pandemic (e.g., the death of a loved one, worrying about the health of a loved one, academic concerns, etc.) may have exacerbated any preexisting mental health concerns or initiated the development of one during this worldwide period of uncertainty (Mohammadi et al., 2021; Son et al., 2020; Wang et al., 2020).

The Impact of Mental Health on Academics Progress

Research findings have shown that mental health concerns may impact the academic progress of students. For example, in the ACHA spring 2019 study, undergraduates were provided a list of over 30 possible physical health (e.g., cold/virus, injury, allergies), personal (e.g., finances, relationship difficulties, work), and mental health (e.g., depression, anxiety, homesickness) stressors they may have experienced during college. Students were then asked whether they believed these factors had ever hindered their academic progress (i.e., caused them to receive a lower test grade, course grade, drop a class, or fall behind on a research, thesis, or dissertation project. The top four factors that students perceived as impacting their academic progress in the past 12 months were stress (36.5%), anxiety (29.5%), sleep difficulties (24.3%), and depression (21.6%). This finding demonstrates that many students believe mental health concerns have affected their academic performance to some degree. However, related studies

have found potential links between mental health concerns and more specific measures of academic performance, such as grade point average (GPA) and college dropout decision.

Academic Performance

Many studies have found that mental health concerns (e.g., depression, anxiety, and stress) may negatively affect students' academic performance, specifically GPAs (e.g., Arbona et al., 2018; Billingsley & Hurd, 2019; Bruffaerts et al., 2018; Eisenberg et al., 2009; Frazier et al., 2019; Hysebegasi et al., 2005; De Luca et al., 2016). Nevertheless, Hysebegasi et al. (2005) took a holistic approach and wanted to see how depression impacted students' GPA, their likelihood of missing class, assignment, or exam, or choice to drop a class. Data was provided by a campus registrar and mental health clinic, and students were also surveyed regarding their history of depression. A history of depression was related to a 0.49 point drop in student grade point average (GPA) compared to students without a history of depression. It was also found that depressed students were significantly more likely to miss classes, assignments, exams and drop a class. This suggests that depression may also impact the factors that play an important role in students' overall academic engagement. Demographics, such as race, age, and class year (e.g., freshman, sophomore, junior, senior) were a few factors controlled for in their analysis and were stated to be similar between groups but were not specifically examined separately nor reported in the article. It is unknown whether there would have been significant differences of the impact of depression on academics between races, ages, or class years or if the generalizability would be applicable on other college campuses.

College Retention

Additionally, many studies have focused on the impact of mental health on college retention (e.g., Auerbach et al., 2016; Boyraz et al., 2016; Salzer, 2012). Boyraz et al. (2016), for

instance, followed the academic progress of 569 Black students in a longitudinal study. Students' college persistence attitudes and depressive symptomology in students' first semester of college were measured. GPAs were later collected at the end of the second semester of college, and college persistence was tracked at the end of the student's second semester in their second year. Results revealed students who reported symptoms of depression in their first semester of college were more likely to drop out of college before the end of their second year. First-year GPA was found to mediate the relationship between depression symptoms and attrition. Overall, the results suggest that freshman students with mental health issues may be more likely to drop out of college compared to their peers without mental health issues. In fact, the National Alliance on Mental Illness (NAMI) analyzed a sample of students who had experienced a mental health concern during college (e.g., depression, bipolar disorder, or posttraumatic stress disorder (PTSD)) and found that 64% of students who had dropped out of college had left because of mental health reasons (Gruttardaro & Crudo, 2012). With the prevalence of mental health concerns increasing, it is probable that student dropouts resulting from mental health will increase as well.

Examining the attrition of college students in the scope of mental health may be important to review, especially for ethnic minority populations who are less likely to graduate (e.g., Hernandez & Lopez, 2004; National Center for Educational Statistics [NCES], 2019; Ortiz et al., 2012; Santiago, 2011; Santiago et al., 2019; Wilds & Reginald, 1998). Of all first-year students who enrolled in a 4-year-institution to attain their bachelor's degree, approximately 64% of White students had attained a bachelor's degree in a 6-year time (National Center for Educational Statistics [NCES], 2019). Yet, degree attainment was less likely for ethnic minorities where 54% of Latinx students, 51% of Pacific Island students, and 40% of Black

students had received their bachelor's degree after 6 years. Mental health could play a role in the college completion gap between White and ethnic minorities. Literature also shows that there are numerous other psychosocial factors that may make ethnic minorities, such as Latinx individuals more susceptible to mental health concerns to begin with.

Latinx Students Are More At-Risk of Mental Health Issues

Latinx college students are more likely to identify as low-income or first-generation college going compared to White and Asian students (Santiago et al., 2019). Individuals who identify as low-income for first-generation college going students tend to be at a higher risk of experiencing severe mental health issues. One study by Hefner & Eisenberg (2009) with 1,378 undergraduate and graduate students found that both minority status and low socioeconomic status (SES) was linked with an increased risk of experiencing social isolation. Correspondingly, students who reported lower levels of social support in their lives in the study were more at-risk of exhibiting mental health symptoms, such as depression, anxiety, suicidality, or eating disorders.

Moreover, while 22% of White college students are first-generation, that percentage is doubled, 44%, for Latinx students (Santiago et al., 2019). First-generation students (FGS) are more likely to experience higher levels of distress than their non-first-generation counterparts. For example, Jenkins et al. (2013) investigated the interaction of first-generation identity and mental health in an undergraduate student population. FGS were more likely to report having traumatic experiences and had higher levels of post-traumatic stress disorder (PTSD) compared to continuing-generation students (CGS), students who were not the first in their families to attend college. FGS had lower levels of life satisfaction and perceived less support from family. Another study by Mehta et al. (2011) examined differences in financial barriers, social

involvement, time management skills, coping strategies, and overall stress between FGS and CGS. On average, FGS were more likely to be low-income, more likely to work over 20 hours a week, and had higher levels of financial related stress than CGS. In addition, FGS were more stressed about not having enough time to complete tasks and were less likely to engage in social coping activities (e.g., visiting a bar or attending social gathering). Ultimately, FGS were less academically and socially satisfied and had lower GPAs. Neither study by Jenkins et al. (2013) or Mehta et al. (2011) analyzed dependent variables by class standings (e.g., freshman, sophomore, etc.), so it is difficult to discriminate the stresses catalyzed by class standing (e.g., a freshman is stressed about the college transition vs a senior is stressed about finding a job after graduation). Lastly, neither contained robust representation from minority students or separate analyses for these groups leaving room for further exploration in differences in FGS experiences based on ethnicity.

Adverse Mental Health Outcomes of Psychosocial Stressors on Latinx Students

Psychosocial stressors are life circumstances that cause individuals to experience a severe level of stress that could develop into or exacerbate existing mental health concerns (Gundersen et al., 2011). This can include distressing events ranging from losing a loved one to working in a stressful environment. Evidently, high exposure to psychosocial stressors is related to negative psychological health outcomes. For instance, psychosocial stressors are linked to alcohol abuse, major depressive disorder, and anxiety (Bonde, 2008; Hovey & Magana, 2000; Magana & Hovey, 2003; Marttunen et al., 1994). Accordingly, some college students may experience psychosocial stressors while adjusting to college (e.g., fitting in with peers in college, finding new friends, meeting a new roommate, etc.), especially in the first year. Yet, Latinx college students have been demonstrated to encounter additional psychosocial stressors in college

compared to White students (Gloria & Rodriguez, 2000; Nora & Cabrera, 1996). Acculturative stress, loneliness, and sense of belonging are three psychosocial stressors often considered in the context of Latinx college student adjustment and will also be considered in this thesis.

Acculturative Stress

Acculturative stress is a specific type of stress resulting from the process of adapting to a new dominate culture (Berry, 1998). When an individual begins to interact with a new culture, they may experience conflict trying to adjust to the culture's different values or customs (Mena et al., 1987). The more accustomed individuals become in the new environment the less likely they are to exhibit high levels of acculturative stress. For example, Castillo et al. (2008), sampled 188 Latinx college students and found that generational status (i.e., first-generation immigrant, second, third or higher) was significantly positively correlated with acculturation level and negatively correlated with acculturative stress. Thus, time and exposure in the new environment may help ease acculturative stress.

Generally, many students report perceiving acculturative stress on their campus by virtue of adapting to a new environment (Perez et al., 2002; Walker et al., 2008). Yet, ethnic minorities, such as Latinx college students may perceive higher levels of acculturative stress than their White peers during the college transition. This may be due to experiences that could impede the adjustment, such as discrimination or differences in cultural values, which have both been found to impact acculturative stress (Castillo et al., 2008; Torres et al., 2012). For instance, Latinx college students are reporting experiences of racial discrimination on their campus or perceiving their campus to be racial hostile to ethnic minority students (Hurtado & Carter, 1997; Von Robertson et al., 2016). The incidences may make it difficult for students to adapt to a culture where they feel marginalized. Moreover, Latinx families are known to abide by *familismo*, a

cultural value describing the prioritization of the family's needs over one's own; this is not seen to the same degree in White families (Gloria & Rodriguez, 2000). Latinx college students may feel torn between prioritizing their individual requisites on campus (e.g., keeping grades high, participating in extracurriculars, socializing) and the needs of their family (e.g., helping pay bills, babysitting siblings, performing chores) while their peers fearlessly indulge in the activities they want without question.

Acculturative stress has also been associated with depression, anxiety, and suicidal ideation in Latinx samples (e.g., Castillo et al., 2015; Crockett at al., 2007; Cuellar & Roberts, 1997; Hovey & King, 1996; Mayorga et al., 2018; Mejia & McCarthy, 2010; Walker et al., 2008), warranting attention as a psychosocial stressor. Crockett et al. (2007), for instance, empirically examined acculturative stress and its influence on depression and anxiety symptoms in a sample of 148 Latinx college students while also looking at protective factors, such as coping habits and social support from peers and family. Acculturative stress was found to be significantly related to depression and anxiety levels. Furthermore, students reporting higher levels of acculturative stress were less likely to report symptoms of depression and anxiety when they perceived higher levels of social support from peers and family. Participants for the survey were pooled from three universities; one school was approximately 50% Latinx, another close to 25% Latinx, and the last, less than 20% Latinx. It would have been interesting to analyze whether cultural representation on campus could act as a protective factor for acculturative stress, and in lieu, decrease the development of depression and anxiety symptoms.

Loneliness

Loneliness is a psychologically distressing experience in which one desires relationships with other individuals or is not satisfied with the relationships that they have (Ponzetti, 1990).

Latinx students are more likely to report feelings of loneliness in college compared to their White counterparts (Smith et al., 2014). Latinx students may feel culturally incongruent or incompatible with the new culture in college, which can cause Latinx students to feel lonely or isolated (Gloria & Rodriguez, 2000; Tello & Lonn, 2017). Latinx students are also believed to be at-risk of feeling alienated in the collegiate environment because they may experience acculturative stress or experiences of discrimination (Oliver et al., 1985). Smith et al. (2014) found that minority college students were lonelier than their White peers and relations between ethnic identity and psychological distress. Black and Latinx students in the study were also more likely to report higher levels of depression and have previously attempted suicide suggesting that loneliness may be affiliated with graver consequences for students of color.

Psychological distress has been related to loneliness in prior research, including Latinx college students (Chang et al., 2011; Chang et al., 2017; Chang et al., 2019; Moeller & Seehuus, 2019; Mounts et al., 2006). For example, Chang et al. (2019) tested the interaction among depression, loneliness, and suicide risk. They found that loneliness was significantly correlated with depression, feelings of hopelessness, and suicidal behaviors. Recruited students consisted of 156 Latinx college students ranging from 18 to 46 years in age with a mean of approximately 19.8. Over three-fourths of participants were women and approximately two-thirds were freshmen while sophomores, juniors, and seniors, made up the remaining participants, respectively. The study measured feelings of loneliness, depressive symptoms, feelings of hopelessness, and behaviors of suicide. As hypothesized, the students experiencing both high levels of loneliness and depression were the most at-risk of suicide. Chang et al. (2019) noted that future studies would need to be performed to see if the findings are generalizable to specific Latinx populations (e.g., Mexican American) or when considering other demographics (e.g.,

socioeconomic status). Moreover, the sample consisted of Latinx college students from a public university in the East Coast. It is unknown whether factors, such as campus diversity (or lack thereof), location, or class year (i.e., freshman status) played role in the significant intercorrelations found among loneliness, depression, anxiety, and suicide risk in Latinx student populations. Thus, loneliness as a psychosocial stressor merits further exploration to understand its role in the potential development of mental health concerns of Latinx students.

Sense of Belonging

Latinx students are also less likely to feel that they belong on their campus compared to White students (Johnson et al., 2007). Sense of belonging is defined as feeling a part of the community on one's campus (Hurtado & Carter, 1997). Feelings of exclusivity can exacerbate the usual stress of transitioning to college and may make students question their belonging in a college setting, especially for first-generation college students (Gloria & Rodriguez, 2000; Llamas & Ramos-Sanchez, 2013; Stebleton et al., 2014). Factors such as time spent studying, grades, and academically and socially supportive residence halls can influence students' sense of belonging on campus (Johnson et al., 2007; Lamont Strayhorn, 2008). Though, sense of belonging in Latinx college student populations has been found to be affected by the perception of a racially hostile campus climate and experiencing discriminatory incidences which can lead students to feel alienated on campus (Hurtado & Carter, 1997; Johnson et al., 2007; Oliver et al., 1985). For instance, Hurtado & Carter (1997) examined a sample of 272 Latinx college students attending 127 unique colleges in a longitudinal study to better understand what factors would impact students' sense of belong on campus between their second and third years of college. They relied on secondary dataset that collected students' responses in their second year of college and then again in their third year of college. Students who perceived their campus to

have a hostile racial climate (i.e., reported racial-ethnic tensions or experienced discrimination at their college) had a decreased sense of belonging on their campus (i.e., did not feel connected to their campus community). Data was collected from a cohort of Latinx students who scored distinguishably on a national standardized test during high school, so it is unknown whether the generalizability would be applicable to all Latinx students in addition to the over-achieving pool. This sample also may not represent students who did not complete their first year due to purposes related or unrelated to the study.

Research examining the relation between sense of belonging and psychological distress in Latinx college students is limited. Findings typically show that college students who feel a stronger sense of belonging are less likely to report high psychological distress from mental health concerns, such as depression, anxiety, and stress (Gummadam et al., 2016; Hagerty et al., 1996; Sims et al., 2020; Stebleton et al., 2014). Gummadam et al. (2016) examined the interactions of college belonging, ethnic identity, and psychological adjustment in a sample of 311 self-identified undergraduate ethnic minorities. The participants were majorly female, Black, and Latinx. Sense of belonging was negatively related to depressive symptoms but positively related to other adjustment aspects, such as self-worth and social acceptance. These findings suggest that the transition to college could be much more psychologically challenging if students do not feel like they fit into their new campus community.

Social Support as a Protective Factor of Psychological Distress for Latinx Students

Social support has been suggested to be a protective factor against mental health symptoms in college student populations (Cohen et al., 1986; Hefner & Eisenberg, 2009; Rankin et al., 2018; Riggio et al., 1993; Solberg & Villarreal, 1997; Zhou et al., 2013). This common phenomenon can be explained by the buffer effect of social support theory which claims that

individuals cope better in stressful situations if they feel supported by others (Cohen & Wills, 1985; Nuckolls et al., 1972). Studies on the effect of social support on the psychological functioning of Latinx students have provided supporting evidence for the buffer effect of social support theory (Crocket et al., 2007; Rodriguez et al., 2003; Solberg & Villarreal, 1997; Suwinyattichaiporn & Johnson, 2020). For instance, Suwinyattichaiporn & Johnson (2020) surveyed 907 first-generation Latinx students at a Hispanic-serving institution (HSI) and measured their levels of depression, anxiety, stress, perceived social isolation, and social support from family and friends. Students perceiving less support from friends felt more socially isolated, and students perceiving less support from family experienced higher levels of depression and stress.

Additionally, social support has been exhibited to help reduce resulting distress from psychosocial stressors in college student populations (e.g., Crockett et al., 2007; Johnson et al., 2007; Nicpon et al., 2006). In addition to finding a correlation between acculturative stress and mental health in a Mexican American student sample, Crocket et al. (2007) also found support from parents and peers to be an effective protective factor. Parental and peer support mitigated the effects of acculturative stress on symptoms of depression and anxiety. Inspired by the findings from Hurtado & Carter (1997), Johnson et al. (2007) examined various factors that could influence a student's sense of belonging on campus. Using a secondary data set from a national sample of nearly 3,000 freshman students, Johnson et al. (2007) found that ethnic minority students who perceived their dormitory to be socially supportive were more likely to feel a stronger sense of belonging at their campus. However, their research only examines social support of students living in residence halls and does not consider support from peers outside the residence hall or from family.

The Effect of Moving Away for College for Latinx Students

Research examining the effects of relocating on mental health are scarce in ethnic minority populations, but it has been examined in mainly White college populations in the U.S. Brooks & Dubois (1995) asked 56 first-year students to estimate how far the university was from their home in miles and found that estimated distance from home significantly negatively correlated with social adjustment in college. The distance from home in this study, however, was not found to be significantly correlated with depressive symptoms. Mooney et al. (1991) found that perceived distance from home (i.e., if the distance between college and home was 'just right' or 'too far'), rather than actual distance was a significantly correlated with academic, social and personal adjustment in college. Participants who perceived distance away from home to be "too far" encountered more difficulties adjusting or feeling attached to their college. This study had recruited a sample of 88 female freshmen attending a private Catholic college and who not living at home; most of the participants came from a middle-to-upper class background. Another study, also conducted in the U.S., found that living within 50 miles from one's university or 100 miles away was a significant predictor of homesickness (Tognoli, 2003). This study used a sample of 27 undergraduates attending college in New York, though demographics of the sample were not disclosed. The effect of relocating has been examined with different psychological measurements (e.g., adjustment, college attachment, and homesickness), but rarely with mental health measures, such as depression, anxiety, or perceived stress.

After conducting a literature search, Reyes-Rodriguez et al. (2012) was the only study found to look at the impact of relocating for college on a mental health concern in a Latinx student population. Over 2,000 freshmen from 9 of 11 schools in the University of Puerto Rico system within the 2004 – 2005 and 2005 – 2006 academic years participated. Students were

asked to complete the Beck Depression Inventory (BDI), select applicable events from a list of five stressful life events within the past year (e.g., death of a relative, parents divorcing, relocating for university, a break-up, or illness), and given the option to write-in any other stressful event. Though only 9% of the sample reported moving to attend their university, those who moved were more likely to have moderate and severe levels of depression (17.4%) compared to their counterparts who did not move (8.5%). This study is also consistent with other findings on general stresses and mental health outcomes resulting from relocating in predominately White and international college student samples (e.g., Fisher & Hood, 1987; Fisher & Hood, 1988; King et al., 2011; Stroebe et al., 2010). Findings by Reyes-Rodriguez et al. (2012) regarding the effect of relocation on depression showed that relocating for college may be affiliated with high severity of mental health concerns, but their study did not consider other common mental health issues, such as anxiety and stress, that are all known to impact the first-year experience of Latinx college students. Additionally, these findings were significant in Latinx college populations attending other institutions where Latinx students comprised the majority. The findings might be reinforced in Latinx populations attending institutions where they are not the majority ethnic group and psychosocial stressors, such as acculturative stress or sense of belonging, may be more likely to be compromised in such environments. This would be worth investigating to learn if additional interventions need to be considered for relocating Latinx students to mitigate psychological distresses students are experiencing as they adjust in college. Altogether, moving away for college may be a significant factor that could increase the likelihood of mental health issues, but no study has empirically analyzed the factor itself in a Latinx population.

Purpose of Study

The purpose of this study was to examine differences between relocated Latinx students and non-relocated Latinx students. While many Latinx college students likely encounter challenges during their college adjustment, relocated Latinx students might experience higher levels of distress compared to students to who stay near home. Relocated Latinx students need to move and live in a new city and possibly a new state or country. Latinx students who have moved for college might experience difficulties accessing established support systems and likely need to find or create new support networks. Unless attending a Hispanic Serving Institute, relocated Latinx students likely will not be represented in the student and faculty population which may lead to assimilation challenges and a lower sense of belonging. More research efforts need to examine differences in the psychological adjustment of ethnic minorities who relocate for college. Findings from this study would add to the scarce literature that has examined the effect of relocating in college student populations, more specifically, Latinx college students. This study surveyed Latinx college students from the Rio Grande Valley (RGV), a border community in South Texas. Group differences will be examined between "non-relocators", students who remained at or close to home for college, and "relocators", students who relocated away from the RGV for college.

Conceptual Framework

The conceptual framework (see Figure 1: Conceptual Framework for Relocating) for this study is based on previous research that has found stress from psychosocial factors (i.e., acculturation stress, loneliness, and sense of belonging) is linked to higher levels of mental health concerns in Latinx college student samples (e.g., Chang et al., 2019; Crocket et al., 2007; Gummadam et al., 2016; Hagerty et al., 1996; Hovey & King, 1996, Smith et al., 2014).

Additionally, the conceptual framework incorporates the buffer effect of social support theory (Nuckolls et al., 1972; Cohen & Wills, 1985) and the diathesis-stress model (Zuckerman, 1999) to explain how relocating could exacerbate the perceived stresses experienced by students who move away from home and lead to a higher prevalence of mental health concerns. The buffer effect of social support theory postulates that social support will mitigate the effect of the psychosocial stressors on the mental health concerns (Nuckolls et al., 1972; Cohen & Wills, 1985). The diathesis-stress model postulates that biological and environmentally stressful factors may both play a role in the manifestation of mental health disorders (Zuckerman, 1999).

Hypotheses

This study attempted to explore differences in the prevalence of mental health concerns, psychosocial stressors, and social support between non-relocators and relocators. The following hypotheses were developed after reviewing the available literature:

- H1: Relocators will report higher levels of depression, anxiety and stress compared to non-relocators.
- H2: Relocators will report higher levels of acculturative stress, loneliness, and lower levels of sense of belonging compared to non-relocators.
- H3: Relocators will experience lower levels of perceived social support compared to non-relocators.

CHAPTER II

METHOD

Participants

Participants were first- and second-year college students who identified as residents from the Rio Grande Valley (RGV), a border community in the southernmost tip of Texas consisting of four counties: Starr, Hidalgo, Willacy, and Cameron. This community is approximately 92% Latinx (Census Bureau, 2019). Of the RGV residents aged 25 years and older, less than 20% have at least an associate degree and about 30% did not complete high school. Moreover, around 34% of RGV residents are living below the poverty threshold (Census Bureau, 2019), and many college students from the general South Texas area tend to identify as first-generation college students (Greater Texas Foundation, 2011).

Procedure

Non-relocators were all first- and second-year students attending the University of Texas Rio Grande Valley and recruited using a listserv comprised of most students from both class years. To reach relocators, administrative or faculty point-persons at universities with RGV students were contacted and asked to assist in the distribution of this survey. Latinx student groups at large state universities (e.g., Texas A&M University, University of Houston, University of North Texas, University of Texas San Antonio, etc.) with recent RGV high school graduates were also utilized, as well online forums and Facebook pages (e.g., the RGV Familia student group that provides support for University of Texas students from the RGV). School

districts and educational nonprofits in the community were also contacted as they may have access to their alumni from the high school graduating classes of 2020 and 2021, students who would be considered eligible for the study. Through the college access and success programs in the community, students attending universities that many not have been reached through the contacted university student groups could also learn of the survey.

Data from non-relocators and relocators was collected anonymously using Qualtrics, an online survey platform. Funding to incentivize participants was secured from the Department of Psychological Science at UTRGV. Participants were informed they could enter a raffle and have a one in eight chance of winning a $25 Amazon gift card if they completed the survey and met all attention checks.

Measures

Measurements were selected based on demonstrated reliability and validity in prior research efforts, particularly if shown to be valid in college student populations. The seven measurements, not including demographics, range from 3 to 24 questions, and included attention checks, 1 out of every 15 items, to identify inattentive responses.

Demographics

Demographics gathered at the beginning of the survey included age, number of years living in the U.S., language preference, gender, sexual orientation, and residence status (U.S. citizen, U.S. permanent resident, or non-U.S. citizen). Moreover, information concerning high school GPA, current college attending, enrollment (full-time or part-time), college standing (freshman or sophomore), living situation (on-campus, off-campus, or with family), and first-generation college status were also collected.

Acculturative Stress

Acculturation stress was measured using the 24-item Social, Attitudinal, Familial, and Environmental (SAFE) Acculturative Stress Scale (Padilla et al., 1985; Mena et al., 1987). Items are rated from 'Not Stressful' (1) to 'Extremely Stressful' (5). The rating of 0 also exists if students have not experienced the item account before (e.g., *"I don't feel at home" or "I have more barriers to overcome than most people."*). Though the items can be separated into one of four factors to gauge acculturative stress in the domains of social, attitudinal, familial, or environmental, this study will focus on the total score which can range from 0 to 120. A higher score infers more acculturative stress. The SAFE scale has previously demonstrated high internal reliability in a sample of multicultural college students (Mena et al., 1987; Cronbach's $\alpha = .89$). Moreover, research on Mexican American college students from California and Texas also demonstrated high internal reliability (Cronbach's $\alpha = .91$) and concurrent criterion validity (Crockett et al., 2007).

Sense of Belonging

Sense of belonging was assessed using the 3-item Sense of Belonging to Campus measure. The measure was originally created by Bollen & Hoyle (1990) to understand the association between feelings of morale and sense of belonging in a college student sample; they determined that the measurement provided strong validity and reliability. The same items were utilized by Hurtado & Carter (1997) to quantify sense of belonging in Latinx college students and also provided high reliability (Cronbach's $\alpha = .94$); the measurement was related to perceptions of a hostile campus climate and ease of transitioning. The construct asks participants to rate each item (e.g., *"I feel that I am a member of the campus community'* or *'I see myself as a part of the campus community.'*) on an 11-point scale of 'strongly disagree' (0) to 'strongly

agree' (10). Higher scores infer a stronger sense of belonging to one's campus, and scores can range from 0 to 30.

Loneliness

Loneliness was measured using the UCLA Loneliness Scale (ULS-8; Russell et al., 1978; Hays & DiMatteo, 1987). The ULS-8 has 8 items (e.g., *"I feel left out"* or *"People are around me but not with me.")* and utilizes a 4-point frequency Likert scale ranging from 'I never feel this way' (1) to 'I often feel this way' (4). Higher scores infer higher perceived loneliness. Scores can range from 8 to 32. Hays & DiMatteo (1987) tested the reliability of the ULS-8 on a total of 199 college students and found its alpha coefficients to be at 0.84. The ULS-8 in correlation to factors, such as life satisfaction and alienation, they discovered that both tests provided similar item discriminant validity.

Social Support

Social support was measured with the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988). The scale is a total of 12 items which can be divided into the friend, family, or significant other factor groups of 4 items each. Ratings range from 'Very Strongly Disagree' (1) to 'Very Strongly Agree' (7) while 4, the midpoint, is 'Neutral'. Zimet et al. (1988) administered the scale to 275 undergraduates, approximately half female and male, (Cronbach's $\alpha = .85$) and individual subscales (Friend $\alpha = .85$, Family $\alpha = .87$, and Significant Other $\alpha = 0.91$) to have high internal reliability and good test-retest reliability. In the same study, they confirmed sufficient construct validity by contrasting perceived support from family and friends to symptoms of depression and anxiety. Lower levels of support from friends and family were found to be correlated to depression, and support from family was inversely related to anxiety.

Depression

Depression was measured using the Patient Health Questionnaire (PHQ -9; Kroenke et al., 2001). Participants were asked to measure the frequency of their symptoms within the last two weeks on a scale of 'Not at all' (0) to 'Nearly Every Day' (3). Scores can range from 0 to 27 and can be interpreted as minimal depression (0-4), mild depression (5-9), moderate depression (10-14), moderately severe depression (15-19), and severe depression (20-27). The nine items originated from the nine Major Depressive Disorder (MDD) criteria in the *DSM-IV: Diagnostic and Statistical Manual of Mental Disorders* and were unchanged in the more recent *DSM-5*, therefore the items remained unaffected (Spitzer et al., 2014).

In a diverse sample of 857 college students, PHQ-9 scores were highly reliable across genders (Cronbach's α = .90 and .89; male and female), race (Cronbach's α = .93, .90,.88, and .86; Asian American, African American, White American, and Latinx American, respectively), and overall (Cronbach's α = 0.89; Keum et al., 2018). Construct validity was examined, and PHQ-9 scores were negatively correlated with emotional well-being ($r = -.597$, $p < .001$), psychological well-being ($r = -.531$, $p < .001$), and social well-being ($r = -.406$, $p < .001$).

Anxiety

Anxiety was measured using the Generalized Anxiety Disorder 7-item (GAD—7) scale which also uses the diagnostic criteria for GAD from the *DSM-IV* similarly to the PHQ-9 scale (Spitzer et al., 2006). Participants were asked to measure the frequency of their symptoms within the last two weeks from a scale of 'Not at all' (0) to 'Nearly Every Day' (3). Scores can range from 0 to 21 and interpreted as minimal anxiety (0-4), mild anxiety (5-9), moderate anxiety (10-14), and severe anxiety (15-21). Because the differences in the criteria for GAD were limited between the *DSM-IV* and *DSM-5*, the GAD-7 remains a consistent measurement for clinicians in

primary care settings and has been used in research with college student populations (Holt et al., 2014; Locke et al., 2015). One study analyzed data from three college student samples at three distinct time periods (2009-2010, 2015, and 2018) and saw that the GAD-7 was highly reliable for each sample (Cronbach's α = .91, .92 & .93). Convergent validity was also established by confirming a correlation between GAD-7 and PHQ-2 scores (r_s = 0.45 - .64) (Byrd-Bredbenner et al., 2020).

Stress

Stress was measured with the 10-item Perceived Stress Scale (PSS; Cohen, & Williamson, 1988). Items use a 5-point Likert scale from 'Never' (0) to 'Very Often' (4) and measures the severity of stress (e.g., *"how often have you felt nervous and "stressed"?", "how often have you been able to control irritations in your life?"*, etc.). Scores can range from 0 to 40 with higher scores inferring a greater deal of perceived stress. Roberti et al. (2006) supported the psychometrics of the PSS-10 in a study of 281 undergraduates, majorly female and white, from three universities. Internal consistency for the measure was high (Cronbach's α = .89). Convergent validity was demonstrated through PSS-10 score to STAI-T (State-Trait Anxiety Inventory-Trait version; $r = 0.73$, $p < 0.0001$) total score correlation and its sub-scores correlations with anxiety ($r = 0.59$, $p < 0.0001$) and depression ($r = 0.72$, $p < 0.0001$).

Perceptions of College

Additional information regarding parental support to attend college, preparedness for college, and mental health resource availability was gathered to learn more about students' pre-collegiate and current collegiate experiences. This short survey had three 5-point Likert items ranging from 'Strongly disagree' (1) to 'Strongly agree' (5). For example, one item asks students to "*Rate how strongly [they] agree or disagree with the following statement: My parents are*

supportive of me attending college." The three items were each paired with three open-ended responses for students to share more about why they selected the number on the scale (e.g., "*describe why you selected the above response*.").

Perceived Distance

One item from the Personal Data Questionnaire (PDQ, adapted from Mooney, 1989) to learn more about students' feelings about the distance away from home (e.g., *"I feel that the distance this college is located from my home is:*"). The one item uses a 10-point Likert scale ranging from 'Too far' (1) to 'Just Right' (10).

Impact of COVID-19

A few measures were added to gauge students experiences after the height of the COVID-19 pandemic which impacted many students during the 2020 - 2021 academic year prior to this study being released. One item from the Copeland et al. (2021) Survey Items measurement was adapted and used in this study: "*Please rate how much the COVID-19 outbreak has been [stressful] to you personally. Think about your daily routines, work, and family life*." The item uses a 10-point Likert scale of 'Not at all stressful' (0) to 'Extremely stressful' (10). For this study, eleven items were also developed to learn whether certain aspects about their lives improved, stayed the same, or worsened after the start of the pandemic (e.g., *Last year my eating habits [improved / stayed the same / worsened] after the start of the pandemic*). Two more items were added to learn where students were taking classes in the prior academic year and again at the time of the survey. Students were asked if their education was 'all virtual', a 'mix of virtual and in-person', or 'all in-person'.

Power Analysis

To approximate the number of students that should be recruited for this study, effect sizes from studies related to relocating were examined. Reyes-Rodriguez et al. (2012), for example, used a sample of 2,000 Puerto Rican students who had relocated to different universities within the same island. This study found a small effect size associated with depression severity between students who had moved or not moved for college. Because there were limited studies that specifically investigated the relation between relocating and mental health in the United States for Latinx students (e.g., Reyes-Rodriguez et al., 2012), comparable studies from White and international college student samples were also explored. In regard to relocating, many studies have analyzed homesickness, a psychosocial stressor heavily correlated with factors such as depression and anxiety. These studies have found homesickness to have a medium to large effect size in Portuguese, British, and Dutch college student populations (e.g., Pisco et al., 2017; Fisher & Hood, 1987; Stroebe et al., 2002; Tognoli, 2003). Overall, small to large effect sizes have been found when examining the effect of relocating on related psychosocial factors in predominately White university populations. Research has also shown that ethnic minorities tend to experience more challenges during their college experience compared to their White peers (e.g., Johnson et al., 2007, Nora & Cabrera, 1996; Santiago et al., 2019; Smith et al., 2014). Thus, based on prior findings with studies' results ranging between small and large effect sizes, this study will presume a medium effect size.

G*Power, a statistical power analysis software, was utilized to calculate a sample size to aim for in this study (Faul et al., 2009). All a priori power analyses in G*Power (e.g., ANOVAs, MANOVAs, and chi-square tests) were performed with a power of .80 and alpha of 0.05. To detect a medium effect size using the various statistical measures, G*Power results suggested

that a total sample size between 78 to 133 students was recommended. Therefore, this study required at least 39 participants per group to detect medium effect sizes but aimed to recruit 100 non-relocators and 100 relocators in an effort to increase statistical power.

Data Analysis Plan

SPSS was used to obtain descriptive statistics for categorical measurements of demographics and the effect of relocating for college on psychosocial stressors, social support, and mental health. SPSS was also used to perform MANOVAs, ANOVAs, and chi-square tests to check for significance between independent and dependent variables. Exploratory analyses were performed after identifying significant key findings from data analyses.

Hypothesis 1 stated that relocators would report higher levels of depression, anxiety, and stress compared to non-relocators. One one-way MANOVA was used to determine the relationship between the independent variable, relocation status (RGV relocator or RGV non-relocator), and the three dependent variables, depression, anxiety, and stress. A MANOVA was considered rather than three one-way ANOVAs to decrease the risk of a Type I error and to increase the chance of revealing subtle differences between groups that may not have been undetected using univariate ANOVAs for reach related dependent variable. A post hoc test was planned to be conducted if findings from the MANOVA had been significant. Chi-square tests were also used to determine differences in prevalence of depression, anxiety, and stress (e.g., minimal/none, mild, moderate, or severe) between groups.

Hypothesis 2 stated that relocators would report higher levels of acculturative stress, loneliness, and lower levels of sense of belonging compared to non-relocators. Three one-way ANOVAs were used to determine the relationship between the independent variable, relocation status, and each of the three dependent variables or potential psychosocial stressors.

Hypotheses 3 stated that relocators would experience lower levels of social support compared to non-relocators. One one-way ANOVAs was used to understand the relationship between the independent variable, relocation status, and the dependent variable, perceived level of social support.

Data Cleaning

Although there were 1,013 data samples, only 159 samples were considered viable for analysis. Responses were only considered if a certain percentage of attention checks were met, if students responded within set time frames, and if students fit the populations of interest. Out of the 1,013 data samples only 244 samples responded correctly to at least 80% of the attention checks. Additionally, only participants who responded between late-October to mid-November in 2021 and between early-January and late-April were considered. In late-November, a survey bot was suspected of submitting false data in the study likely to gain an entry to the raffle incentive. This was evidenced by multiple qualitative responses having the same response verbatim, and numerous raffle entries with phone number area codes unfamiliar to the South Texas area and email addresses that followed a similar pattern, such as first name, last name, and four random digits followed by @gmail.com. Some bot responses were indistinguishable from human responses, thus only responses before and after the bot attack were considered; thus, 79 participants in the dataset were removed in this step. After excluding samples that did not meet the attention check cutoff or were part of the survey bot interference, there were 165 participants remaining to consider. Six more would be excluded after following screening data guidelines for multivariate analyses (Tabachnick & Fidell, 2013).

To conduct multivariate assumption testing, Tabachnick & Fidell (2013) suggests: (a) examining descriptive statistics; (b) assessing the dataset for participants who may not meet

criteria and check for patterns of missing data; (c) ensuring all variables demonstrate linearity across groups and show homogeneity of variance; (d) checking for violations of normality; (e) testing for multivariate outliers; and (f) confirming there is no multicollinearity across variables used in multivariate analyses. All but the latter two proved necessary for the ANOVA assumption testing necessary for Hypotheses 2 and 3.

Descriptive analyses ran showed that all dependent variable scores fell within the range of their respective measurements (See Table 1). Univariate outliers were examined using *z* scores. Any data exceeding a *z* score of 3.29, two-tailed, within their groups would be considered outliers; all data fell within the -3.29 to 3.29 *z* score range suggesting that this dataset may have no serious univariate outliers to consider.

The next step was to assess the dataset for participants who may not meet criteria and check for patterns of missing data. All home residence zip codes were recoded into the four counties of the RGV: Cameron, Hidalgo, Starr, and Willacy, and non-relocators and relocators needed to have listed a permanent zip code from one of the four counties to ensure they were from the RGV area. There were seven home zip codes that were unidentified through this process. One relocated student had listed two zip codes from neighboring cities in the Rio Grande Valley ("78504 and 78573"), so only the first was considered for this analysis. One student had a space in their entry, so the space was eliminated to count the student in the analysis. Five other students had listed home zip codes that were not consistent with zip codes from the Rio Grande Valley; for instance, one student listed their home zip code from Mexico and another from Tennessee. The remainder were from counties in Texas that were not part of the sample of interests, such as Brazos, Kingsville, and Webb counties. In total, five students

were eliminated because students needed to have resided in the RGV prior to college to be considered.

Next, all participants' current zip codes were recoded into the county they are currently living in while attending their college which included the four counties in the RGV and counties relocated students are residing in (e.g., Austin, Bexar, Brazos, Crawford, etc.). There were two zip codes that could not be identified and another participant who warranted further investigation after describing themselves as non-relocated but had listed their current zip code in Central Texas. One non-relocated participant had listed their current zip code as '78532' which does not exist, however, because this zip code was similar to the home zip code of '78542' which is part of the RGV and does exist, the decision was made to keep this participant and correct the current zip code due to a potential minor typo. Another participant listed their current zip code as 02318 which does not exist, however, the student's university is listed as 02138, so the decision was made to replace the current zip code with 02138. The last participant had identified as non-relocated, meaning they should be residing in the RGV for college but listed their current zip code in Central Texas. This participant claimed to be attending UTRGV and "living in Texas but not in the RGV"; this participant did not fit into the criteria for this study and was thus, eliminated as a participant. A total of 159 participants were remaining: 110 non-relocators and 49 relocators.

Patterns of missing data were analyzed using the SPSS Missing Values Analysis function and Little's Missing Completely at Random (MCAR) test through SPSS (Little, 1988). Variable missing percentages were 4.4% for depression scores, 0% for anxiety scores, 1.3% for stress scores, 0.6% for loneliness scores, 0% for acculturative stress scores, 0.6% for sense of belonging scores, and 1.3% for perceived social support scores. Little's MCAR test proved to be

insignificant ($\chi^2 = 29.503$, $p = 0.439$) which implies that the data is missing completely at random. Because less than 5% of data was missing in each variable, any method of addressing the missingness is considered suitable (Tabachnick & Fidell, 2013). Since the sample size was relatively small and 7 participants would be missing when the MANOVA was conducted, the decision was made to conduct the MANOVA intended for Hypothesis 1 with and without multiple imputation. This would potentially help maintain the remaining sample size and use objective estimates to replace the missing data to assess significance and prospective differences would later be compared.

The Impute Missing Data Values function on SPSS was implemented to run multiple imputation. The variables for the anticipated MANOVA, including the predictor variable, relocation status, and the dependent variables, depression, anxiety, and stress, were used in the model. Ten datasets with various outputs suggested replacements for the nine missing datapoints from seven samples total were saved and averaged. The new averages of all 10 suggested replacements for the missing values were integrated into a new dataset that would be analyzed and checked for assumptions in parallel with the original dataset.

Moving forward, all variables in this study needed to demonstrate linearity and show homogeneity of variance across groups. Pairwise plots showed that there were linear relationships between the three variables (i.e., depression, anxiety, and stress) that would be used for the MANOVA without (see Figure 2: Pairwise Plots of Dependent Variables) and with data from multiple imputation (see Figure 3: Pairwise Plots of Dependent Variables After Multiple Imputation). Bartlett's test of homogeneity of variance was used to check for violations of unequal variances across groups since it is not sensitive to unequal sample sizes (Vorapongsathorn et al., 2004). Bartlett's test for homogeneity of variance was only significant

for the sense of belonging to campus variable ($T = 9.12$, $p = 0.003$) meaning that there may be unequal variances between groups. This could render the ANOVA results planned for this variable as less reliable. All other groups variables included were found to be insignificant ($p > 0.05$; see Table 2).

Before considering a transformation for the sense of belonging variable, normality was also assessed by examining skewness and kurtosis. *Z* scores for the skewness and kurtoses of all groups were used to assess deviations from normality. The *z* score for skewness was calculated using the equation $(S - 0) / S_s$ where, S is the skewness value and S_s is the standard error of the skewness value; the *z* score for kurtosis was calculated using the equation $(K - 0) / S_k$ where, K is the kurtosis value and S_k is the standard error of the skewness value (Tabachnick & Fidell, 2013). Due to the relatively small sample sizes attained in this study, *z* scores exceeding 3.27 were used to identify deviations from normality. All variables between groups had maintained normality (see Table 3). Afterwards, to keep all analyses consistent, the original sense of belonging scale was preserved without transformation to maintain its interpretation (Tabachnick & Fidell, 2013).

To screen for multivariate outliers of concern for the anticipated MANOVA analyses, Mahalanobis' distance was calculated but no multivariate outliers were identified as outliers at an alpha level of 0.001 for the original dataset nor the dataset with multiple imputations. Lastly, collinearity diagnostics were run on SPSS to assess for multicollinearity among the three dependent variables together for the MANOVA analyses. Multicollinearity can be statistically detected using condition indices which are processed in collinearity diagnostics; condition indices between 10 and 30 may imply multicollinearity and indices above 30 suggest strong multicollinearity (Kim, 2019; Tabachnick & Fidell, 2013). Condition indices ranged from 1 to

9.31 for the original dataset and from 1 to 9.52 for the dataset with multiple imputations, thus suggesting there is no multicollinearity.

Depression, anxiety, and perceived stress severity scores were also categorized in their nominal severity group in SPSS. The categorization of scores by severity allowed for assumption testing for the chi-square test planned for Hypothesis 1. At least 80% of the expected cell counts per table needed to be equal to or greater than 5 (McHugh, 2013). All tables for the severity of depression, anxiety, and perceived stress for both the original dataset and the dataset with means from multiple imputation met this assumption (see Tables 4, 5, 6, 7, and 8). At this point, the passing of all assumptions checked for all anticipated statistical tests allowed for this study to describe its participants and conduct hypotheses testing now more accurately. Descriptive statistics after the data cleaning were ran again (see Table 9).

CHAPTER III

RESULTS

Participants in Hypothesis Testing

Participants were 110 non-relocators and 49 relocators. The sample was majorly female (66.7%), heterosexual (67.3%), and identified as U.S. citizens (93.7%). Non-relocators and relocators were both around the same age at the time of the study (non-relocators, *M* = 18.85, *SD* = 1.37; relocators, *M* = 18.96, *SD* = 0.82). Relocators had also spent more time living in the U.S. than non-relocators (non-relocators, *M* = 16.24, *SD* = 5.47; relocators, *M* = 18.14, *SD* = 2.51). Non-relocator and relocator groups were similar in terms of first-generation college going status (non-relocators, first-generation = 60.9%, not first-generation = 32.7%; relocators, first-generation = 59.2%, not first-generation = 38.8%). A higher percentage of non-relocators reported their family annual income was $60,000 or less compared to relocators (non-relocators = 63.3%; relocators = 71.8%), and relocators had a higher high school GPA compared to non-relocators (non-relocators, *M* = 3.47, *SD* = 0.46; relocators, *M* = 3.70, *SD* = 0.50). Moreover, a higher percentage of relocators felt that their overall well-being improved after the start of the COVID-19 pandemic in 2020 compared to non-relocators (non-relocators = 15.5%; relocators = 24.5%). Students were also asked to "rate how much the COVID-19 outbreak has been stressful to [them] personally," and non-relocators reported a higher average of COVID-19 related stress compared to relocators (non-relocators, *M* = 6.82, *SD* = 2.49; relocators, *M* = 6.59, *SD* = 2.75). At the time of the study, a majority of non-relocators were living with family at home (90.9%),

while most relocators were living on-campus (71.4%) at their institution and the remaining were living off-campus (28.6%). More participant demographic detail can be found in Table 10.

Hypothesis Testing

H1: Mental Health Between Groups

The first hypothesis was aimed at learning if there were differences in mental health between groups. This was to be measured using a one-way MANOVA and Pearson's chi-square tests. A MANOVA was run to determine if there were group differences in mental health (depression, anxiety, and stress) based on relocation status (relocated or non-relocated). Three chi-squares were run to determine if there were significant differences in severity levels of depression, anxiety, and stress based on relocation status. Both the MANOVA and chi-squares were analyzed using the original data set and the data set with means garnered from multiple imputation.

For the original dataset, results from the MANOVA were found to be insignificant, $F(3, 148) = 1.775$, $p = 0.155$; Wilk's $\Lambda = 0.965$, partial $\eta 2 = 0.035$ suggesting that there are no statistically significant differences in mental health between groups. Moreover, there were no significant associations between relocation and depression [X^2 (4, $N = 152$) = 7.36, $p = 0.118$; Cramer's $V = 0.220$; large effect size], anxiety [X^2 (3, $N = 159$) = 3.37, $p = 0.338$; Cramer's $V = 0.146$; small effect size], or stress severity levels [X^2 (2, $N = 157$) = 4.874, $p = 0.087$; Cramer's $V = 0.176$; small effect size].

For the dataset with missing datapoint filled in with multiple imputation, results from the MANOVA were also found to be insignificant, $F(3, 155) = 2.005$, $p = 0.116$; Wilk's $\Lambda = 0.963$, partial $\eta 2 = 0.037$ suggesting that even without the missing datapoints, there are still no statistically significant differences in mental health between groups. Additionally, there were no

significant associations between relocation and depression [X^2 (4, N = 159) = 6.97, p = 0.138; Cramer's V = 0.209; medium effect size], or stress severity levels [X^2 (2, N = 159) = 5.229, p = 0.073; Cramer's V = 0.181; small effect size]. Anxiety chi-square results remained unchanged since there were no missing datapoints for this variable. These findings did not support Hypothesis 1.

H2: Psychosocial Stressors Between Groups

The second hypothesis was aimed at learning if there were differences in psychosocial stressors between groups. This was measured using three one-way ANOVAs to determine if there were group differences in psychosocial stressors (acculturative stress, loneliness, and sense of belonging) based on relocation status (relocated or non-relocated). Results from the ANOVAs for acculturative stress [F(1, 157) = 0.697, p = 0.405] and loneliness [F(1, 156) = 2.235, p = 0.137] were both found to be insignificant, but result from the ANOVA for sense of belonging was significant [F(1, 156) = 22.646, p < 0.001]. Relocators reported a stronger sense of belonging to their campus (M = 23.23, SD = 5.64) than non-relocators (M = 16.91, SD = 8.39). These findings did not support Hypothesis 2 which suggested that relocators would encounter more psychosocial stressors than non-relocators (see Table 9 for descriptive statistics).

H3: Social Support Between Groups

The third hypothesis was aimed at learning if there were differences in perceived social support between groups. This was measured using one one-way ANOVAs to determine if there were group differences in social support based on relocation status (relocated or non-relocated). Results from the ANOVA for social support was found to be significant [F(1, 155) = 4.293, p = 0.04]. Relocators perceived higher levels of social support (M = 65.61, SD = 14.16) compared to non-relocators (M = 59.99, SD = 16.42). This finding did not support Hypothesis 3 which

suggested that relocators would perceive lower levels of social support during their transition to college compared to non-relocators (see Table 9 for descriptive statistics).

Post Hoc Analysis

Because the MSPSS scale was used, sub-scales of this measure could also be further analyzed. The total score of social support is the sum of support from friends, family, and significant others, thus sub-scales were checked for assumptions. Using *Z* scores, no outliers were found between groups for each sub-scale, but three groups failed to meet normality based on their skewness: MSPSS Family – Relocators, MSPSS Friends – Relocators, and MSPSS Significant Others – Non-Relocators. Moreover, homogeneity of variance was violated in the MSPSS Family sub-scale measure. Three one-way ANOVAs were run on these sub-scales to maintain the interpretation of these scales. The difference between groups for support from friends [$F(1, 155) = 2.473$, $p = 0.118$] was not found to be significant (non-relocators, $M = 19.56$, $SD = 6.23$; relocators, $M = 21.22$, $SD = 5.90$). The difference between groups for support from significant others [$F(1, 156) = 0.325$, $p = 0.569$] was also not found to be significant (non-relocators, $M = 20.46$, $SD = 7.40$; relocators, $M = 21.18$, $SD = 7.38$). Yet, the difference between groups for support from family was found to be significant [$F(1,157) = 9.667$, $p = 0.002$]. Relocators were reporting higher levels of support from their family ($M = 23.20$, $SD = 4.96$) compared to non-relocators ($M = 19.94$, $SD = 6.57$)

CHAPTER IV

DISCUSSION

While there are many factors involved in a positive (or negative) transition to college, it is imperative to consider various aspects involved in the adjustment to college. The experience of relocating for college, in particular, has seldomly been explored in research of college students and much less in minority college student populations. The lack of literature regarding Latinx college students' adjustment after moving away for their higher education is concerning considering that Latinx college students often faced with additional stressors that make college persistence and completion more difficult for them (e.g., Johnson et al., 2007, Nora & Cabrera, 1996; Santiago et al., 2019; Smith et al., 2014). This research effort attempted to learn whether relocating has been linked to negative adjustment outcomes as it has been found to do in White college student populations (Brooks & Dubois, 1995; Mooney et al., 1991; Tognoli, 2003) and in one study of Latinx college students attending universities in Puerto Rico (Reyes-Rodriguez et al., 2012). Contrary to prior literature, this study did not find significant mental health differences between relocated and non-relocated Latinx college students but found that relocated students felt a stronger sense of belonging to their campus and higher levels of perceived social support compared to non-relocated students. Both of which variables have been seen as protective factors in several past studies (Cohen et al., 1986; Gummadam et al., 2016) and can help ease the often-stressful process of moving to and adjusting to a new environment.

Finding 1. Sense of Belonging

Sense of belonging was originally hypothesized to be poorer for Latinx college students who had relocated compared to students who had not, but the contrary was found in this study. It is possible a higher level of sense of belonging was reported for RGV relocated students because moving for college may put relocated students in a position where they are more likely to encounter and interact with faculty, peers, and events on-campus. Pascarella (1984) theorized that students who live in residential housing experience more social integration (i.e., interactions with faculty and peers) than students who commute and live with family. Additionally, Pascarella (1984) found that students who lived on-campus perceived a more positive college experience academically and socially compared to their counterparts who were living at home with family. Other studies have provided more evidence for this finding.

One study by King et al. (2011) learned that students who had relocated for college were more likely to "feel part of [the] university community" compared to students who had not relocated and Duran et al., (2020) also found that living on campus and supportive residential communities were positively related to sense of belonging. Results from this study found that only 2.7% of non-relocators were living on-campus while 71.4% of relocators were living on-campus. Approximately 91% of non-relocators were living at home with family. Therefore, relocated students were likelier to live on-campus compared to non-relocated students and may be interacting more with their campus, inevitably, feeling a stronger belonging to their university in the process.

Overall, living on campus may allow for closer proximity and easier access to campus life compared to students who live with family and need to commute. This finding is congruent with literature that has found sense of belonging to be stronger for students who had relocated for

college (King et al., 2011) or are living on-campus (Duran et al., 2020; Pascarella, 1984). While a majority of the relocated students in this study were living on-campus, additional clarifying studies could aim to determine whether relocating students who are living off-campus are also just as open or wanting to engage with their university. Another interesting avenue of exploration could be to learn whether students who are living closer to campus but in off-campus housing or with family are experiencing similarly high levels of sense of belonging comparable to their on-campus peers. Students could potentially be more motivated to make the shorter voyage to campus and engage with their campus the closer they live which could help foster their sense of belonging to campus.

Finding 2. Social Support

Perceived social support was hypothesized to be poorer for relocated students compared to non-relocated students, but the contrary was also found in this study. The relocated group in this study may have reported a stronger quality of social support because they can maintain their pre-collegiate relationships from home through technology if they desire while cultivating new connections at their institution. On the other hand, non-relocated students may have easier access to their pre-collegiate friends and may be less open to continue developing and enhancing their social network. Supplemental post hoc testing showed that of the different subscales for the measurement used, perceived support was higher from friends, family, and significant others for relocators, but only the difference between support from family was significant. Relocated students, albeit miles away from home, were reporting higher levels of perceived support from family members compared to non-relocated students, most of who were living at home at the time of the study. Interestingly, over 80% of both groups strongly agreed that their parents were supportive of them attending college. It could be that supporting a student's decision to attend

college does not necessarily mean the student will be given adequate support from family throughout the student's duration in college. It may also be that students who remain closer to home are habituated to the support they receive from family members whereas relocated students who may connect less with family may find the fewer interactions with loved ones more substantial. With no prior research found that could explain this result identified, this finding warrants additional examination.

Generally, literature has instead compared social support from friends between relocated and non-relocated groups. For example, King et al. (2011) found that 100% of first year relocated college students had made new friends compared to 88% of the non-relocated student sample. Today, technology can potentially mitigate the distress of being away from loved ones. For example, Tognoli (2003) found that some students who moved over 100 miles away from home for college were combatting feelings of homesickness by maintaining contact with friends and family via phone call or email. Nevertheless, it is no replacement for in-person interactions which might encourage students to seek out new connections on-campus during the semester. Skahill (2002) showed that relocated students reported a larger decline in their original social network between the start and end of their first semester compared to commuter students but made more new college-related friends through their institution. Furthermore, as students refilled their social network throughout the semester, they appeared to be more interested in the quality of their social support system rather than increasing the size. Thus, one limitation that became apparent after learning of the difference in social support was that the measurement used in this study, the MSPSS, only takes a snapshot measurement of students' perceived level of social support during their first or second semester of college. Future studies should aim to look at how social support may alter from before and during the college transition and what factors are

impacting the perceived quality of support between these two points in time (e.g., is parental support related the number of interactions they have with their child after they have relocated for college, the type of support the parents are providing, or how often parents visit their child).

Overall, results from this study are congruent with the few other studies that have found presumptive evidence that relocated students may feel more socially supported and engaged in seeking out new friends than non-relocated students (King et al., 2011; Skahill, 2002) While the understanding of the relationship between relocating and support from friends has been marginally inspected, additional studies should aim to learn more about perceived difference in support from family between relocated and non-relocated groups. Seeing that non-relocated Latinx students, a majority of which were living with parents, were perceiving lower levels of support from family was a curious finding. This should continue to be investigated in future students and potentially replicated to understand whether these results would be found in another college student sample. If so, it would improve our understanding as to why students who have not relocated for college feel that their support from family is poorer and whether this is based on student perception or if the quality of support from family is truly and inadvertently lower for students who did not relocate. This is pertinent to the RGV community where an estimated 75% of high school graduates will choose to enroll at a college in the RGV community, and in turn, might live closer to or with family (Lumina Foundation, 2019).

Limitations

This study had some limitations that should be considered, such as limitations regarding design and internal validity. Firstly, this study utilized a cross-sectional design and thus cannot evince cause and effect, only whether relationships exist between the predictor and dependent variables at the time the participant chose to take the study. Secondly, internal validity may have

been somewhat reduced due to the nature of the recruitment method necessary for hypotheses testing. RGV non-relocated participants were recruited through a listserv that only incorporated freshmen and sophomores attending the University of Texas Rio Grande Valley, and students attending other four-year institutions in the community were not recruited. In contrast, most RGV relocated participants were recruited through point-persons and point-organizations, a majority of which focused on college access and success initiatives or student community-building that might have provided students additional support or resources during their college transition. Hence, the RGV relocated population that was identified may have had stronger access to support systems, and the sample may not have incorporated the population of relocators who did not identify as part of these support systems and may be struggling more in their college adjustment as a result. Moreover, non-relocators were surveyed in the fall whereas relocators were surveyed in the spring; this study did not include relocators who might have been struggling in the fall and left university before accessing the study. This was further evidenced by a handful of individuals who would have identified as relocators inquiring about participating in the study in the spring but who dropped out, transferred, or took breaks from their original university in the fall. Additionally, 37.7% of the total sample identified as second-year students. Though second-year students are still relatively new in their collegiate career, this portion of students may have already had time to adjust in college.

Other limitations involve generalizability. This study sampled Latinx student participants from a community where approximately 92% of the population identify as Hispanic. Furthermore, all non-relocators were attending a Hispanic Serving Institution (HSI) in the community where around 90% of students identify as Hispanic. Approximately 84% of relocators chose to stay within the state, and of the relocating group, around three-fourths were

attending an HSI in Texas (Hispanic Association of Colleges and Universities, 2022). In fact, Texas has the second highest concentration of HSIs in the United States (n = 97) behind California (n = 174), so many relocators in this study transitioned from a Latinx majority community to attend a university with a notable Latinx student population. Though some findings of this study may not be as generalizable, some broader themes might be seen in other studies; for example, it is possible that relocating and being encouraged to socially integrate with one's campus thus improving sense of belonging may hold true for broad student samples.

A few other limitations to be mindful of include the analyses utilized and statistical power. The decision to run an ANOVA on sense of belonging with unequal group variances may have impacted the result produced which may have occurred due to unequal sample sizes recruited in this study. Furthermore, with over 100 non-relocators and 49 relocators recruited, power may have been restricted in this study due to the lack of equally robust sample sizes.

Implications of Findings

This study is one of the few studies to reach out to students attending other universities away from their home residence rather than sampling non-relocated and relocated students attending the same institution, usually the institution where the researcher is employed. This method has its benefits such as understanding the differences between non-relocated and relocated students attending the same institution with similar access to campus resources, however, the relocated sample may be significantly diverse and encompass students from various backgrounds. It is important for studies interested in the intersection of mental health and college achievement outcomes to learn where students might be leaving to and gaining more knowledge about their experiences at different universities when controlling for residence of origin. Although surveying students from a specific institution can prove the single institution more

insight on how to better serve students enrolled, surveying students from a specific community can provide all stakeholders (e.g., parents, college readiness teachers, nonprofits, etc.) more insight on how to better serve students prior to and throughout the college transition. Through this process, researchers can learn in what ways students from a specific community may be at an advantage (or disadvantage) when they choose to leave for home. This is particularly important for cultures like Latinx groups that are known to value familism. For example, one study found that parents of Latinx college-going students may not be as supportive of their child's decision to move away for college and would prefer that their child stay close after high school (Ozuna et al., 2016).

Should more evidence show that students who are leaving are experiencing similar or greater access to opportunities or positive experiences, this information could be disseminated to concerned families so that they might become more aware of the benefits of moving away for college. For instance, Ozuna et al.'s, (2016) study found that parents of Latinx students felt more comfortable with the idea of their child moving for college after hearing more about the successes of other students who left for college from the same community. Moreover, at the secondary education level, college readiness organizations in communities can share more substantial and evidence-based benefits of leaving for college aside from the assertions of making new friends or seeing new places. These same organizations can provide psychoeducation on what advantages and challenges students could expect during the college transition; while students could feel uncomfortable with the transition at first, the integration with their new university away from is more likely to result in better academic and psychological outcomes (Skahill, 2002). At the collegiate level, universities with considerable non-relocated populations may find it worth investigating what type of effective programming universities with

relocated students are doing to cultivate student immersion on campus that do not require for students to live on campus. In doing so, non-relocated students can build stronger relationships with university faculty and new peers, and in turn, enhance their sense of belonging to campus.

Future Directions

Taking into consideration some of the challenges this study encountered, future attempts can improve the method used in this research effort. A longitudinal design would benefit this kind of study greatly. During the recruitment process, most school districts in the community admitted that they did not keep up with students' post-graduation and were hesitant to publicize the study on social media pages since posts were prioritized for current parents and students. The few school districts with access to graduated students tended to have point-persons or departments who continued supporting their alumni which might have also influenced the results in this study. Additionally, some students had relocated but dropped out of the original institution in the fall term before finding the study in the spring; it's possible that results did not encompass student with more unpleasant experiences during their college transition. This brought into question whether relocating or indirect factors related to relocating (e.g., affording the cost of living in the new environment) could play a role college persistence but this was not a focus of this study. An enhanced approach might involve recruiting students while they are high school seniors to cast a wider net of possible participants and surveying students at different points in time during their college transition. Longitudinal designs in studies focused on college students are not new, however, this has not appeared to have been implemented in the small research niche aiming to understanding whether relocating can impact student mental health.

Though this study did not find significant differences between the mental health, loneliness, or acculturative stress between Latinx college students who did and did not move for

college, sense of belonging and social support were both found to be higher for students who had moved for college than students who had remained in their community for college. Inevitably, relocating for college may put students in a situation where they are more inclined to socially and academically integrate if they are to positively adjust and become comfortable in their new environment. In addition to being pleasant factors themselves, sense of belonging and social support can positively impact in student wellbeing in other ways. For example, sense of belonging has been positively correlated with self-worth, social acceptance, and negatively correlated with depression (Gummadam, 2016). Moreover, as a protective factor, social support is also known to mitigate the impact stressors can have on the severity of mental health concerns (e.g., Crookett et al., 2007). As it is, mental health concerns can have devastating effects on students' academic progress and performance and can eventually lead to attrition (e.g., ACHA, 2019; Boyraz et al., 2016; Hysebegasi et al., 2005). Thus, it is important to keep learning more about the various factors involved in student transition that may or may not play a role in student wellbeing and academic success. Ultimately, this study provided some evidence that the factor of relocating for college may lead to improved student wellbeing, however, more research is certainly necessary to improve the generalizability of these findings and better determine whether relocating for college is in fact the right move.

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APPENDIX A

APPENDIX A

Demographics

1. What is your age in years? _____
2. Which gender identity do you mostly identify with:
    (1) female
    (2) male
    (3) transgender female / transgender woman
    (4) transgender male / transgender man
    (5) genderqueer / gender non-conforming / gender fluid
    (6) unsure / questioning
    (7) other: _____
    (8) *prefer not to answer
3. What is your sexual orientation?
    (1) Straight/Heterosexual
    (2) Bisexual
    (3) Lesbian
    (4) Gay
    (5) Pansexual
    (6) Asexual / Ace
    (7) Unsure / questioning
    (8) other: _____
    (9) *prefer not to answer
5. What is your race (Select all that apply)
    (1) White
    (2) Black or African American
    (3) Asian
    (4) American Indian or Alaska Native
    (5) Native Hawaiian or Other Pacific Islander
    (6) Other: _____
6. Which language do you prefer speaking?
    (1) English
    (2) Spanish
    (3) Other: _____
7. Approximately, how many years have you lived in the U.S.? _____
8. Citizenship
    (1) US Citizen
    (2) US Permanent Resident / Non-US Citizen/ Non-US Permanent Resident

9. What college are you currently enrolled at:
    (1) I am enrolled at UTRGV.
    (2) I am enrolled in a university that is NOT in the RGV.
        Branch Logic:
            Where are you enrolled?
            A) I am enrolled in a university within Texas but NOT in the RGV.
            B) I am enrolled in a university outside of Texas.

            What is the name of the university you are currently enrolled at?
            _____
10. For the Fall 2021 semester, where are you currently living?
    (1) I am currently living in the RGV
    (2) I am currently living in Texas but NOT in the RGV.
    (3) I am currently living out-of-state (i.e., NOT in Texas).
11. What is the zip code of your permanent residence in the RGV (i.e., the zip code you resided in before college)? _____
12. What is the zip code of your current residence (i.e., the zip code you live in now while you attend college)? _____
13. What is your current living situation this semester?
    (1) I am living with family at home.
    (2) I am living on-campus.
    (3) I am living off-campus.
    (4) Other, please describe: _____
14. What was your living situation during the past academic term (Fall 2020 – Spring 2021)?
    (1) I was living with family at home.
    (2) I was living on-campus.
    (3) I was living off-campus.
    (4) Other, please describe: _____
15. Were you enrolled in school during the past academic term (Fall 2020 – Spring 2021)?
    (1) Yes, college
    (2) Yes, high school
    (3) No, please describe: _____
16. Are you currently a first-year or second-year student?
    (1) First-year / freshman
    (2) Second-year / sophomore
17. Approximately what was your GPA in high school on a 4.0 scale?
___ / 4.0
18. Are you a full-time or part-time student:
    (1) Full-time (I am enrolled in at least 12 hours or credits at my campus).
    (2) Part-time (I am enrolled in l1 or less hours or credits at my campus).
19. Are you currently employed?
    (1) Yes
        Branch Logic:
            20. Approximately, how many hours do you work per week on average?
            _____
    (2) No

21. What is the best estimate of your family's yearly income before taxes?

(1) $0 - $10,000
(2) $10,001 - $20,000
(3) $20,001 - $30,000
(4) $30,001 - $40,000
(5) $40,001 - $50,000
(6) $50,001 - $60,000
(7) $60,001 - $70,000
(8) $70,001 - $80,000
(9) $90,001 - $100,000
(10) $100,001 or more

22. Including yourself, how many people live in your household?

_____

23. First generation college student status:

(1) My parents/guardians do NOT have at least a bachelor's degree.
(2) One parent/guardian has at least a bachelor's degree.
(3) Both of my parents/guardians have at least a bachelor's degree.
(4) I am unsure.

24. Are you involved in any mandatory enrichment courses or programs offered by your school to help you succeed in your classes?

(1) Yes
(2) No
(3) Unsure

APPENDIX B

APPENDIX B

Perceptions of College

1. Rate how strongly you agree or disagree with the following statement: My parents are supportive of me attending college.
   (1) Strongly disagree
   (2) Somewhat disagree
   (3) Neither agree nor disagree
   (4) Somewhat agree
   (5) Strongly agree
2. Describe why you selected the above response: _____
3. Rate how strongly you agree or disagree with the following statement: I felt prepared for college.
   (1) Strongly disagree
   (2) Somewhat disagree
   (3) Neither agree nor disagree
   (4) Somewhat agree
   (5) Strongly agree
4. Describe why you selected the above response: _____
5. Rate how strongly you agree or disagree with the following statement: My college does a good job at addressing mental health issues on my campus.
   (1) Strongly disagree
   (2) Somewhat disagree
   (3) Neither agree nor disagree
   (4) Somewhat agree
   (5) Strongly agree
6. Describe why you selected the above response: _____

APPENDIX C

APPENDIX C

Sense of Belonging (Hurtado & Carter, 1997)

1. I see myself as a part of the campus community

Strongly Disagree 0	1	2	3	4	5	6	7	8	9	Strongly Agree 10

2. I feel that I am a member of the campus community

Strongly Disagree 0	1	2	3	4	5	6	7	8	9	Strongly Agree 10

3. I feel a sense of belonging to my campus

Strongly Disagree 0	1	2	3	4	5	6	7	8	9	Strongly Agree 10

APPENDIX D

APPENDIX D

Personal Data Questionnaire (PDQ, adapted from Mooney, 1989)

I feel that the distance this college is located from my home is:

Too far 1	2	3	4	5	6	7	8	9	Just right 10

APPENDIX E

APPENDIX E

Patient Health Questionnaire (PHQ-9; Kroenke, Spitzer & Williams; 2001)

Over the last 2 weeks, how often have you been bothered by any of the following problems? (circle your answers)

Statement	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things.	0	1	2	3
2. Feeling down, depressed, or hopeless.	0	1	2	3
3. Trouble falling or staying asleep or sleeping too much.	0	1	2	3
4. Feeling tired or having little energy.	0	1	2	3
5. Poor appetite or overeating.	0	1	2	3
6. Feeling bad about yourself – or that you are a failure or have let yourself or your family down.	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television.	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite – being so figety or restless that you have been moving around a lot more than usual.	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself.	0	1	2	3

10. If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all _____
Somewhat difficult _____
Very difficult _____
Extremely difficult _____

APPENDIX F

APPENDIX F

General Anxiety Disorder (GAD-7; Spitzer, Kroenke, Williams & Löwe, 2006)

Over the last 2 weeks, how often have you been bothered by any of the following problems? (circle your answers)

Statement	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious, or on edge.	0	1	2	3
2. Not being able to stop or control worrying.	0	1	2	3
3. Worrying too much about different things.	0	1	2	3
4. Trouble relaxing.	0	1	2	3
5. Being so restless that it is hard to sit still.	0	1	2	3
6. Becoming easily annoyed or irritable.	0	1	2	3
7. Feeling afraid, as if something awful might happen.	0	1	2	3

8. If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all _____
Somewhat difficult _____
Very difficult _____
Extremely difficult _____

APPENDIX G

APPENDIX G

Perceived Stress Scale (PSS-10; Cohen, & Williamson, 1988)

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

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly? 0 1 2 3 4

2. In the last month, how often have you felt that you were unable to control the important things in your life? 0 1 2 3 4

3. In the last month, how often have you felt nervous and "stressed"? 0 1 2 3 4

4. In the last month, how often have you felt confident about your ability to handle your personal problems? 0 1 2 3 4

5. In the last month, how often have you felt that things were going your way? 0 1 2 3 4

6. In the last month, how often have you found that you could not cope with all the things that you had to do? 0 1 2 3 4

7. In the last month, how often have you been able to control irritations in your life? 0 1 2 3 4

8. In the last month, how often have you felt that you were on top of things? 0 1 2 3 4

9. In the last month, how often have you been angered because of things that were outside of your control? 0 1 2 3 4

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? 0 1 2 3 4

APPENDIX H

APPENDIX H

Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988)

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the "1" if you **Very Strongly Disagree**
Circle the "2" if you **Strongly Disagree**
Circle the "3" if you **Mildly Disagree**
Circle the "4" if you are **Neutral**
Circle the "5" if you **Mildly Agree**
Circle the "6" if you **Strongly Agree**
Circle the "7" if you **Very Strongly Agree**

1. There is a special person who is around when I am in need.	1 2 3 4 5 6 7 SO
2. There is a special person with whom I can share my joys and sorrows.	1 2 3 4 5 6 7 SO
3. My family really tries to help me.	1 2 3 4 5 6 7 Fam
4. I get the emotional help and support I need from my family.	1 2 3 4 5 6 7 Fam
5. I have a special person who is a real source of comfort to me.	1 2 3 4 5 6 7 SO
6. My friends really try to help me.	1 2 3 4 5 6 7 Fri
7. I can count on my friends when things go wrong.	1 2 3 4 5 6 7 Fri
8. I can talk about my problems with my family.	1 2 3 4 5 6 7 Fam
9. I have friends with whom I can share my joys and sorrows.	1 2 3 4 5 6 7 Fri
10. There is a special person in my life who cares about my feelings.	1 2 3 4 5 6 7 SO
11. My family is willing to help me make decisions.	1 2 3 4 5 6 7 Fam
12. I can talk about my problems with my friends.	1 2 3 4 5 6 7 Fri

The items tended to divide into factor groups relating to the source of the social support, namely family (Fam), friends (Fri) or significant other (SO).

APPENDIX I

APPENDIX I

UCLA Loneliness Scale (ULS-8; Russell, Peplau & Ferguson, 1978; Hays & DiMatteo, 1987)

INSTRUCTIONS: Indicate how often each of the statements below is descriptive of you.

Statement	Never	Rarely	Sometimes	Often
1. I lack compassion.	1	2	3	4
2. There is no one I can turn to.	1	2	3	4
3. I am an outgoing person. *	1	2	3	4
4. I feel left out.	1	2	3	4
5. I feel isolation from others.	1	2	3	4
6. I can find companionship when I want it. *	1	2	3	4
7. I am unhappy being so withdrawn.	1	2	3	4
8. People are around me but not with me.	1	2	3	4

Scoring: The items with an asterisk* are reverse scored. Keep scoring on a continuous basis.

APPENDIX J

APPENDIX J

Social, Attitudinal, Familial, and Environmental Acculturative Stress Scale (SAFE; Mena, Padilla & Maldonado, 1987)

DIRECTIONS: In the following questionnaire, you will be asked questions on your level of stress to different cultural issues. There is no right or wrong answer. Please answer all items and read each statement carefully.

l=Not Stressful
2=Little Stressful
3=Somewhat Stressful
4=Very Stressful
5=Extremely Stressful
*If item Not Applicable to you, please skip

1. I feel uncomfortable when others make jokes about or put down people of my ethnic background.
2. I have more barriers to overcome than most people.
3. It bothers me that family members I am close to do not understand my new values.
4. Close family members and I have conflicting expectations about my future.
5. It is hard to express to my friends how I really feel.
6. My family does not want me to move away but I would like to.
7. It bothers me to think that so many people use drugs.
8. It bothers me that I cannot be with my family.
9. In looking for a good job, I sometimes feel that my ethnicity is a limitation.
10. I don't have any close friends.
11. Many people have stereotypes about my culture or ethnic group and treat me as if they are true.
12. I don't feel at home.
13. People think I am unsociable when in fact I have trouble communicating in English.
14. I often feel that people actively try to stop me from advancing.
15. I often feel that people pressure me to assimilate.
16.I often feel ignored by people who are supposed to assist me.
17. Because I am different I do not get enough credit for the work I do.
18. It bothers me that I have an accent.
19. Loosening the ties with my country is difficult.
20.I often think about my cultural background.

21. Because of my ethnic background, I feel that others often exclude me from participating in their activities.
22. It is difficult for me to "show off" my family.
23. People look down upon me if I practice customs of my own culture.
24.I have trouble understanding others when they speak.

APPENDIX K

APPENDIX K

COVID-19 Impact Questions

COVID-19 Survey Items (1, adapted from Copeland et al., 2021)

1. On a scale of 1-10, please rate how much the COVID-19 outbreak has been stressful to you personally. Think about your daily routines, academics, work, and family life.

1	2	3	4	5	6	7	8	9	10
Not at all stressful				Somewhat stressful					Extremely stressful

2. Think about your experiences from Fall 2020 to Spring 2021, how did the following factors in your life change after the COVID-19 pandemic began?

(a) Last year my ability to concentrate in school [Improved / Stayed the same / Worsened / NA] after the start of the pandemic.
(b) Last year my grades [Improved / Stayed the same / Worsened / NA] after the start of the pandemic.
(c) Last year my financial situation [Improved / Stayed the same / Worsened] after the start of the pandemic.
(d) Last year my access to food [Improved / Stayed the same / Worsened] after the start of the pandemic.
(e) Last year my eating habits [Improved / Stayed the same / Worsened] after the start of the pandemic.
(f) Last year my sleep quality [Improved / Stayed the same / Worsened] after the start of the pandemic.
(g) Last year my physical health [Improved / Stayed the same / Worsened] after the start of the pandemic.
(h) Last year my mental health [Improved / Stayed the same / Worsened] after the start of the pandemic.
(i) Last year my relationships with my friends [Improved / Stayed the same / Worsened] after the start of the pandemic.
(i) Last year my relationships with my family [Improved / Stayed the same / Worsened] after the start of the pandemic.
(k) Last year my overall well-being [Improved / Stayed the same / Worsened] after the start of the pandemic.

3. During the past academic year (Fall 2020 – Spring 2021), where did your classes take place?
    (1) All virtual
    (2) Mix of virtual and in-person
    (3) All in-person
    (4) N/A

4. This year (Fall 2021), where do your classes take place?
    (1) All virtual
    (2) Mix of virtual and in-person
    (3) All in-person

APPENDIX L

APPENDIX L

Informed Consent

College Adjustment of Students from the Rio Grande Valley

You are being invited to participate in a research project conducted by the Principal Investigator (PI), Lisa Lozano, who is a graduate student at The University of Texas Rio Grande Valley. This study is being supervised by the Faculty Advisor, Dr. Juventino Hernandez Rodriguez from The University of Texas Rio Grande Valley. Read the information below carefully. If anything is unclear or you would like more information before deciding, please contact me: lisa.lozano01@utrgv.edu

What is the purpose of this study?

This study aims to understand the feelings and experiences of first and second-year college students and how they have adjusted to college.

How do I know if I'm eligible?

To be eligible, students must be: 1. 18 years or age or older, 2. Latinx or Hispanic, 3. A resident from the Rio Grande Valley, 4. Attending a four-year university, and 5. A first or second year college student.

What will I need to do?

You will be asked to take a 30-40 minute online anonymous survey. The online survey will ask questions about your background, experiences adjusting to college, and mental health.

What will my responses be used for?

This study will contribute to the PI's completion of her thesis and may be used in future reports, presentations, or publications. Findings may also help advocate for the need to develop interventions for students from the RGV as they transition into college.

Are there any benefits if I participate?

You have a 1 in 25 chance of winning a $25 Amazon gift card in a raffle after the survey closes. **Important to note:** Challenge questions will be placed throughout the survey to ensure you were paying attention. You must answer the way the challenge questions direct you to in order to be eligible for the gift card raffle.

Are there any risks if I participate?

It is possible that some participants may feel uncomfortable while answering survey questions. If you experience discomfort, you can always take a break, skip survey questions, or exit the survey altogether without any negative consequences. You may contact the PI or Faculty Advisor should any issues arise.

Will anyone know what I answered?

The thesis or other intellectual documents (e.g., publications) developed from this study's findings will not contain any information that can be linked back to you as a participant. Results will only be analyzed using aggregated data, meaning that the summaries of all participants are examined rather than your individual responses. All responses will be collected anonymously through Qualtrics. If you chose to enter the raffle, your name, email address, and phone number will be collected so we can reach out to you if you win the raffle; however, this information will not be connected to your specific responses and will be destroyed once gift cards have been distributed.

This survey can be completed on an electronic device of your choosing (e.g., tablets, phones, laptops, etc.), but there is no guarantee of the security of the device you choose to enter your responses with. As a participant, you should be mindful that certain technologies and software can monitor or record data or websites that are visited.

Who should I contact if I have any questions or concerns?

If you have any questions regarding this project, you may contact the PI, Lisa Lozano at lisa.lozano01@utrgv.edu or contact my Faculty Advisor, Dr. Juventino Hernandez Rodriguez at Juventino.hernandezrodriguez@utrgv.edu or (956) 665-8219. You may also report concerns – confidentially – to the Institutional Review Board (IRB) at irb@utrgv.edu or (956) 665-3598.

By selecting "Yes" below you are agreeing that:

- You have read this consent form.
- You understand that this is a research study.
- You have voluntarily decided to participate.

I have read the above and agree to participate in this survey:

Yes No

Thank-you in advance for your participation in this study! You are free to save a copy of this consent form or print this page out for your records.

Table 1. Descriptive Statistics in Data Cleaning Process

Relocated Status		PHQ-9	GAD-7	PSS-10	SAFE	ULS-8	SOB	MSPSS
Non-Relocated	Mean	10.35	8.70	20.22	41.70	18.37	17.03	59.76
	S.D.	6.74	6.00	7.57	18.43	5.65	8.32	16.51
	Minimum	.00	.00	2.00	.00	8.00	.00	12.00
	Maximum	27.00	21.00	36.00	97.00	30.00	30.00	84.00
	N	109	114	112	114	113	114	112.00
Relocated	Mean	7.80	7.31	17.98	43.29	16.96	22.94	65.65
	S.D.	5.54	5.96	7.33	17.52	4.78	5.93	13.88
	Minimum	.00	.00	.00	10.00	8.00	8.00	23.00
	Maximum	26.00	21.00	38.00	89.00	27.00	30.00	84.00
	N	49	51	51	51	51	50	51
Total	Mean	9.56	8.27	19.52	42.19	17.93	18.83	61.60
	S.D.	6.48	6.01	7.55	18.11	5.42	8.12	15.93
	Minimum	.00	.00	.00	.00	8.00	.00	12.00
	Maximum	27.00	21.00	38.00	97.00	30.00	30.00	84.00
	N	158	165	163	165	164	164	163

Table 2. Bartlett's Test for Homogeneity of Variance Results

Variables	Non-Relocators S2 (n)	Relocators S2 (n)	df	T	Sig.
PHQ-9	43.34 (105)	31.88 (47)	1	1.43	0.23
GAD-7	35.21 (110)	36.26 (49)	1	0.01	0.90
PSS-10	55.38 (108)	53.81 (49)	1	0.01	0.91
SAFE	330.89 (110)	295.375 (49)	1	0.21	0.65
ULS-8	31.79 (109)	23.23 (49)	1	1.56	0.21
SOB	70.41 (110)	31.80 (48)	1	9.12	<0.01
MSPSS	269.54 (108)	200.45 (49)	1	1.38	0.24
PHQ-9 w/ MI	44.06 (110)	32.09 (49)	1	1.59	0.21
GAD-7 w/ MI	35.21 (110)	36.26 (49)	1	0.01	0.90
PSS-10 w/ MI	55.58 (110)	56.08 (49)	1	0.02	0.90
MSPSS S.O.	55.04 (108)	54.53 (49)	1	0.00	0.97
MSPSS FAM	43.12 (108)	24.58 (49)	1	4.80	<0.05
MSPSS FRI	38.75 (108)	34.84 (49)	1	0.18	0.67

Note: Variables with "MI" include averages from multiple imputation.

Table 3. Skewness and Kurtosis Results from Normality Testing

Variables	Relocation Status	Skewness	Skew *SE*	Skew *Z*	Kurtosis	Kurt *SE*	Kurt *Z*
PHQ-9	Non-Relocators	0.46	0.24	1.93	-0.75	0.47	-1.60
	Relocators	1.08	0.35	3.11	1.41	0.68	2.07
GAD-7	Non-Relocators	0.48	0.23	2.09	-0.82	0.46	-1.79
	Relocators	0.90	0.34	2.65	0.00	0.67	0.00
PSS-10	Non-Relocators	-0.34	0.23	-1.46	0.01	0.46	0.02
	Relocators	-0.07	0.34	-0.21	0.46	0.67	0.69
SAFE	Non-Relocators	0.41	0.23	1.78	0.23	0.46	0.49
	Relocators	0.52	0.34	1.53	0.10	0.67	0.15
ULS-8	Non-Relocators	0.00	0.23	-0.01	-0.88	0.46	-1.93
	Relocators	0.40	0.34	1.18	-0.52	0.67	-0.77
SOB	Non-Relocators	-0.27	0.23	-1.17	-0.76	0.46	-1.67
	Relocators	-0.28	0.34	-0.83	-1.03	0.67	-1.53
MSPSS	Non-Relocators	-0.50	0.23	-2.16	-0.19	0.46	-0.41
	Relocators	-1.01	0.34	-2.96	0.90	0.67	1.35
PHQ-9 w/ MI	Non-Relocators	0.39	0.23	1.71	-0.86	0.46	-1.88
	Relocators	0.98	0.34	2.90	1.11	0.67	1.66
GAD-7 w/ MI	Non-Relocators	0.48	0.23	2.09	-0.82	0.46	-1.79
	Relocators	0.90	0.34	2.65	0.00	0.67	0.00
PSS-10 w/ MI	Non-Relocators	-0.36	0.23	-1.57	-0.01	0.46	-0.02
	Relocators	-0.07	0.34	-0.21	0.46	0.67	0.69
MSPSS S.O.	Non-Relocators	-0.81	0.23	-3.48*	-0.44	0.46	-0.95
	Relocators	-1.06	0.34	-3.10	-0.06	0.67	-0.09
MSPSS FAM	Non-Relocators	-0.70	0.23	-3.01	-0.13	0.46	-0.27
	Relocators	-1.13	0.34	-3.32*	0.46	0.67	0.68
MSPSS FRI	Non-Relocators	-0.57	0.23	-2.47	-0.37	0.46	-0.80
	Relocators	-1.26	0.34	-3.69*	1.64	0.67	2.45

*Note: *Significant at p = 0.001; variables with "MI" include averages from multiple imputation.*

Table 4. Depression Severity Frequencies

Relocated Status		Minimal	Mild	Moderate	Moderate Severe	Severe	Total
Non-Relocated	Count	22	34	23	14	12	105
	Expected	27.6	32.5	23.5	11.1	10.4	105.0
	%	20.1%	32.4%	21.9%	13.3%	11.4%	69.1%
Relocated	Count	18	13	11	2	3	47
	Expected	12.4	14.5	10.5	5.0	4.6	47.0
	%	38.3%	27.7%	23.4%	4.3%	6.4%	30.9%
Total	Count	40	47	34	16	15	152
	Expected	40.0	47.0	34.0	16.0	15.0	152.0
	%	26.3%	30.9%	22.4%	10.5%	9.9%	100%

Table 5. Anxiety Severity Frequencies

Relocated Status		Minimal	Mild	Moderate	Severe	Total
Non-Relocated	Count	37	28	24	21	110
	Expected	38.7	31.1	20.8	19.4	110.0
	%	33.6%	25.5%	21.8%	19.1%	69.2%
Relocated	Count	19	17	6	7	49
	Expected	17.3	13.9	9.2	8.6	49.0
	%	38.8%	34.7%	12.2%	14.3%	30.8%
Total	Count	56	45	30	28	159
	Expected	56.0	45.0	30.0	28.0	159.0
	%	35.2%	28.3%	18.9%	17.6%	100%

Table 6. Stress Severity Frequencies

Relocated Status		Low	Moderate	High	Total
Non-Relocated	Count	17	69	22	108
	Expected	21.3	68.1	18.6	108.0
	%	15.7%	63.9%	20.4%	68.8%
Relocated	Count	14	30	5	49
	Expected	9.7	30.9	8.4	49.0
	%	28.6%	61.2%	10.2%	31.2%
Total	Count	31	99	27	157
	Expected	31.0	99.0	27.0	157.0
	%	19.7%	63.1%	17.2%	100%

Table 7. Depression Severity Frequencies with M.I.

Relocated Status		Minimal	Mild	Moderate	Moderate Severe	Severe	Total
Non-Relocated	Count	22	35	24	15	14	110
	Expected	27.7	33.9	24.2	12.5	11.8	110.0
	%	20.0%	31.8%	21.8%	13.6%	12.7%	69.2%
Relocated	Count	18	14	11	3	3	49
	Expected	12.3	15.1	10.8	5.6	5.2	49.0
	%	36.7%	28.6%	22.4%	6.1%	6.1%	30.8%
Total	Count	40	49	35	18	17	159
	Expected	40.0	49.0	35.0	18.0	17.0	159.0
	%	26.3%	32.2%	23.0%	11.8%	11.2%	100%

Note: Table includes dataset with averages from multiple imputation.

Table 8. Stress Severity Frequencies with M.I.

Relocated Status		Low	Moderate	High	Total
Non-Relocated	Count	17	70	23	110
	Expected	21.5	69.2	19.4	110.0
	%	15.5%	63.6%	20.9%	69.2%
Relocated	Count	14	30	5	49
	Expected	9.6	30.8	8.6	49.0
	%	28.6%	61.2%	10.2%	30.8%
Total	Count	31	100	28	159
	Expected	31.0	100.0	28.0	159.0
	%	19.5%	62.9%	17.6%	100%

Note: Table includes dataset with averages from multiple imputation.

Table 9. Descriptive Statistics After Data Cleaning Process

Relocated Status		PHQ-9	GAD-7	PSS-10	SAFE	ULS-8	SOB	MSPSS
Non-Relocated	Mean	10.12	8.53	20.15	40.86	18.26	16.91	59.99
	S.D.	6.58	5.93	7.44	18.19	5.64	8.39	16.42
	Minimum	.00	.00	2.00	.00	8.00	.00	12.00
	Maximum	27.00	21.00	36.00	97.00	30.00	30.00	84.00
	N	105	110	108	110	109	110	108
Relocated	Mean	7.77	7.22	17.76	43.43	16.88	23.23	65.61
	S.D.	5.65	6.02	7.34	17.19	4.82	5.64	14.16
	Minimum	.00	.00	.00	10.00	8.00	12.00	23.00
	Maximum	26.00	21.00	38.00	89.00	27.00	30.00	84.00
	N	47	49	49	49	49	48	49
Total	Mean	9.39	8.13	19.40	41.65	17.84	18.84	61.75
	S.D.	6.38	5.97	7.47	17.87	5.42	8.18	15.92
	Minimum	.00	.00	.00	.00	8.00	.00	12.00
	Maximum	27.00	21.00	38.00	97.00	30.00	30.00	84.00
	N	152	159	157	159	158	158	157

Table 10. Participant Demographics

	Non-relocators	Relocators
Age		
Mean (S.D.)	18.85 (1.37)	18.96 (0.82)
Number of Years in the U.S.		
Mean (S.D.)	16.24 (5.47)	18.14 (2.51)
Language Preference		
English	80 (72.7%)	43 (87.8%)
Spanish	25 (22.7%)	4 (8.2%)
Both	5 (4.5%)	1 (2.0%)
University Enrollment		
UTRGV	110 (100%)	-
In Texas, not the RGV	-	41 (83.7%)
Out-of-state	-	8 (16.3%)
Gender		
Female / transgender female	77 (70%)	29 (59.2%)
Male / transgender male	27 (24.5%)	20 (40.8%)
Genderqueer/non-conforming/fluid	4 (3.6%)	0 (0.00%)
Unsure / questioning	1 (0.9%)	0 (0.00%)
Sexual Orientation		
Straight	71 (64.5%)	36 (73.5%)
Lesbian, gay, or bisexual	27 (24.5%)	10 (20.4%)
Pansexual	1 (0.9%)	1 (2.0%)
Asexual / ace	0 (0.00%)	1 (2.0%)
Unsure / questioning	5 (4.5%)	0 (0.00%)
Prefer not to answer	4 (3.6%)	1 (2.0%)
Residence		
U.S. Citizen	101 (91.8%)	48 (98.0%)
US Permanent Resident	3 (2.7%)	0 (0.00%)
Class year		
First-year	70 (63.6%)	28 (57.1%)
Second-year	39 (35.5%)	21 (42.9%)

Table 10, cont.

	Non-relocators	Relocators
Are you a full-time or part-time student?		
Full-time	97 (88.1%)	48 (98.0%)
Part-time	13 (11.8%)	0 (0.0%)
First-Generation College Student Status		
First-generation	67 (60.9%)	29 (59.2%)
Not first-generation	36 (32.7%)	19 (38.8%)
Annual Income		
$0 - $60,000	79 (71.8%)	31 (63.3%)
$60,001 +	27 (24.5%)	18 (36.7%)
"**Are you currently employed?"**		
Yes	51 (46.4%)	22 (44.9%)
No	59 (53.6%)	27 (55.1%)
High School GPA out of 4.0		
Mean (S.D.)	3.47 (0.46)	3.70 (0.50)
"My parents are supportive of me attending college."		
Strongly Agree	96 (87.3%)	40 (81.6%)
Somewhat Agree	8 (7.3%)	5 (10.2%)
Neutral	0 (0.0%)	0 (0.0%)
Somewhat Disagree	2 (1.8%)	0 (0.0%)
Strongly Disagree	4 (3.6%)	4 (8.2%)
"I felt prepared for college"		
Strongly Agree	22 (20%)	4 (8.2%)
Somewhat Agree	41 (37.3%)	23 (46.9%)
Neutral	19 (17.3%)	4 (8.2%)
Somewhat Disagree	17 (15.5%)	10 (20.4%)
Strongly Disagree	11 (10%)	7 (14.3%)
"During the past academic year, where did your classes take place?"		
All virtual	83 (75.5%)	22 (44.9%)
Both virtual and in-person	22 (20.0%)	24 (49.0%)
All in-person	1 (0.9%)	3 (6.1%)
"Last year, my overall well-being __ after the start of the (COVID-19) pandemic."		
Improved	17 (15.5%)	12 (24.5%)
Stayed the same	39 (35.5%)	16 (32.7%)
Worsened	54 (49.1%)	21 (42.9%)
Current Living Situation		
With family at home	100 (90.9%)	0 (0.00%)
On-campus	3 (2.7%)	35 (71.4%)
Off-campus	7 (6.4%)	14 (28.6%)

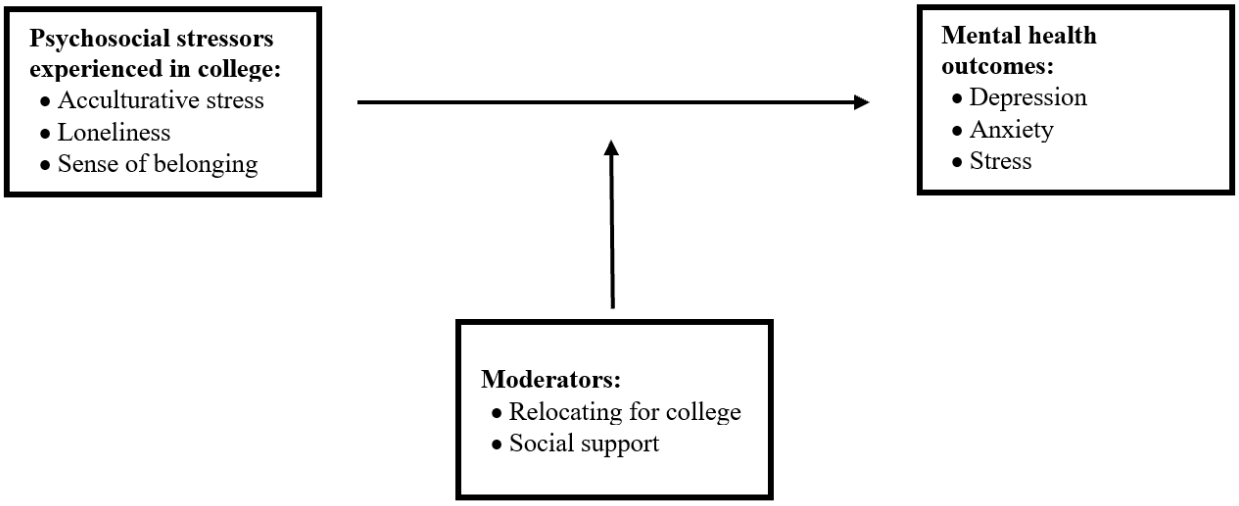

Figure 1: Conceptual Framework for Relocating

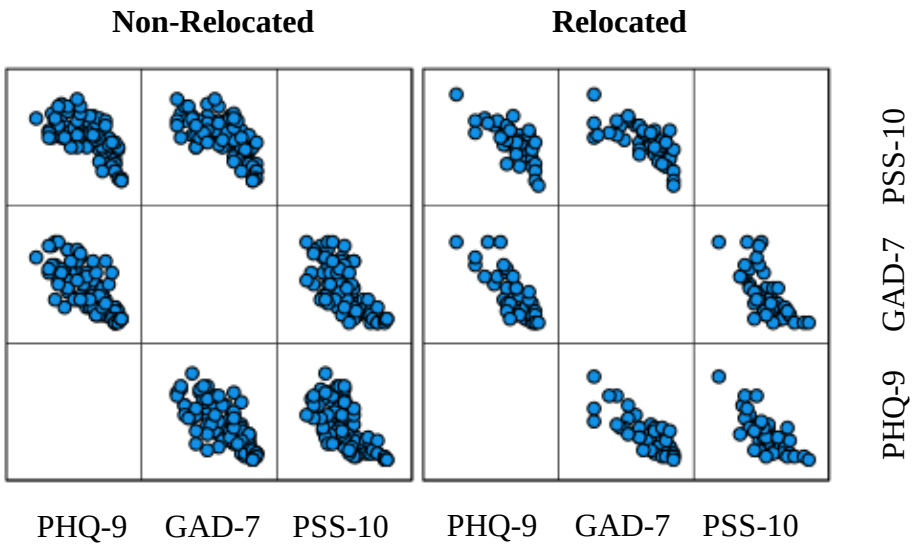

Figure 2: Pairwise Plots of Dependent Variables

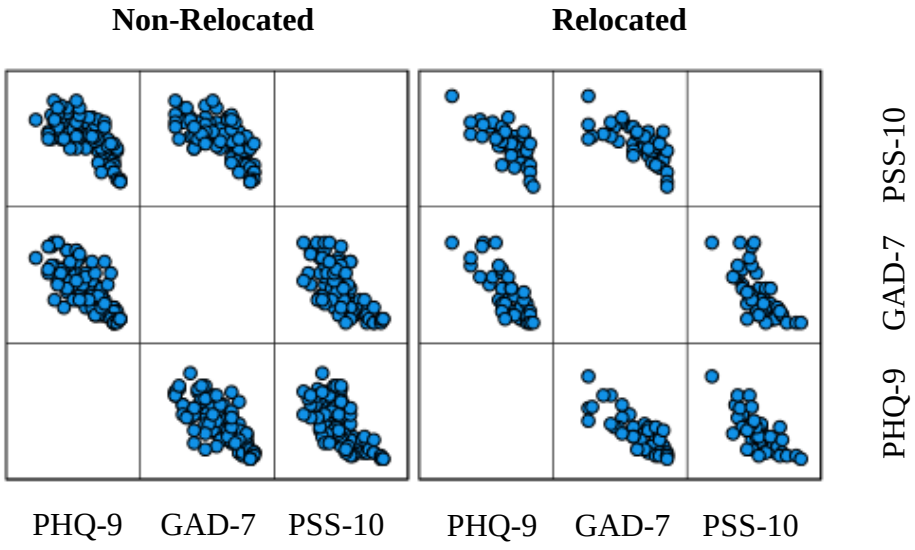

Figure 3: Pairwise Plots of Dependent Variables After Multiple Imputation

BIOGRAPHICAL SKETCH

Lisa Ann Lozano was born in Mission, Texas. She completed her high school diploma from Veterans Memorial High School in Mission and her Bachelor of Science degree in Brain and Cognitive Sciences at the Massachusetts Institute of Technology in the spring of 2017 in Cambridge, Massachusetts. After graduating, she worked full-time for a nonprofit as a college success coordinator in Jamaica Plain, Massachusetts, for a year and a half, and part-time as a homeless shelter staff member in Cambridge, Massachusetts. With a growing interest in college access and success initiatives, she spent a year as a college readiness teacher in San Antonio, Texas and served 9^{th} and 10^{th} graders in high school. In August 2020, she enrolled at the University of Texas Rio Grande Valley (UTRGV) and received her Master of Arts degree in Clinical Psychology in July 2022. During her master's program, she worked and volunteered as a graduate research assistant for a psychological laboratory and instructed four undergraduate basic statistics courses in the Department of Psychological Sciences at UTRGV as a graduate assistant instructor. She can be contacted at her email address: lalozano@alum.mit.edu.