EXAMINING THE RELATIONSHIP BETWEEN ACCULTURATIVE STRESS AND DEPRESSION AMONG SAUDI INTERNATIONAL STUDENTS IN THE USA

Alaa Shawly

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EXAMINING THE RELATIONSHIP BETWEEN ACCULTURATIVE STRESS AND DEPRESSION AMONG SAUDI INTERNATIONAL STUDENTS IN THE USA

A Dissertation
Submitted to the School of Education

Duquesne University

In partial fulfillment of the requirements for the degree of

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By

Alaa Shawly

August 2023
EXAMINING THE RELATIONSHIP BETWEEN ACCULTURATIVE STRESS AND DEPRESSION AMONG SAUDI INTERNATIONAL STUDENTS IN THE USA

By

Alaa Shawly

Approved June 21, 2023

David Delmonico
Professor, School of Education
(Committee Chair)

Waganesh Zeleke
Associate Professor, School of Education (Committee Member)

Matthew Joseph
Associate Professor, School of Education (Committee Member)

Gretchen Generett
Dean, School of Education
ABSTRACT

EXAMINING THE RELATIONSHIP BETWEEN ACCULTURATIVE STRESS AND DEPRESSION AMONG SAUDI INTERNATIONAL STUDENTS IN THE USA

By
Alaa Shawly
August 2023

Dissertation supervised by David Delmonico

This quantitative study explored Saudi international students’ acculturation processes through an examination of the relationship between acculturative stress and depression among Saudi international students in the U.S. Moreover, the study also examined the role of social resources—social support and the use of counseling services—in mediating this relationship.

Data was collected through an online survey from 103 Saudi international students enrolled at universities across the U.S. The survey included three scales: the Acculturative Stress Scale for Saudi International Students (ASSSIS) (Bashir & Khalid, 2020), the Beck Depression Inventory (BDI) (Beck et al., 1996), and LEVEL 2–Depression–Adult (PROMIS Emotional Distress–Depression–Short Form) (Nolte et al., 2019). To answer the research questions, several analyses were conducted. A correlation analysis was used to examine the relationship between acculturative stress and depression. In addition, a path analysis was conducted to explore the role of mediator
variables—social support and the use of counseling services—in the relationship between acculturative stress and depression.

Results reveal a significant relationship between acculturative stress and depression among Saudi international students in the U.S. It was also found that social support and the use of counseling services do not function as mediators for the association between acculturative stress and depression. The results emphasize the importance of the acculturation process for Saudi international students and its impact on depression. Implications for the field of counseling are provided as well as limitations of the current study and potential directions for future research.

Keywords: acculturative stress, depression, Saudi international students, social support, counseling services
DEDICATION

To my parents, you have taught me to work hard and to dream big. I am forever grateful to you for all the prayers and love that have you sent me.

To Abdulaziz, my husband, thank you for encouraging me to go out and pursue it. I would never be able to reach this level of education without your support and belief in me.

To Nawwaf, Sultan, and Hattan, my beautiful boys, thank you so much for your love and support during this journey.

To my brothers and sisters, thank you for always motivated me to reach the highest educational degrees.
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I would like first to thank Allah, who gives me the strength and blessings to achieve this accomplishment.

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Thank you to my committee members—my chair, Dr. David Delmonico, Dr. Waganesh Zeleke, and Dr. Matthew Joseph, who dedicated their time and effort to support me and provide professional feedback for my work. Your feedback has been guiding me to this point in my educational career. Thank you for your mentorship, support, and guidance throughout this process. It has been an honor to work with you.

A special thank you to all my friends. Your love, support, and enthusiasm for life are what kept me going. You have always helped me put things in perspective.
# TABLE OF CONTENTS

ABSTRACT ........................................................................................................iv
DEDICATION ..................................................................................................vi
ACKNOWLEDGEMENT .................................................................................vii
LIST OF TABLES ..........................................................................................x

CHAPTER 1: Introduction ................................................................................1
  Statement of the Problem ................................................................. 5
  Purpose and Research Questions ............................................... 8
  Potential Significance ................................................................. 9
  Operational Definition of Key Terms ........................................... 10
    Acculturative Stress ................................................................. 11
    Depression ................................................................................. 11
    Saudi International Students in the U.S. .................................... 11
  Summary ......................................................................................... 11

CHAPTER 2: Review of Related Literature ....................................................13
  Acculturation Theory ...................................................................... 13
  Acculturation and Psychological Adjustment ............................. 13
  Acculturative Stress ...................................................................... 18
  Acculturative Stress and Depression .......................................... 24
  Acculturative Stress and Social Support ...................................... 28
  Acculturative Stress and Saudi International Students .............. 33
  The Impact of Using Counseling Services on Acculturative Stress for International Students ................................................................. 36
  Conceptual Model .......................................................................... 40
  Summary ......................................................................................... 41

CHAPTER 3: Methodology ............................................................................43
  Overview ............................................................................................ 43
  Research Questions and Hypotheses .......................................... 43
  Data Collection and Procedures .................................................. 44
    General Procedures ..................................................................... 44
    Research Design .......................................................................... 45
  Study Population and Sampling participants ............................ 45
    Study Population ......................................................................... 45
    Sampling Participants .................................................................. 45
  Instruments ....................................................................................... 46
    Acculturative Stress Scale for Saudi International Students (ASSYSIS) ................................................................. 47
    Beck Depression Inventory (BDI) .................................................. 48
    LEVEL 2–Depression–Adult ..........................................................
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>(PROMIS Emotional Distress–Depression–Short Form)</td>
<td>49</td>
</tr>
<tr>
<td>Demographics Questionnaire</td>
<td>50</td>
</tr>
<tr>
<td>Social Resources Questionnaire</td>
<td>50</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>50</td>
</tr>
<tr>
<td>Human Participants and Ethics Precautions</td>
<td>51</td>
</tr>
<tr>
<td>CHAPTER 4: Results</td>
<td>52</td>
</tr>
<tr>
<td>Descriptive Analysis of Sample</td>
<td>52</td>
</tr>
<tr>
<td>Demographic Variables</td>
<td>52</td>
</tr>
<tr>
<td>Scale Reliabilities</td>
<td>54</td>
</tr>
<tr>
<td>Statistical Assumptions</td>
<td>54</td>
</tr>
<tr>
<td>Research Questions</td>
<td>55</td>
</tr>
<tr>
<td>Summary of Results</td>
<td>59</td>
</tr>
<tr>
<td>CHAPTER 5: Discussion</td>
<td>60</td>
</tr>
<tr>
<td>Summary of the Study</td>
<td>60</td>
</tr>
<tr>
<td>Major Findings</td>
<td>61</td>
</tr>
<tr>
<td>Limitations</td>
<td>66</td>
</tr>
<tr>
<td>Implications</td>
<td>67</td>
</tr>
<tr>
<td>Recommendations for Future Research</td>
<td>69</td>
</tr>
<tr>
<td>Conclusion</td>
<td>70</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>72</td>
</tr>
<tr>
<td>APPENDIX A: Informed Consent</td>
<td>84</td>
</tr>
<tr>
<td>APPENDIX B: Recruitment Email</td>
<td>87</td>
</tr>
<tr>
<td>APPENDIX C: Demographics, Use of Counseling Services, and Social Support Questionnaire</td>
<td>89</td>
</tr>
<tr>
<td>APPENDIX D: Acculturation Stress Scale for Saudi International Students</td>
<td>93</td>
</tr>
<tr>
<td>APPENDIX E: The Beck's Depression Inventory</td>
<td>90</td>
</tr>
<tr>
<td>APPENDIX F: Level 2–Depression–Adult</td>
<td>96</td>
</tr>
</tbody>
</table>
LIST OF TABLES

**Table 1**: Demographic Characteristics of Participants \( (n = 103) \) ..................................53

**Table 2**: Descriptive Analysis of the Use of Counseling Services \( (n = 103) \) .................54

**Table 3**: Cronbach’s Alpha for Primary Factors \( (n = 103) \) ........................................54

**Table 4**: Descriptive Statistics ..........................................................................................55

**Table 5**: Descriptive Statistics and Correlation .................................................................55

**Table 6**: The Mediating Role of Social Support on the

Relationship between Acculturative Stress and Depression.................................57

**Table 7**: The Mediating Role of Counseling Services on the

Relationship between Acculturative Stress and Depression.................................59
CHAPTER 1 Introduction

Acculturation is a process that includes the psychological, social, and cultural engagement of an individual in a different culture, learning about that culture’s values and lifestyle, and preserving one’s inherent culture (Sam & Berry, 2006). It is psychosocial and behavioral in nature and contains acceptance of immigrants’ cultural norms, values, attitudes, and behaviors (Mukthyala, 2013). Acculturation, as a coping mechanism to deal with stress in a new culture, falls into four types: assimilation, integration, separation, and marginalization (Rudmin, 2003). Assimilation is surrendering one’s cultural identity and moving into the larger society. It is a way of absorbing a non-prevalent group into a prevalent group. The integration type infers some resistance to change and to becoming an integral part of the larger society—in other words, the group retains its cultural identity and simultaneously joins the dominant society. The separation type is defined as when there are no significant relations with the larger society, accompanied by conservation of ethnic identity and traditions. If the dominant group forces the pattern, segregation to keep people in “their place” emerges. The last type of acculturation is marginalization. This type is difficult to define accurately because it is accompanied by much collective and individual confusion and stress. It is described as standing out against the larger society with feelings of isolation, loss of identity, and what has been termed acculturative stress. In this type, groups lose cultural and psychological contact with their traditional culture and the larger society (Berry, 1994).

In terms of the integration, assimilation, separation, and marginalization strategies, there are significant differences in how people deal with their acculturation, depending on how much stress they experience and how well they adapt psychologically and socioculturally (Berry, 2005).
Acculturation strategies have been shown to have significant associations with positive adaptation: integration is usually the most successful and least stressful. The adjustment has consistently been found to be most stressful for individuals with a marginalization strategy, the type that reflects acculturative stress. Assimilation and separation strategies fall in the middle (Rudmin, 2003; Smith & Khawaja, 2011; Sullivan & Kashubeck-West, 2015).

While acculturative challenges appear as a regular aspect of adjustment to a new environment, they can lead to distressing mental health problems, specifically if there is a lack of a good understanding of the main acculturative stressors and their psychological effect (Gebregergis, 2018). People with unhealthy acculturation strategies are expected to experience numerous mental health issues, such as depression, anxiety, psychosomatic symptoms, identity confusion, and isolation (Alghamdi, 2019). International students experience varied difficulties associated with the process of acculturation in a new culture that might cause acculturative stress, anxiety, and depression. Mental health challenges faced by international students are only intensified by their experience of spectacular transformations in their psychosocial environment. Furthermore, feelings of isolation may cause stress, and dealing with language and cultural barriers exacerbate the stress (Mukthyala, 2013).

Before commencing a review of the literature on how acculturative stress impacts international students, it is essential to discuss the concept of acculturative stress. The increase of international students over the past years has prompted researchers to explore the processes of acculturation that international students go through when moving to a foreign country and how it affects their cultural adjustment (Zhang & Dixon, 2003). Many studies indicate that acculturative stress results from adaptation to a new culture (Mukthyala, 2013). Acculturative stress is “the reaction to and the self-perception of stress to intercultural contact and the multitude of stressors
that are involved in the cross-cultural adaptation experience” (Caldwell et al., 2018, p. 8). Berry (1997) defines acculturation stress as psychological difficulties that occur through the process of cross-cultural transitions when people experience challenges that surpass their available coping resources. Gebregergis (2018) defines acculturative stress as a “type of stress in which individuals come to experience and exhibit certain stress behaviors such as alienation, depression, anxiety, marginalization, heightened psychosomatic symptoms, and identity confusion” (p. 69).

International students endure additional stressors outside of the basic academic stress of college. These stressors can affect students’ abilities to succeed and merge into their new host culture. This type of stress is involved in a process recognized as acculturative stress. Social factors also contribute to the experience of acculturative stress. These common changes involve academic stress because of a second language, campus life, education style, etc. Such factors, like new social constraints experienced by international students, can negatively affect the way they handle their stress, which can cause additional stress (Smith & Khawaja, 2011).

Culture is an important aspect of the acculturation experience because acculturation includes transitioning from one culture to another. The two cultures may be similar in some cases and extremely different in others. International students who move to live in a similar culture—for example, from one western culture to another—will have an easier transition to the new culture than students who are transferring to a totally different culture (Caldwell et al., 2018). While all international students have difficulty adapting to their new culture, Saudi Arabian students may have more difficulties transitioning to their new environments because of a greater cultural gap between Saudi and American cultures (Lefdahl-Davis & Perrone-McGovern, 2015). Saudi Arabia is more collectivistic, whereas the United States is more individualistic. In Saudi Arabian, the power is distributed unequally inside the family, institutions, and culture, while in America the
power is distributed equally. Saudi Arabia is a Muslim country, and requires gender separation in public, while in the U.S. genders are combined in all places of public life (Alqarni, 2018). Additionally, because of the limited exposure to U.S. citizens and cultural norms before coming to the U.S., Saudi students’ direct engagement with the U.S. university system seats them at a great difficulty; they face different expectations than they are used to experiencing in the Saudi Arabian educational system. The differences between the U.S. and Saudi Arabia in the educational system, culture, and communication styles may increase the challenges Saudi students encounter during their educational journeys (Almotery, 2014). This effect can be explained by the “cultural distance hypothesis,” which articulates that the more different certain cultures are, the more likely the variances will contribute to poor mental health (Al-Krenawi et al., 2021). International students suffering from the cultural differences between their home countries and the U.S. and finding themselves in an environment with different values and lifestyles from their own results in more stress and anxiety (Arafeh, 2017). Therefore, it is essential to consider cultural and social factors when conducting research focused on international students (Tummala-Narra & Claudius, 2013).

Social support is a resource that impacts psychological and physical well-being, psychosocial adjustment, and personal achievements. Social support has two types: perceived and received. While perceived support indicates an individual’s possible social support resources, received support indicates the actual receiving of support. Perceived social support refers to an individual’s perception that important others care about and take an interest in his or her behaviors and choices (Samuel & Burger, 2020). Social support indicates social resources that are available or offered to individuals. This kind of support can function by providing people with the resources available to deal with stress and by providing help and care. These resources come from the external environments surrounding individuals, such as friends, family, and important others. The
original support resources for international students who study in a foreign country from friends and family may become limited after their move to the new country (Zhang, 2012). Previous studies have found that perceived social support for international students is negatively associated with acculturative stress. Students who had low perceived social support were more likely to have advanced levels of acculturative stress than their colleagues. In addition, lower levels of acculturative stress can be predicted by high levels of social support satisfaction and social connectedness (Thomas & Choi, 2006; Yeh & Inose, 2003; Zhang, 2012).

University support provided through advice and orientation programs for international students can assist to decrease acculturative stress. Social support resources for international students involve direct communications with family members, contact with new friends who are also starting their life in the U.S., and university services involving counseling centers (Eland, 2001).

Consequently, there seems to be a limited focus on the relationship between acculturative stress and depression among Saudi international students and how social resources may play a role in mediating this relationship. The following chapter will outline why this might be a concern for the counseling field and will explain how this study pursues to resolve this issue and improve the acculturation experiences of Saudi international students in the U.S.

Statement of the Problem

Universities in the U.S. host a significant number of international students. According to the Institute of International Education (2019), the number of international students in the U.S. reached a record high in the 2018–2019 academic year, with more than one million international students. Whereas universities benefit significantly from this growing globalization, research has demonstrated the high level of acculturation stress that many international students experience
throughout the changeover from their home country to the host country. Studying in the U.S. can present various challenges associated with acculturative stress and difficulties adjusting to the new cultural environment (Ma, 2017; Smith & Khawaja, 2011). International students confront many obstacles that exacerbate acculturative stress, including homesickness, language barriers, financial problems, educational difficulties, loneliness, discrimination, and adjustment to new educational and socio-cultural systems (Johnson & Sandhu, 2007; Mukthyala, 2013; Sandhu & Asrabadi, 1994). When international students come to study in the U.S., they must adapt to different cultural practices. The acculturation process frequently contributes to stress and high anxiety among international students (Fritz et al., 2008). A shortage of familiarity with the new culture and academic system, combined with separation from family, may increase this stress. Failing to cope with acculturation stress can lead to a psychological vulnerability to depression (Ma, 2017). Frequent acculturative stress may reduce psychological well-being and even lead to depression (Zhang, 2012), which is a main mental health concern for international students (Ma, 2017). Zhang (2012) defines depression as a “common mental disorder that presents with a depressed mood, a loss of interest or inability to feel pleasure, feelings of guilt or low self-worth, disturbed sleep patterns or a lack of appetite, low energy, and an inability to concentrate” (p. 6). Even though previous research results show a significant association between acculturation stress and depression among international students, the mechanism by which this relationship exists is not clearly understood. Furthermore, we have little knowledge about whether these findings reflect international students from Saudi Arabia, since this group is largely excluded in the research.

The increase of international students over the past years has prompted researchers to explore the processes of acculturation that international students go through when moving to a foreign country and how it affects their cultural adjustment. Many studies indicate that
acculturative stress results from adaptation to a new culture (Mukthyala, 2013). While various research studies are being conducted to understand the phenomenon of acculturative stress among international students, few include the experience of international students from Saudi Arabia (AlKrenawi et al., 2021), despite the large number of Saudi international students enrolling in American universities each year.

Saudi Arabia has the fourth largest number of international students in the U.S., with approximately 44,000 students (Sokolove, 2019), representing a 134.5% increase from 10 years ago (Hickey, 2019). While the population of Saudi international students is vast, there is a lack of research specifically focusing on the cultural adjustment experiences of Saudi international students and investigating their unique experiences. Although these students have some advantages compared to other international students, such as being supported academically and financially by the Saudi government, they still encounter different challenges, such as language barriers, social integration, academic difficulties, gender issues, and maintaining religious practices. Even though Saudi international students share some challenges with other international students, including Arab and Muslim students, they may also face many unique challenges regarding cultural differences (Alqarni, 2018). For instance, the difference between the experiences of students who have been raised in a religious society from those raised in a secular society is very large. This shows the significance of religion for the everyday life of Muslim international students, which is one of the main different challenges that Saudi international students face. In addition to these religious difficulties shared by all Muslim international students, Saudi students also must go through the culture shock of arriving in a non-gender segregated society. It is the most essential difference for Saudi students compared to other Muslim students studying abroad. This aspect can be a hard part of the cultural adjustment process for Saudi international students since most Muslim
societies are not gender-segregated in the way Saudi Arabia is (Alhazmi & Nyland, 2010; Alqarni, 2018; Lefdal-Davis & Perrone-McGovern, 2015). Therefore, there is a need to explore Saudi international students’ acculturation process, acculturation stress, and issues related to mental health. Overall, this study highlights the acculturative stress among Saudi international students in the U.S. and explores its relationship with depression. Additionally, it aims to investigate the mediating roles of social resources among Saudi international students studying in the U.S.

I became motivated to study the acculturative stress of Saudi international students after moving to the U.S. to pursue a Ph.D. degree in counseling in 2017. During these five years, I have faced many challenges as a Saudi international student trying to adjust to a new and different culture. I noticed the increased acculturative stress among my Saudi student friends who live and study in the U.S. The significant issue that attracted my attention was the effect of the acculturative emphasis on mental health disorders among Saudi international students. I have observed different levels of acculturative stress and other symptoms of depression among Saudi students, making me more concerned about the influence of social support on acculturative stress and depression. Thus, I became interested in studying acculturative stress and its relationship to depression among Saudi international students and the role of social resources in mediating this relationship.

**Purpose and Research Questions**

Several researchers have addressed mental health disorders among international students, but rarely have they investigated acculturative stress among Saudi international students and its association with depression. Acculturative stress is a factor that can predict depression for Saudi international students, and discovering this correspondence may help to reduce the effect of acculturative stress on students’ mental health.
Research Question 1 (RQ1): Is there a relationship between acculturative stress and depression among Saudi international students in the U.S.?

(HA1): There is a relationship between acculturative stress (as measured by the Acculturative Stress Scale for Saudi International Students) and depression (as measured by the Beck Depression Inventory [BDI] and LEVEL 2–Depression–Adult [PROMIS Emotional Distress–Depression–Short Form]) among Saudi international students.

Research Question 2 (RQ2): Do social resources, specifically social support and use of counseling services, mediate the relationship between acculturative stress and depression? (a) Does social support mediate the relationship between acculturative stress and depression? (b) Does the use of counseling services mediate the relationship between acculturative stress and depression?

(HA2): Social resources, specifically social support and use of counseling services, mediate the relationship between acculturative stress and depression. (a) Social support mediates the relationship between acculturative stress and depression. (b) The use of counseling services mediates the relationship between acculturative stress and depression.

Potential Significance

The research and ultimate findings of this study will provide essential knowledge regarding the relationship between acculturation stress and depression and the role that social resources have in mediating this relationship. For counseling psychology, it is valuable to understand how international students perceive and adjust behaviorally and cognitively to their new culture (Mukthyala, 2013). Based on the findings, universities’ counseling centers can assist international students and their families in their cultural transition to living and studying in the U.S. by providing educational materials attentive to their well-being and acculturation (Tummala-Narra & Claudius, 2013). Accordingly, the significance of this study is that it will expand existing knowledge
concerning how acculturative stress and adjustment to living in the U.S. affect depression as an aspect of mental health for Saudi international students, which will inform culturally appropriate interventions for this population. It is an essential responsibility for professionals working in counseling, psychology, and education to understand the acculturation experiences of Saudi international students. It is also necessary to explore the psychological effects of adjusting to a new culture on depression to support and help these students with acculturation, ultimately reflecting on their mental health.

Exploring the role of social resources in mediating the relationship between acculturative stress for Saudi international students and depression as an aspect of mental health disorders will thus allow counselors and mental health professionals to focus on effective resources, such as social support and counseling services, that would be beneficial for students’ cultural adjustment and mental health. This research could be valuable for counselors who work in university counseling centers and faculty members who directly interact with Saudi international students to help them to support these students effectively. Furthermore, examining the acculturation experiences of Saudi international students will help counselor educators to teach from a multicultural perspective with the awareness that acculturation is related to mental health. Therefore, if counselors are concerned about international students’ mental health, they need to focus on their acculturation skills and individual needs.

**Operational Definition of Key Terms**

To provide an overview of the frequently used terms within this study, the following definitions of (a) acculturative stress, (b) depression, and (c) Saudi international students in the U.S. are included:
Acculturative Stress

“Acculturative stress is a type of stress in which individuals come to experience and exhibit certain stress behaviors such as alienation, depression, anxiety, marginalization, heightened psychosomatic symptoms, and identity confusion” (Gebregergis, 2018). “Acculturative stress result[s] from and aris[es] out of the act of moving to and living in a new culture” (Sullivan & Kashubeck-West, 2015).

Depression

According to the American Psychiatric Association, “depression is a severe mental health problem characterized by loss of interest, depressed mood, low self-worth, sleep difficulties, poor concentration, feelings of guilt and low energy which unsympathetically affect person’s thoughts, feelings, and actions” (Gebregergis, 2018).

Saudi International Students in the U.S.

This group includes individuals who have come to the U.S. from the Kingdom of Saudi Arabia, have been admitted to American universities, and live in the U.S. for at least one year to achieve graduate and undergraduate degrees. English is a second language for these students.

Summary

This chapter has introduced the present study, which examines the relationship between acculturation stress and depression among Saudi international students in higher education and the potential role that social resources may have in mediating this relationship. On this subject, even though previous research results show a significant association of acculturation stress to depression among international students, the mediators of and mechanisms by which this relationship exists is not clearly understood. Furthermore, there is a gap in current literature about the validation of
these associations among international students from Saudi Arabia since this group is primarily excluded in past research.

This study is significant for counseling psychology to expand the knowledge of how international students perceive and adjust behaviorally and cognitively to their new culture and how counseling centers can assist international students in their cultural transition to living and studying in the U.S. The findings of this study will provide fundamental knowledge concerning the relationship between acculturation stress and depression and how social resources have mediated the relationship between acculturation stress and depression. For counseling psychology, it is valuable to understand how international students perceive and adjust behaviorally and cognitively to their new culture.
CHAPTER 2 Review of Related Literature

The following chapter provides a description and critique of scholarly literature used to guide the current study to examine the relationship between acculturative stress and depression among Saudi international students in the U.S. The review of literature includes (a) a general overview of acculturation theory, (b) acculturation and psychological adjustment, (c) acculturative stress as it relates to international students, (d) acculturative stress and depression, (e) acculturative stress and social support, (f) acculturative stress and Saudi international students, and (g) the impact of using counseling services on acculturative stress for international students.

Acculturation Theory

Acculturation is “a multidimensional process consisting of the confluence among heritage-cultural and receiving-cultural practices, values, and identifications” (Schwartz et al., 2010, p. 237). Cheung-Blunden and Juang (2008) define acculturation as “the phenomenon of the value, attitudinal, and behavioral changes of individuals who come into continuous contact with another culture” (p. 21). Conversely, the more one retains one’s heritage culture, the less one adopts one’s host culture. Assimilationists in the unidimensional framework refer to people who embrace the host culture rather than their own. Separationists refer to those who retain their heritage culture but not their host culture. Occasionally, the term marginalist refers to a person who borders between one’s heritage and host culture and does not particularly acculturate towards either culture.

Acculturation and Psychological Adjustment

International students face several challenges while living and studying in a foreign country to achieve their degrees at U.S. universities, resulting in the experience of adjustment problems (Berry, 2006). Research has discovered that international students encounter difficulties adjusting
to a new educational environment and social customs and norms that can impact their psychological well-being (Koo et al., 2021). Researchers’ assessment illustrates that the rate of international students at risk of facing mental health problems due to acculturation-related problems is around 15% to 20% (Zhang & Goodson, 2011).

Investigating the relationship between acculturative stress, perceptions of control over stress, and life satisfaction, Caldwell et al. (2018) examined how international students adjust to the norms of their new country and their perceived ability to cope with attending school in another culture. The sample involved 154 international students currently attending school at a large, urban university in Lithuania and, in the Southeastern region of the U.S., at a private university and a large, urban university. Whereas none of the hypotheses of the study were supported, limited support for the moderating effects of perceived controllability on the relationship between stress and life satisfaction was found for graduate students in the sample.

Zhang and Goodson (2011) reviewed 64 studies published between 1990 and 2009 that examined predictors of psychosocial adjustment of international students in the U.S. Statistically significant predictors of psychosocial adjustment included stress, social support, English language proficiency, region, length of residence in the U.S., acculturation, social interaction with Americans, self-efficacy, gender, and personality. These studies indicate a rationale for social support as a mediator that might affect the relationship between acculturative stress and depression in this thesis.

Wang et al. (2012) conducted a study to empirically recognize different acculturative adjustment patterns of new international students during their first three semesters in the U.S. This study used psychological distress as an indicator of acculturative adjustment, measured over four time periods (prearrival and the first three semesters). The sample included 507 Chinese
international students studying in the U.S. As a result, four different groups of student adjustment tracks occurred: a group exhibiting high levels of psychological distress across each time point (consistently distressed), a group with reducing psychological distress scores from Time 1 to Time 2 (relieved), those with a sharp peak in psychological distress at Time 2 and Time 3 (cultureshocked), and a group with relatively consistent low psychological distress scores (well-adjusted). Furthermore, substantial predictors of a better acculturative adjustment pattern included having higher self-esteem, positive problem-solving evaluation, and lower maladaptive perfectionism before the acculturation process. Additionally, throughout the first semester, having a balanced layout of social support and using acceptance, reframing, and striving as coping strategies accompanied a better cross-cultural transition.

A qualitative study conducted by Constantine et al. (2005) investigated the cultural adjustment experiences of 15 Asian Indian, Japanese, Korean, and Vietnamese international college women. This study used semi-structured interviews and a consensual qualitative research methodology. Through data analysis, the findings showed six main areas linked to these women’s cultural adjustment experiences: their feelings and views about living in the U.S., perceived differentiation between their country of origin and the U.S., their English language achievement and practice, their prejudiced experiences in the U.S., their colleagues and family systems, and their strategies for coping with cultural adjustment difficulties.

One of the few studies investigating the experiences of cultural adjustment among Muslim graduate international students in the U.S. is a qualitative study conducted by Tummala-Narra & Claudius (2013). This study explored graduate students’ experiences of acculturation, engagement with religion, and negotiation of social support in a new cultural environment. The sample consisted of 15 Muslim international students attending graduate programs in the U.S. Semi
structured interviews were analyzed using conventional content analysis. Five broad trajectories appeared from the data, including varied views of the new cultural environment, social isolation, experiences of discrimination, religious identity, and protective factors in adjusting to the U.S. Some themes within these broad categories addressed new understanding regarding stress and resilience experienced by contributors.

Koo et al. (2021) analyzed 192 first-year international college students in the Mid-Atlantic region to explore the alteration in international students’ acculturative stress, adjustment, and academic experiences throughout their first year of studying in higher education. Researchers found that male students, students from low socioeconomic status backgrounds, and students majoring in the humanities displayed higher rates of acculturative stress and lower satisfaction rates with college experiences than their colleagues. International students reported reduced acculturative stress and homesickness and improved English competence, socialization, and satisfaction with college experiences during the last week of their first year compared to the first week of their first semester. Satisfaction with college experiences, English proficiency, social connectedness, and self-esteem were substantial predictors of acculturative stress.

A qualitative exploratory study examined the adjustment process and issues of 16 Arab international students registered at two universities in the Northeast of the U.S (Rabia & Hazza, 2017). These students were from Iraq, Jordan, Kuwait, Oman, Saudi Arabia, Syria, and the United Arab Emirates and had been in the U.S. for two to five years. One-on-one interviews were used to analyze the experiences and challenges of these students on U.S. campuses. The results showed that multiple factors hindered Arab international students’ academic achievement and reduced their socialization within their postsecondary institutions, host society, and host country. Different themes were discovered among the contributors, including culture shock, language barriers,
cultural differences, and isolation. This research suggested that specific programs offered by U.S. higher education institutions could be applied to help Arab international students adjust to their host campus’s academic and social environment.

Another qualitative, phenomenological study, conducted by Dimandja (2017), aimed to understand and identify the lived experiences of undergraduate Muslim international students in American universities. Notably, the study examined racial/ethnic, religious, and gender experiences and their impact on academic and social integration. This study applied semistructured interviews to eight students who enrolled in four-year public universities in the Western Region of the U.S. To discover how this population of students experienced and perceived their campuses, the idea of Islamophobia and the campus environment were used. As a result, eight themes from this research study demonstrate the undergraduate Muslim international students’ experiences. First, students faced classroom difficulties related to linguistic abilities and others’ views of their academic performance based on their racial identity. They reported that the expression of their Muslim identity through the hijab and the thobe resulted in rejection and feelings of resistance. These students faced microaggressions, blatant discrimination on campus, and hostility off campus because of their racial and religious identity. The domestic political environment also caused intimidation, marginalization, fear, and discrimination. Although students received institutional, faculty, and individual support and perceived the Muslim Student Association as a strong support system, they expressed a need for religious and cultural integration.

Kriesch (2019) discussed the process female international students experience when acculturating or adjusting while studying abroad in the U.S. To answer the research question of how females have handled their adjustment process and what outside factors have contributed to their overall study abroad experience, 10 female international students in their third or fourth year
of study at a Midwestern university were interviewed. Although females represent a significant percentage of the student population studying abroad, there are limited studies about their acculturation process and accomplishment. The findings reported that contributors described negative experiences connecting to causes outside their control, such as academic or social-cultural variances, language barriers, or financial stress. The female students found resources that allowed positive experiences to appear, equating their negative experiences with their motivation and support system. The female international students’ mentality needed to be accompanied by opportunities to build a support network for a positive acculturation process. This positive experience is significant for the international female student population to be successful in their academic journey.

**Acculturative Stress**

Acculturative stress has been defined as stress-related to transitioning and adapting to a new environment and includes linguistic difficulties, pressures to assimilate, separation from family, experiences with discrimination, and intergenerational family conflicts. Greater acculturative stress has been associated with a greater likelihood for suicide ideation and more depression and anxiety symptoms. (Ahmed et al., 2011, p. 182)

Acculturative stress, defined as the disorientation that often accompanies cross-cultural transitions, can result from the accumulation of practical, cultural, and social difficulties. Regarding the symptoms, acculturative stress has been linked to social withdrawal, loneliness, sadness, fear, cultural identity confusion, and homesickness (Al-Krenawi et al., 2020).

Scholars in the field have investigated the acculturation experiences and the acculturative stressors commonly faced by international students in the U.S. Chavajay and Skowronek (2008)
examined acculturation stress among international students attending a U.S. university based on data collected from 130 international students. On the Acculturative Stress Scale for International Students, few participants in this study reported experiencing acculturation stress. At the same time, their responses to four open-ended questions displayed that many students’ perceived experience of acculturation stress was related to discrimination, feelings of loneliness, and academic concerns. The contrasting results for the scale scores and the open-ended questions indicate the complexity of assessing international students’ acculturation experiences while living and studying in the U.S. and suggest the effectiveness of complementary methodologies for evaluating such experiences.

A study conducted by Smith and Khawaja (2011) offered a review of current acculturation models applied to international students. The review included the Interactive Acculturation Model (IAM), Concordance Model of Acculturation (CMA), Multidimensional Individual Difference Acculturation (MIDA), and the Relative Acculturation Extended Model (RAEM). The review intended to determine the extent to which these models describe the acculturation experience of international students. Literature related to significant variables from these acculturation models was discovered, including acculturative stressors that international students face (e.g., educational difficulties, language barriers, discrimination, loneliness, and realistic problems accompanying changing environments). In addition, this study discussed the subsequent influence of social support and coping strategies on acculturative stress practiced by international students and the psychological and sociocultural adaptation of these students. This review discovered that the literature on international student supports some aspects of the acculturation models discussed. Additional investigation of these models is needed to determine their accuracy in designating international students’ acculturation.
Mukthyala (2013) studied the effects of migration on the resilience of Indian international students adjusting to the effects of acculturation. Participants reported challenges in adjusting to cultural differences, building relationships with American students, and adapting to academic expectations. Having a positive attitude and supportive relationships with families, professors, and other Indian students facilitated adjustment to challenges related to cross-cultural transitions.

Mahmood and Burke (2018) conducted a quantitative descriptive study that evaluated the levels of acculturative stress and sociocultural adaptation among international students at a nonmetropolitan university in the U.S. A sample of 413 students completed surveys to measure international students’ levels of acculturative stress and sociocultural adaptation, containing five subscales of sociocultural adaptation and college satisfaction. Gender, age, country of origin, length of stay in the U.S., degree level, and English language comfort were involved in the demographic questions. A negative correlation between students’ levels of sociocultural adaptation and acculturative stress was reported as the result of the study. Increased competency among the five sociocultural adaptation subscales—including interpersonal communication, academic/work performance, personal interests, community involvement, ecological adaptation, and language proficiency—reduced levels of acculturative stress. Moreover, while female, nontraditional, and graduate students showed higher levels of sociocultural adaptation and higher levels of college satisfaction, male, traditional, and undergraduate international students showed more significant amounts of acculturative stress and lower levels of college satisfaction.

Poyrazli et al. (2004) conducted research to investigate the relationship between the demographic variables and acculturative stress levels to understand better their possible importance and how English language ability and social support may interact to predict acculturative stress. Additionally, the study sought to understand the differential influence that
ethnicity (e.g., European vs. Asian) may exert on students’ levels of acculturative stress. A sample of 141 international students from different U.S. colleges completed surveys related to social support, demographic variables, and acculturative stress. Findings suggested that social support and English proficiency uniquely contribute to the difference in students’ acculturative stress. Results also indicated that students who mostly socialized with non-Americans and students from Asian countries experienced more acculturative stress than other subgroups.

To observe the acculturative stress of international students and to examine the predictors of acculturative stress, another quantitative study involving 186 students was conducted. Results reported that 22.4% of the students in this study surpassed the average stress level and may need counseling or psychological intervention. International students from the Middle East had a significantly higher level of acculturative stress than students from other regions. Additionally, perceived support from the university was recognized as a substantial negative predictor of acculturative stress. The results have significant suggestions for educators and assisting professions in higher education settings that help international students (Bai, 2016).

The levels of engagement in one’s native culture and the culture of the U.S. can affect levels of acculturative stress in international students. Therefore, a cross-sectional study examined 243 community college international students to evaluate how students at an extensive, varied, urban community college experience acculturative stress. Findings indicated lower acculturative stress among international students whose native language was English. They also showed higher immersion rates in American culture than those whose native language was something other than English. International students whose native language is not English may require extra academic support from college services and additional social support to combat the higher levels of acculturative stress (Hansen et al., 2018).
Nilsson et al. (2008) aimed to explore the relationships between perfectionism, acculturation, and stress with a sample of 76 Asian international students. Results indicated that perfectionism and acculturation predicted stress. Additionally, acculturation explained students’ experience of stress above and beyond perfectionism, and perceived prejudice showed the most incredible connection with stress. Recommendations for offering counseling services to international students and future research are suggested.

Most of the previous studies have investigated the acculturative stressors commonly faced by international students, such as language barriers, discrimination, feelings of loneliness, educational difficulties, and changing environments problems. Some of these studies have considered the influence of demographic variables and social support on the acculturation process. On the other hand, there is a lack of studies investigating the correlation between acculturative stress and depression, including the effect of demographic variables, social resources, and cognitive resources for international students. Therefore, there is a need for more research that focuses on the relationship between acculturative stress and depression and that highlights how social resources mediate this relationship.

Moving to study abroad causes many possible challenges for international students who might experience acculturative stress (Berry, 2006). Research has discovered a high level of acculturation stress that many international students experience throughout the process of moving from their countries to the host country (Ma, 2017). Stressors such as language barriers, cultural changes, academic difficulties, financial limitations, homesickness, social isolation, perceived discrimination, and the lack of a social support system may place international students at high risk for mental health problems. The psychological well-being of students who are not able to adapt to the requirements of their new cultural experience or cope efficiently could be affected negatively.
and cause depression, anxiety, stress, and emotional exhaustion (Aldawsari et al., 2018). Previous psychological literature illustrates that depression and anxiety are the most important results of psychological stress and can cause substantial stress in different life areas, such as the social or professional domains (Al-Krenawi et al., 2021). The inability to cope with acculturation stress can raise psychological exposure to depression and suicidal ideation (Hyun et al., 2007; Lefdahl-Davis & Perrone-McGovern, 2015; Ma, 2017). Anxiety arises from discomfort, worry, and observed threats. Students who can administer their anxieties by understanding the behaviors of the new culture feel less stress in their acculturation experience (Fritz et al., 2008). Additionally, some studies showed that international students who report a lower level of acculturation also report a higher level of stress (Misra et al., 2003).

Brunsting et al. (2018) designed a review to explore the strengths and gaps of the literature on undergraduate international student adjustment to U.S. universities. This study acknowledged 30 quantitative studies reporting psychosocial results for international undergraduate students at U.S. universities. Acculturative stress, psychological adjustment, social belonging, depression, and anxiety were the most researched consequences. Recommendations are proposed to improve theoretical frameworks, to identify next steps for researchers, and to offer suggestions for students, faculty, and staff at U.S. universities.

Al-Krenawi et al. (2021) investigated acculturative stress involving 84 female Saudi Arabian students attending U.S. universities in the vicinity of Washington, D.C. Results showed that most contributors experienced low levels of depression and anxiety, as measured by the Beck Depression Inventory-II (BDI-II) and the Beck Anxiety Inventory (BAI). In addition, smooth acculturation in the U.S. was intensely related to students who had confidence in their English language proficiency. Remarkably, English-language competence and other sociodemographic
variables (e.g., marital status, religiosity) were not correlated to psychological stress, as measured by the BAI and BDI-II. In contrast, the study illustrated a statistically significant correlation between cultural distrust and respondents’ psychological stress. In conclusion, international students’ sponsors in the U.S. and their universities must provide new international students with more significant support for evolving English language skills and more comprehensive material for better cultural understanding.

**Acculturative Stress and Depression**

Gebregergis (2018) examined the significant causes of acculturative stress and their relationship with sociodemographic aspects and depression using a descriptive cross-sectional research design. 506 international students completed two self-report surveys: the Acculturative Stress for International Students Scale and the Center for Epidemiological Studies Depression Scale. Descriptive statistics, Pearson’s product-moment correlation, a t-test, and an analysis of variance were implemented in the data analysis. As a result, the study outlined homesickness, culture shock, and discrimination as the primary stress-causing elements among the students. Students’ age, marital status, Chinese language competence, friendship with resident students, educational level, previous travel experience, and source of financial support were also shown to have an important link with their acculturative stress scores. In addition, the researchers discovered a substantial positive relationship between acculturative stressors and depression. The results of this study demonstrate the connection between acculturative stress and depression and provide justification for investigating some demographic moderators, such as students’ age.

Hamamura and Laird (2014) examined relationships among acculturative stress, grade point average satisfaction, maladaptive perfectionism, and depression with a sample of 52 East Asian international students and 126 North American students. Results reported that a combined
influence of perfectionism and acculturative stress accounted for more than 30% of the variance associated with depression. Recommendations involve the significance of attending to perfectionism and acculturative stress for refining the overall well-being of East Asian international students.

Wei et al. (2007) investigated whether maladaptive perfectionism and length of time in the U.S. moderated the relationship between acculturative stress and depression. The researcher used online surveys from 189 international students from China and Taiwan who were enrolled in a midwestern university to collect data. Hierarchical regression results reported a significant effect of acculturative stress and maladaptive perfectionism on depression, indicating that acculturative stress, maladaptive perfectionism, and length of time in the U.S. can predict depression. Moreover, low maladaptive perfectionism limited the influence of acculturative stress on depression just for those who had been in the U.S. for a longer time.

Rice et al. (2012) examined a classic diathesis-stress, stress-enhancement model of perfectionism with a sample consisting of two subgroups, including 129 Chinese and 166 Asian Indian international graduate students enrolled in a U.S. university. The researcher particularly examined whether self-critical perfectionism, acculturative stress, and their interaction accounted for different directions of effects and variability in depression. The result illustrated that self-critical perfectionism was positively connected with depression for both groups, but the effects were more substantial for the Asian Indian students. The interaction between self-critical perfectionism and acculturative stress was only significant for Asian Indians, demonstrating worse depression for those students who were the most self-critical and most stressed.

Another study explored Chinese international students’ acculturation experiences by investigating the relationship between acculturative stress, perceived social support, and symptoms
of depression. The study used the adjusted conceptual framework from the acculturation model and the stress and coping theory to evaluate. Additionally, the research measured other contextual factors associated with this acculturation process and discussed cultural attitudes concerning the meaning of depression. To collect data, an online survey completed by 545 Chinese international students attending Syracuse University was used to examine how students’ acculturation process impacted their psychological well-being, and 236 responses were included in this study. Results discovered that students with less acculturative stress experienced a better adjustment outcome and presented lower levels of depression. Furthermore, perceived social support worked as a moderator for the connection between acculturative anxiety and depression just when students experienced a high level of acculturative stress. Additionally, the English language proficiency of a student was found to affect their acculturative stress level significantly. Consequently, the results underline the significance of English language competency throughout the acculturation process (Zhang, 2012). These findings highlighted the rationale for investigating social support as a mediator of acculturative stress and depression among international students, which is one of the research questions in the present thesis.

Ma (2017) conducted a cohort study that used a mixed-methods pretest/posttest measurement study design to examine acculturation stress and depression among first-year international graduate students from China and India. The quantitative method was applied to explore the role of social support in that relationship and identify changes in acculturation, social support, and depression over one academic year. On the other hand, the qualitative method assisted in further investigating how Chinese and Indian international graduate students experienced acculturation stress and to what extent social support helped them handle their stress. The sample consisted of 55 students, and data was collected through two-time online surveys, which included
demographic and psychosocial measures of acculturation stress, depression, and perceived social support. A hierarchal regression analysis indicated that acculturation stress was a significant predictor of depression among participants. From focus group discussions, three acculturation stress-related themes appeared: lack of diversity on campus, fear of making mistakes, and microaggression. Many students experienced acculturation stress throughout their move to the new campus regarding conflicting cultural values and different coping strategies, resulting in depressive symptoms.

Meghani and Harvey (2016) studied group-based variances in depression, acculturation, and recognized predictors of depression trajectories. The participants were 114 Asian Indian graduate students in their first academic year in the U.S. The researcher used group-based trajectory modeling and identified the three depression trajectories: students in the low-improving group started the year with relatively limited depressive symptoms, which reduced over time; students in the low-stable group started the year with minor depression symptoms, which stayed stable over time; and students in the high-declining group initially had the greatest depression symptoms, and their symptoms became worse over time. Acculturation trajectories involved a low decreasing group that had a low acculturation level initially and decreased in acculturation over time; a high-stable group that had consistently great acculturation; and a mid-stable group that always had a modest grade of acculturation. Data analysis showed that higher acculturation, a bigger number of in-group sources of support, less academic and financial worries, and lesser observed level of adjustment at the start of the study considerably distinguished among depression trajectories, with the greatest variances usually seen between the low-improving and high-declining groups.
Acculturative Stress and Social Support

The ability to adjust to a new social environment is one of the most substantial challenges for international students attending universities in the U.S. There is a correlation between maladjustment of international students in a host country and negative effects on their psychosocial development, academic experience, and perception of the host culture (Hwang, 2014).

Ye (2006) examined the relationship between acculturative stress, interpersonal social support, and the use of online ethnic social groups among Chinese international students in the U.S. Results illustrated that students who were more satisfied with their interpersonal support networks experienced less perceived discrimination, perceived hatred, and negative feelings caused by change, but not less fear. Among students who had used online ethnic social groups, the amount of online informational support from these groups was inversely related to acculturative stress. Those who received higher amounts of online emotional support also reported lower levels of acculturative stress associated with perceived hatred. Additionally, interpersonal support network satisfaction and perceived online information support were negatively related.

Another study researched the effects of social support on acculturation and acculturative stress in Chinese international students. This study used semi-structured interviews with 8 Chinese international students, and a qualitative research method analysis was applied to the data. Findings reported that the students experienced variances between their pre- and post-views about the U.S., faced different formulas of acculturative stress, and pursued support from numerous sources (Bertram et al., 2014).

Chavajay (2013) conducted a study to investigate the extent and sources of perceived social support among international students enrolled in a northeastern university in the U.S. using the Index of Sojourner Social Support Scale. Findings reported that international students perceive
greater socioemotional and instrumental support from other international people than Americans. Results also indicated that younger international students perceived more socioemotional and instrumental support from others than older international students did. In conclusion, considering the significant role of types of social support, sources of social support offered to international students in the host culture may assist international students in adjusting to living and studying in a new cultural setting.

Bender et al. (2019) explored the link between social support and international students’ psychological adjustment and which types and sources of social support may be most strongly associated with psychological adjustment. Using a meta-analysis of 257 effect sizes across 76 studies, Bender et al. found a positive overall relationship between social support and international students’ psychological adjustment. Social support of all types and sources was found to predict positively the psychological adjustment of international students. Some types and sources of social support appear more efficient for psychological adjustment: International students who subjectively feel more support and who have support from mixed and unspecified sources have higher psychological adjustment levels. In conclusion, the psychological adjustment seems to generally benefit from all types and sources of social support.

Another study was conducted to examine the relationship between the cultural composition of social support networks and acculturative stress for international students. The total sample size of the study was 368 international undergraduate students who had been studying in the U.S. for at least one academic year in one of three public higher education institutions in southern California. This correlational study used a 65-item online survey. To analyze the data, a one-way ANOVA and multiple hierarchical regressions were applied. The results found a relationship between the cultural composition of social support networks and international students’
acculturative stress. The results of the analysis revealed that international students who are more likely to request support from members of their support network who are from a different culture experienced lower levels of acculturative stress. Additionally, the results indicate that the cultural composition of a social support network is positively connected with feelings of homesickness (Hwang, 2014).

Misra et al. (2003) explored the relationships among four constructs: life stress, social support, academic stressors, and reactions to stressors of international students in the U.S. The sample was 143 international students, and structural equation modeling was used to assess the relationships among latent and measured variables in the conceptual model. Findings reported no significant difference in academic and life stressors by gender, and women showed more significant responses to stressors than men. Higher levels of life stress and lower levels of social support were predictors for higher levels of educational stressors.

Atri et al. (2007) conducted a study to determine the role of social support, hardiness, and acculturation as predictors of mental health among international Asian Indian students attending two large public universities in Ohio. Participants were 185 students who finished a 75-item online instrument measuring their social support levels, acculturation, hardiness, and mental health. Regression analyses were applied to test for variance in mental health attributable to each of the three independent variables. The final regression model discovered that the belonging aspect of social support, acculturation and discrimination of acculturation scale, and commitment and control of hardiness were all predictive of mental health. Suggestions have been proposed to develop interventions that will assist in reinforcing the social support, hardiness, and acculturation of international students and help develop their mental health.
Another study aimed to understand the role of social support in decreasing acculturative stress among international students. The purposive sample consisted of 100 international students studying in India and Indian students studying abroad with a percentage of 47% male and 53% female students. To collect data, the researcher used an online survey. The result showed that if students had social support when they moved to another country, their acculturative stress was decreased to a great extent. Social support from their families, friends, and important others also assisted in lowering stress in the new setting. Social support from families has a substantial association with decreasing acculturative stress (Thomas & Sumathi, 2016).

Correspondingly, Luo et al. (2019) examined the degree to which demographic factors, perceived language proficiency, and local student social support correlated with Ryff’s psychological well-being scales. Following Ryff, psychological well-being is drawn from a combined framework of life course theory, mental health perspectives, and personal growth theories and has extended prior approaches focused essentially on happiness or affect. Ryff posited six aspects of psychological well-being: autonomy, environmental mastery, personal growth, positive relations with others, self-acceptance, and purpose in life. The sample included 216 undergraduate and graduate students from one mid-sized private university in the Southeast. Analyses showed variance in psychological well-being scores based on demographics. Perceived language proficiency and national student social support were positively related to several psychological well-being traits.

Lee et al. (2004) observed the relationship between acculturative stress and mental health symptoms and the role of social support as a moderator of this relationship for Korean international students. The sample was 74 students living in the Pittsburgh area. The result indicated that acculturative stress was intensely associated with mental health symptoms, while social support
moderated the effect of stress on symptoms. In addition, students with high levels of social support were significantly less likely to inform symptoms with growing levels of acculturative stress compared to students recording low levels of social support. The buffering effect of support primarily occurred when there was a high level of acculturation to the English language and interpersonal associations. The recommendations outline the need for providing support systems for international students as they become more acculturated. This study indicated a reason for investigating social support as a mediator between acculturative stress and depression among international students, which is one of the research questions in the present thesis.

Another study examined the relationship between acculturation methods (assimilation, integration, separation, and marginalization), social support, and acculturative stress in undergraduate and graduate international students. Participants were 104 international students at a medium-sized public university in the U.S Midwest. The findings discovered that international students with broad-based social support and an integration approach to acculturation experienced lower acculturative stress levels (Sullivan & Kashubeck-West, 2015).

To understand better international students’ psychological well-being and social-emotional experiences, Brunsting et al. (2021) examined whether specific social influences could improve international students’ belonging and well-being and reduce loneliness. Participants in a year-long study were 126 graduate and undergraduate international students enrolled in one of two universities in the U.S. Analyses reported that perceived social support from local students in the fall anticipated higher belonging in the following spring, whereas perceived faculty social support in the fall anticipated lower loneliness in the spring. In addition, perceived faculty social support had an indirect impact on psychological well-being through loneliness. These results afford primary proof of the importance of social support from local students and faculty for international
students’ social-emotional adjustment. Correspondingly, the research in the present thesis investigates the prospective role of social support in mediating the relationship between acculturative stress and psychological well-being—in particular, depression—for international students.

**Acculturative Stress and Saudi International Students**

Whereas the number of Saudi international students is enormous—approximately 44,000 students (Sokolove, 2019)—a limited number of studies have focused mainly on Saudi international students and explored their exceptional experiences (Alhazmi & Nyland, 2010; Almotery, 2014; Heyn, 2013; Rundles 2013). The impact of culture shock on international students is well recognized, but the unique experiences, demands, and difficulties of Saudi Arabian students studying abroad are less identified. Although there are some challenges Saudi international students share with other international students, such as Arab and Muslim students, they also face specific challenges (Alqarni, 2018). There are significant cultural differences between Saudi Arabia and the U.S. For example, Saudi Arabians are more collectivistic, whereas Americans are more individualistic. Also, in Saudi Arabia, power is tolerable within the family, institutions, and culture, while Americans have more equivalent authority division (Lefdahl-Davis & PerroneMcGovern, 2015). The challenges Saudi students face and the cultural differences between Saudi Arabia and the U.S. have led to several social and educational challenges (Alqarni, 2018).

Rundles (2013) examined factors that impact the psychological adjustment of Saudi international students, including self-esteem, social support, and discrimination. Interviews with seven Saudi students in the U.S. suggested that social support and self-esteem influence psychological adjustment. This finding supports the idea of looking at social support as a prospective mediator, which is one of the research questions in the present thesis.
A qualitative study by Alqarni (2018) explored the needs and difficulties of Saudi international students at Humboldt State University (HSU). Three major themes emerged from the interviews: language and cultural challenges, discrimination and religious challenges, and gender challenges. Alqarni stressed the importance of understanding these students’ experiences to help them meet the challenges they face.

Heyn (2013) examined the lived experiences of male Saudi Arabian students attending universities in the U.S. The researcher used semi-structured interviews with nine male Saudi Arabian students who had studied in the U.S. for at least two years at universities in western Michigan. Data collection and analysis were conducted through a phenomenological approach, which developed an understanding of the implications of being a male Saudi Arabian international college student as lived and explained by the students themselves. Phenomenological data analysis generated five topics: first, students’ perceptions of the U.S. before and after studying in the U.S.; second, students’ experiences living and studying in the U.S.; third, contributors’ strengths and efficacious strategies used during their study in the U.S.; fourth, students’ experiences requesting and getting support if they faced any difficulties while studying in the U.S.; and finally, the probable affect that cross-cultural study experiences had on these students’ cultural values and belief systems (Heyn, 2013). The results of this study support the idea of looking at social support as a prospective mediator for the relationship between acculturative stress and depression for international students in the current thesis.

Al Remaih (2016) conducted a qualitative study to understand how studying abroad in the U.S. affects female Saudi students academically and socially. The researcher separated the outcome section into three main themes, and each theme included many sub-themes. First, social challenges include making friends, fitting in, racism, safety, balancing responsibilities, different
traditions, and mobility. Second, academic challenges include admission and language issues, different teaching styles and laws, lack of educational support, and financial hardship. Third, emotional and spiritual challenges include homesickness, stress, and missing spirituality. This finding supports the idea of looking at counseling services as a perspective mediator that might affect the relationship between acculturative stress and depression for international students, which the present thesis seeks to research. The results also found that it is critical to encourage the academic professionals who work with female Saudi students to understand the unique difficulties they encounter. Recommendations suggest better preparing faculty members by providing special workshops dealing with Saudi students, especially female Saudi students. Additionally, creating a special mentoring program may help female Saudi students during their educational experience to adjust to their new environment, especially those students who suffer silently and do not request help.

Arafeh (2017) conducted a study aimed to explore the quintessence of the transference experiences of 10 female international students when they moved to study and live in the U.S. by answering the question of how female Saudi students navigate experiences of transitioning to study at an urban Midwest university. The researcher used individual interviews and focus interviews with four contributors, exploring their thoughts about their alteration experiences over time and the coping resources they used to smooth their transition. Data analysis proceeded across five time periods: first, when they chose to study and live in the U.S.; second and third, in their first and second semesters in the U.S.; and fourth and fifth, during the transition into the first semester for six of the contributors who visited Saudi Arabia in the summer. Data analysis reported that female Saudi students who participated in this study stated mainly positive feelings about their experiences during the five stages of their move to live and study in the U.S. Additionally, there was a strong
correlation between developing self-confidence and the support these students received from their fathers and their initial self-confidence. Moreover, approximately all female Saudi students stated their hope to go back to Saudi Arabia after graduation to make advanced improvements in their county. However, they also liked living in the U.S. Lastly, these female Saudi students started searching for methods to acquire support from other resources through their second year because of the lack of campus support they got during their first academic year.

Lefdahl-Davis and Perrone-McGovern (2015) studied the adjustment experiences of 25 female Saudi students attending universities in the U.S. Participants’ responses were categorized into several themes: expectations about the U.S. compared to the reality, acculturative stress or cultural adjustment, cultural differences between the U.S. and Saudi Arabia, experiences of discrimination and curiosity, English language proficiency, relationships, social support and helpseeking behavior, and the experience of being a Saudi woman in the U.S. Students’ adjustment was influenced by their proficiency in English, their relationships and social support, and their ability to adjust to the cultural differences they encountered.

**The Impact of Using Counseling Services on Acculturative Stress for International Students**

The amount of counseling services utilized by international students are limited, although the number of this population is increasing in American colleges and universities. There are several adjustment aspects and stressors that can negatively affect international students’ mental health and well-being, besides the different obstacles to getting support (Hwang et al., 2014). Furthermore, because of the diversity of the U.S., college counselors will predictably be faced with counseling culturally varied clients. To meet the needs of these students proficiently, college
counselors need to become competent in the multicultural issues, values, and beliefs of diverse clients, especially international students (Olivas & Li, 2006).

Zhang and Dixon (2003) studied the correlation between acculturation and attitudes toward psychological help-seeking. Participants were 170 Asian international students. Findings revealed a significant positive relationship between levels of acculturation and attitudes toward seeking professional psychological help. The regression analysis indicated that the higher the level of Asian international students’ acculturation (to white culture), the higher the score on attitudes toward seeking professional psychological help. Additionally, a significant relationship between Asian international students’ experience in counseling and their confidence and mental health was observed.

Olivas and Li (2006) reviewed literature linked to the international student population enrolled in universities and colleges in the U.S. This review, in particular, discovered adjustment issues, everyday stressors, and coping strategies of international students. Additionally, the review discussed multicultural counseling concerns and the help-seeking function of international students. This study also addressed methods that college counselors and staff can use to help international students in attaining a positive experience. In conclusion, providing psychoeducational and prevention services, founding mentoring programs, offering referral services, and implementing study and academic skills enhancement groups may assist college counselors in offering support for these students. Having college counselors interrelate with students in these alternative setups may develop a positive relationship. Consequently, students could be less anxious about pursuing counseling services for mental health-associated problems as needed.
Yakushko et al. (2008) conducted a study to expand knowledge of the aspects of international students’ mental health needs and their use of university counseling center services during five years. Results reported that between the main concerns stated by the student clients themselves or the intake counselor, relationship topics were the most predominant, followed by depression. Other frequently displayed problems involved isolation or loneliness, anxiety, self-esteem issues, academic issues, career issues, stress, adjustment to the U.S. culture, and eating and body image issues. Concerns with deciding to return to one’s home country, dealing with trauma, substance abuse, current partner violence, rape or sexual assault, sexual identity issues, and suicidal ideations appeared less frequently among all the concerns. Recommendations were offered to understand better the patterns of counseling use of students of different countries, considering those students’ specific political and cultural factors. Additionally, further collaboration between the workers at counseling centers and those who work with international students is needed. Finally, it is essential to offer faculty-adviser training sessions on referring international students to counseling centers to reach more international students who need counseling services.

Another study investigated the utilization of counseling services by international students at the main university in Texas. The participants were 516 international students who visited the university counseling center between 1992 and 1998. This study examined their demographic characteristics, referral resources, types of services required, in addition to their self-reported presenting concerns. The findings reported that students who utilized the counseling center for career counseling were more likely to be younger, female, and undergraduate students. In contrast, students who visited the counseling center for personal problems were more likely to be older, male, and graduate students. The top three concerns for undergraduate students were
“Academics/Grades,” “Anxiety,” and “Depression,” whereas “Depression,” “Time Management,” and “Relationship with Romantic Partner” were the top three “extremely worried” concerns for graduate students (Yi et al., 2003).

Hwang et al. (2014) explored international student use of counseling services at a midwestern university during five academic years. The results showed that international students underused counseling services, and female international students used counseling services more than males. In addition, most international students who utilized counseling services were Asian, and most students who used services continued attending counseling sessions following the first intake appointment.

Nilsson et al. (2004) conducted a study intended to understand international students’ utilization percentages and reported concerns to recognize pertinent areas for outreach programs. The sample was 41 international students who requested counseling at a university counseling center throughout an academic year. The findings showed that around 2% of the international student population required counseling services from the counseling center that year. Additionally, most of the international students who visited counseling centers revealed concerns about depression, confidence, academic major, and anxiety. Around a third of the students opted out after the intake appointment.

Hyun et al. (2007) assessed the occurrence of mental health needs for international graduate students, their awareness of mental health services, and their use of counseling services inside and outside campus. Participants were all graduate students who enrolled in the Spring 2004 semester. Of the 3,121 students who completed online surveys, 551 were international postgraduate students. Findings illustrated that around 44% of international graduate students reported that they went
through emotional or stress-related difficulties that considerably impacted their well-being or academic performance during the previous year.

Otherwise, international students who stated a more interactive rapport with their advisors were less likely to report having emotional or stress-related difficulties in the previous year and using counseling services. Furthermore, international students who reported higher financial confidence were also less likely to use counseling services. In summary, there is an unmet mental health need among international graduate students. Recommendations were made to increase mental health outreach efforts that are specifically attentive to international graduate students, as well as to consider the relationship between students and their advisors and the presence of sufficient financial support for students.

**Conceptual Model**

Based on the current research, analyzed above, this study uses Berry’s acculturation theory as its conceptual model. Berry (2005) defines acculturation as “the dual process of cultural and psychological change that occurs due to contact between two or more cultural groups and their members” (p. 698). This concept includes changes in social structures, cultural practices, and individual behaviors. Acculturation is a process of cultural and psychological alteration involving mutual adjustment methods, resulting in some forms of long-term adaptation among the groups in contact. The level to which these acculturation experiences will increase stress depends on several factors. Considering these life changes as opportunities, not difficulties, will be more possible if a given individual has the appropriate education, long-term acculturation experiences, social resources, and self-efficacy. All these factors may help students engage in the new culture. Individual failure to establish a reasonable degree of contact with the larger society results in greater stress.
The occurrence of acculturative stress depends not only on stressors but also on the individual’s coping strategies and resources. For those who have coping strategies, the existence of stressors will not lead to acculturative stress, whereas for those who are unable to cope, acculturative stress may be extensive. Social support and the use of counseling services may affect the development of acculturative stress. Typically, acculturative stress displays itself in various psychosomatic and psychological symptoms; the most common are prominent levels of anxiety and depression. According to the previous literature review, research has documented a link between acculturative stress and depression among international students. The higher the acculturation stress, on average, the higher the levels of depression.

Allowing for the general application of acculturation theory, the current conceptual model shows the process of cultural change, potential acculturation stress, the role of social resources (social support and the use of counseling services) and predicted mental health outcomes (depression).

Given the significance of the problem, it is essential to understand the connection between acculturative stress and depression to successfully assist Saudi international students during their acculturation process. This study aims to examine the relationship in the presented conceptual model between acculturation stress and depression and the role of mediator variables: social support, and the use of counseling services to answer the proposed research questions.

**Summary**

The literature review in this chapter explains the unique challenges international students encounter during the acculturation process to their host country. Challenges involve academic problems, isolation, discrimination, language barriers, lack of a support system, and cultural and psychological adjustment. Many studies were conducted on the relationship between acculturative
stress and social support, whereas there is a paucity of research on the correlation between acculturative stress and depression among international students, mediated by social resources such as social support and the use of counseling services. The review also shows a shortage in the use of counseling services by international students, although there is a significant need. Additionally, the chapter illuminates the need for a special training program for counselors and campus staff to provide efficient services based on international students’ needs.

Furthermore, while valuable research has been conducted to investigate the acculturative stress that international students face, some studies have taken into consideration certain groups such as Asian and Indian students, and few research has been conducted on Saudi Arabian students in the U.S. There is a lack of research about the impact of acculturative stress on depression, particularly Saudi students. Furthermore, the review illustrates that most studies used a qualitative approach; thus, there is an ongoing need to investigate this topic by using a quantitative research approach. A quantitative study will enable the researcher to collect data from a larger number of participants and increase the likelihood of obtaining a representative sample. Moreover, conducting surveys rather than interviews gives the participant a chance to feel more secure and open up by being in a more anonymous setting and reduces the possibility of interviewer bias that might exist in an interview. Therefore, the present study is important to fill the gap in the literature and explore the relationship between acculturative stress and depression for Saudi international students, and, moreover, to investigate how this relationship is mediated by social resources.
CHAPTER 3 Methodology

Overview

This study examines the relationship between acculturative stress and depression among Saudi international students in the U.S. This chapter will discuss the methods used in the study, the sampling approach, a description of Saudi international student participants, a description of measures, ethical considerations, and limitations.

Research Questions and Hypotheses

The following research questions form the basis for this research:

Research Question 1 (RQ1): Is there a relationship between acculturative stress and depression among Saudi international students in the U.S.?

(HA1): There is a relationship between acculturative stress (as measured by the Acculturative Stress Scale for Saudi International Students) and depression (as measured by the Beck Depression Inventory [BDI] and LEVEL 2–Depression–Adult [PROMIS Emotional Distress–Depression–Short Form]) among Saudi international students.

Research Question 2 (RQ2): Do social resources, specifically social support and use of counseling services, mediate the relationship between acculturative stress and depression? (a) Does social support mediate the relationship between acculturative stress and depression? (b) Does the use of counseling services mediate the relationship between acculturative stress and depression?

(HA2): Social resources, specifically social support and use of counseling services, mediate the relationship between acculturative stress and depression. (a) Social support mediates the relationship between acculturative stress and depression. (b) The use of counseling services mediates the relationship between acculturative stress and depression.
Data Collection and Procedures

General Procedures

After IRB approval was obtained, data was collected from Saudi international students enrolled in U.S. universities. Data was collected via a survey combining (a) the Acculturative Stress Scale for Saudi International Students (ASSSIS) (Bashir & Khalid, 2020), (b) the Beck Depression Inventory (BDI) (Beck et al., 1996) and LEVEL 2–Depression–Adult (PROMIS Emotional Distress–Depression–Short Form) (Nolte et al., 2019), (c) a demographic questionnaire, and (d) a social resources questionnaire. The first part of the survey included the 24-item ASSSIS scale assessing each participant’s self-reported levels of acculturative stress. The second part of the survey consisted of the 21-item self-reporting BDI questionnaire for evaluating the severity of depression in normal and psychiatric populations, and LEVEL 2–Depression–Adult (PROMIS Emotional Distress–Depression–Short Form) included eight items that assess the pure domain of depression in individuals aged 18 and older. In the third part of the survey, demographic variables (nationality, age, gender, educational level, marital status, and length of stay in the U.S.) were acquired. The fourth part addressed social resources through a questionnaire inquiring about social support and use of counseling services.

The researcher recruited Saudi international students through international offices in their universities and WhatsApp groups for Saudi international students in different states across the U.S. The researcher sent the survey to potential participants online as a Google Form along with an informed consent form, which indicated the permission needed for the usage of the data. Participants in this study were exposed to the least risk during the data collection procedures as the researcher could not track any of the individual participant’s information. Data collection only occurred after obtaining Duquesne University’s IRB approval.
Research Design

This study employed a quantitative research design intended to examine the relationship between acculturation stress and depression among Saudi international students in the U.S. Data was collected via an online survey with Saudi international students in U.S. higher educational institutions.

Study Population and Sampling Participants

Study Population

In this research, the study population is Saudi international students in U.S. universities and colleges. According to Sokolove (2019), the approximate number of Saudi students in the U.S. is 44,000, which is the study population of this research.

Sampling Participants

A sample of Saudi international students from various universities across the U.S. was used in this study. The participants were male and female Saudi international students, all of whom were over the age of 18 and enrolled in graduate or undergraduate programs in the U.S. The questionnaire was distributed electronically and occurred (a) by sending emails to Saudi international students enrolled in various universities around the U.S. through international offices in their universities, and (b) through WhatsApp groups for Saudi international students in different states across the U.S. Each of these groups contain more than 200 students. Using WhatsApp groups helped the researcher reach a large number of Saudi international students who currently study in graduate and undergraduate programs in different universities in the U.S., which is expected to be representative of the study population. The demographic variables assessed the participants’ nationality, age, gender, educational level, marital status, and length of stay in the U.S. Nationality was measured as a categorical variable: 1) Saudi citizen or 2) not Saudi citizen.
Age was measured as a continuous variable in number of years. Gender was measured as a categorical variable: 1) male, 2) female, or 3) other. Educational level was measured as a categorical variable: 1) graduate student or 2) undergraduate student. Marital status was assessed by asking respondents to indicate their marital status from the following categories: 1) single, 2) married, or 3) divorced. The length of residence was measured as a categorical variable: 1) less than one year, 2) one year, 3) two years, 4) three years, 5) four years, 6) five years, or 7) more than five years.

According to the power analysis results using G*Power, a sufficient sample size for multiple regression is $N = 77$. This sample was calculated to determine a sufficient sample size using an alpha of 0.05 and a power of 0.80 (Faul et al., 2013).

**Instruments**

This study utilized an online questionnaire that included demographic variables (nationality, gender, age, marital status, length of stay in the U.S., and education level) and prospective mediator variables (social support and use of counseling services) along with three scales: the Acculturative Stress Scale for Saudi International Students (ASSSIS) (Bashir & Khalid, 2020), the Beck Depression Inventory (BDI) (Beck et al., 1996), and LEVEL 2–Depression–Adult (PROMIS Emotional Distress–Depression–Short Form) (Nolte et al., 2019). The researcher used two instruments to measure depression to support the findings and to add validity to the depression scale. Each instrument utilizes a very specific definition for measuring depression, and each looks at depression differently. Using only one instrument may not have led to results as accurate as using two different instruments that both indicate the presence of depression. Using two instruments indicating levels of depression can lead to more valid results than a single instrument indicating depression. To use two instruments to measure depression, the researcher had to conduct
a weighting process because the two scales do not have an equal number of items. The weighting process included (a) reweighting the items from the BDI so that they contributed to the combined depression score in the same proportion as the items from the PROMIS, (b) taking the sum of the BDI for each participant and multiplying it by 8/21 or .38, and (c) adding the result of (b) to the sum of the PROMIS for each participant. The resulting score would then have equal contributions from the BDI and the PROMIS. The description of the instruments is discussed next.

_Acculturative Stress Scale for Saudi International Students (ASSSIS)_

The ASSSIS was generated from the Acculturative Stress Scale for Pakistani Muslim Students (ASSPMS) (Bashir & Khalid, 2020) after taking the author’s permission to use the instrument. The ASSSIS includes 24 items organized into different categories of stress: academic (six items), general living and finance (four items), perceived discrimination (three items), cultural and religious (four items), local and environmental (four items), and language barrier (three items). The researcher used the five-point rating scale (5 = Strongly agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly disagree) to collect the responses. A higher score on the Multidimensional Acculturative Stress Scale indicated a higher stress level, while a lower score meant a lower level of stress. The content of the original ASSPMS scale was created after receiving the judgment of professionals. The experts included university instructors (two), clinical psychologists (two), Ph.D. researchers, and international scholars (ten) who returned after the achievement of their degree. These experts carefully evaluated the items and discussed and assessed the scale’s validity. The Cronbach alpha of the ASSPMS scale was \( \rho = .895 \). The internal consistencies of the subscales of the ASSPMS were as follows: academic \( (\rho = .834, \text{six items}) \), local and environment \( (\rho = .822, \text{four items}) \), living and finance \( (\rho = .861, \text{four items}) \), cultural and religious \( (\rho = .744, \text{four items}) \),
language ($r = .781$, three items), and discrimination ($r = .768$, three items). The Cronbach alpha of the subscales showed adequate reliability even with a minimum number of three items (Bashir & Khalid, 2020). The ASSSIS scale was designed to be used in the English language.

**Beck Depression Inventory (BDI)**

The Beck Depression Inventory (BDI) is a 21-item self-reporting questionnaire for evaluating the severity of depression in normal and psychiatric populations. Developed by Beck and colleagues in 1961, it relied on the theory of negative cognitive distortions as central to depression. The BDI-II contains 21 items on a 4-point scale from 0 (symptom absent) to 3 (severe symptoms). Anxiety symptoms are not assessed, but affective, cognitive, somatic, and vegetative symptoms are covered, reflecting the DSM-IV criteria for major depression. Scoring is achieved by adding the highest ratings for all 21 items. The minimum score is 0, and the maximum score is 63. Higher scores indicate greater symptom severity. In non-clinical populations, scores above 20 indicate depression. In those diagnosed with depression, scores of 0–13 indicate minimal depression, 14–19 (mild depression), 20–28 (moderate depression), and 29–63 (severe depression). Content validity of the BDI-II has improved following item replacements and rewording to reflect DSM-IV criteria for major depressive disorders. Mean correlation coefficients of 0.72 and 0.60 have been found between clinical ratings of depression and the BDI for psychiatric and non-psychiatric populations. Construct validity is high for the medical symptoms measured by the questionnaire ($\alpha = 0.92$ for psychiatric outpatients and 0.93 for college students). High concurrent validities have been demonstrated between the questionnaire and other measures of depression, such as the Minnesota Multiphasic Personality Inventory-D ($r = 0.77$). Criterion validity of the BDI-II is positively correlated with the Hamilton Depression Rating Scale ($r = 0.71$) with a high 1-week test-retest reliability ($r = 0.93$), suggesting robustness against daily variations.
in the mood, and an internal consistency of $\alpha = 91$ (Jackson-Koku, 2016). In this study, the BDI scale was used in the English language, and the questions in the scale were modified from asking about how the subject had been feeling in the last week to the last three months.

**LEVEL 2–Depression–Adult (PROMIS Emotional Distress–Depression–Short Form)**

The DSM-5-TR Level 2–Depression–Adult measure is the 8-item PROMIS Depression Short Form that assesses the pure domain of depression in individuals ages 18 and older. Each item on the measure is rated on a 5-point scale (1 = never; 2 = rarely; 3 = sometimes; 4 = often; and 5 = always) with a range in score from 8 to 40 and higher scores indicating greater severity of depression. The clinician is asked to review the score on each item on the measure during the clinical interview and indicate the raw score for each item in the section provided for “Clinician Use.” The raw scores for the 8 items should be summed to obtain a total raw score. Next, the T-score table should be used to identify the T-score associated with the individual’s total raw score and the information entered in the T-score row on the measure. The reliability coefficient was calculated based on polychoric correlations, as appropriate for ordinal data. The alpha reliability coefficient was high, with 0.989 for the total item bank (51 items), 0.988 for the final item bank (28 items), and 0.974 for the 8-item short form, with the latter finding indicating that reliable measurement of depression can be attained with a relatively small number of items. To consider item reduction based on the reliability coefficient, one could further inspect the alpha-if-item-deleted statistic (i.e., the expected alpha of the instrument when the specific item is deleted), which identifies items that may not be highly related to the other items and the domain of interest (depression). For example, the deletion of item 49 from the 51-item bank would not substantially change alpha (0.990 versus 0.989), suggesting that this item was somewhat different from the other 50 items. As content validity of the PROMIS Depression Item Bank was performed by the original
developers, it is only presented here for completeness. It comprised a comprehensive literature search and focus groups with patients to ensure that the instrument reflected the perspectives of the population of interest. Moreover, selection of items was (partly) based on content balancing to retain a representative group of symptoms and complaints in the final bank. Face validity was assessed by asking experts to review the resulting bank and to define and describe the content that was being measured (Nolte et al., 2019). In this study, the PROMIS Depression scale was used in the English language and the question in the scale were modified from asking about how the subject had been feeling in the last week to the last three months.

*Demographics Questionnaire*

This section of the survey included personal information about the participant but did not include questions asking participants to provide identifiable information. Types of information collected through this section involved participants’ nationality, age, gender, educational level, marital status, and length of stay in the U.S.

*Social Resources Questionnaire*

This section of the survey included questions that were developed by the researcher to know if the participants had received social support. Some questions asked if there was a special person around who could provide emotional help and support when needed and who could be counted on when things go wrong. In addition, some questions asked participants if they used counseling services and how long they had been receiving it.

*Data Analysis*

To answer the research questions, the researcher used several types of analyses in (SPSS). After online collection, the data was exported to SPSS computer software applied for quantitative statistical analyses. Before conducting the main analyses, all variables were screened
for possible code, missing variables check, outliers, and statistical assumption violations using SPSS frequencies, explore, plot, and regression procedures.

The first research question (RQ1) is, “Is there a relationship between acculturative stress and depression among Saudi international students in the U.S.?” The independent variable is acculturative stress, and the dependent variable is depression. To measure acculturative stress, the researcher used the ASSSIS. The BDI and PROMIS Depression scale were used to measure depression. To answer RQ1, correlation analysis was conducted.

The second research question (RQ2) is, “Do social resources, specifically social support and use of counseling services, mediate the relationship between acculturative stress and depression?” The independent variable is acculturative stress, and the dependent variable is depression. The mediated variables are social resources: social support and the use of counseling services. To measure the social support variable, the researcher used a social support questionnaire and some questions to measure the use of counseling services. To answer this research question, a path analysis (mediation analysis) was conducted between the independent variable (acculturative stress) and the dependent variable (depression). The mediator variables are social support and use of counseling services.

**Human Participants and Ethics Precautions**

Data was collected after proposing this study to Duquesne University’s IRB and receiving approval. Before deciding to participate in the study, participants were informed about the study and asked to provide consent to participate in the study after knowing the expectations of their participation. Since this study utilized an online survey, no human participants will be contacted directly. The data was de-identified; therefore, the researcher has no possibility of identifying the individuals in the sample.
CHAPTER 4 Results

This chapter analyzes the study’s findings. This study aimed to investigate the relationship between acculturative stress and depression among Saudi international students in the U.S. The study also examined the role of social resources—social support and counseling services—in mediating this relationship. This section includes demographic characteristics, descriptive statistics, the procedure of the analysis, results of research questions, and a summary of the study results.

Descriptive Analysis of Sample

Demographic Variables

Table 1 shows that 103 participants completed the demographic questionnaire and were included in the analyses. Descriptive statistics were used to report the number of valid responses. The participants were comprised of 34 (33%) males and 69 (67%) females. Regarding age, 14 (13.6%) of the participants fell in early adulthood (18–25 years old), while most of the participants (n = 70, 68%) were in later adulthood (26–35 years old) and 16 participants (15.5%) fell in the range of 36–45 years old. Only three (2.9%) participants were in the range of 45 or older.

Participants currently in undergraduate college made up 15.5% (n = 16) of the sample, whereas 39 (37.9%) participants were in master’s programs and 45 (43.7%) participants were in doctorate programs. Three (2.9%) participants selected the option “other.” Most participants were married (n = 64, 62.1%), and 33 (32.1%) were single. Four (3.9%) participants were divorced, and two (1.9%) selected the option “other.” Approximately 33.9% (n = 35) of the participants have stayed in the U.S. for more than six years, 36% (n = 37) have stayed for three to five years, 19.4% (n = 20) have stayed for one to two years, and 10.7% (n = 11) have been in the U.S. for less than one year.
Regarding counseling services, Table 2 shows that most participants \((n = 61, 59.2\%)\) reported that they have never received counseling services. However, the remaining participants \((n = 42, 40.8\%)\) have received counseling services.

**Table 1: Demographic Characteristics of Participants \((n = 103)\)**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>(n)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>34</td>
<td>33</td>
</tr>
<tr>
<td>Female</td>
<td>69</td>
<td>67</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-25</td>
<td>14</td>
<td>13.6</td>
</tr>
<tr>
<td>26-35</td>
<td>70</td>
<td>68.0</td>
</tr>
<tr>
<td>36-45</td>
<td>16</td>
<td>15.5</td>
</tr>
<tr>
<td>45 or older</td>
<td>3</td>
<td>2.9</td>
</tr>
<tr>
<td><strong>Degree Currently enrolled</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor</td>
<td>16</td>
<td>15.5</td>
</tr>
<tr>
<td>Master</td>
<td>39</td>
<td>37.9</td>
</tr>
<tr>
<td>Doctorate</td>
<td>45</td>
<td>43.7</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>2.9</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>33</td>
<td>32</td>
</tr>
<tr>
<td>Married</td>
<td>64</td>
<td>62.1</td>
</tr>
<tr>
<td>Divorced</td>
<td>4</td>
<td>3.9</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>1.9</td>
</tr>
<tr>
<td><strong>Length of stay in the USA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 1 year</td>
<td>11</td>
<td>10.7</td>
</tr>
<tr>
<td>1-2 years</td>
<td>20</td>
<td>19.4</td>
</tr>
<tr>
<td>3-5 years</td>
<td>37</td>
<td>35.9</td>
</tr>
<tr>
<td>6 years or older</td>
<td>35</td>
<td>34.0</td>
</tr>
</tbody>
</table>
Table 2: Descriptive Analysis of the Use of Counseling Services (n = 103)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>The use of counseling</td>
<td>42</td>
<td>40.8</td>
</tr>
</tbody>
</table>

Scale Reliabilities

Reliability analyses were run for the ASSSIS, BDI, and PROMIS Depression scale. As shown in Table 3, all items from the ASSSIS (a = .86), the BDI (a = .92), the PROMIS scale (a = .93), and the social support questions met the conventional cut-offs for acceptable reliability (Tabachnick & Fidell, 2013).

Table 3: Cronbach’s Alpha for Primary Factors (n = 103)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number of items</th>
<th>Cronbach's Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acculturative Stress</td>
<td>24</td>
<td>.86</td>
</tr>
<tr>
<td>Depression</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beck’s Depression Inventory</td>
<td>21</td>
<td>.92</td>
</tr>
<tr>
<td>Level 2—Depression</td>
<td>8</td>
<td>.93</td>
</tr>
<tr>
<td>Social Support</td>
<td>3</td>
<td>.76</td>
</tr>
</tbody>
</table>

Statistical Assumptions

Analyses were conducted to determine any violations of assumptions of the analyses performed in this study. Outliers among the correlations of the variables were examined by calculating Mahalanobis distance, and none were found to be of concern. The skewness and kurtosis of the individual variables were assessed. As illustrated in Table 4, all variables were normally distributed, with none exceeding the accepted range of -1.0 to 1.0 for skewness and kurtosis. Homoscedasticity was assessed using Levene’s tests. The equal levels of variability across demographic characteristics of participants were assessed for acculturative stress,
depression, and social support. All $p$-values of Levene’s tests were not statistically significant at $\alpha = .05$. Therefore, the assumption of homoscedasticity was met. Bivariate scatterplots were used to check linearity, and all the variables were linearly associated with each other.

**Table 4: Descriptive Statistics**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Min</th>
<th>Max</th>
<th>$M$</th>
<th>$SD$</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acculturative Stress</td>
<td>30</td>
<td>102</td>
<td>69.46</td>
<td>13.99</td>
<td>-0.23</td>
</tr>
<tr>
<td>Depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beck’s Depression Inventory</td>
<td>20</td>
<td>69</td>
<td>33.41</td>
<td>10.59</td>
<td>1.08</td>
</tr>
<tr>
<td>Level 2—Depression</td>
<td>8</td>
<td>40</td>
<td>20.85</td>
<td>7.67</td>
<td>0.31</td>
</tr>
<tr>
<td>Total Depression</td>
<td>15.6</td>
<td>66.2</td>
<td>33.55</td>
<td>11.20</td>
<td>0.56</td>
</tr>
<tr>
<td>Social Support</td>
<td>0</td>
<td>3</td>
<td>2.23</td>
<td>1.08</td>
<td>-1.06</td>
</tr>
</tbody>
</table>

**Research Questions**

**RQ1**: Is there a relationship between acculturative stress and depression among Saudi international students in the U.S.?

Pearson correlation coefficients were calculated to examine the relationship between acculturative stress and depression among 103 Saudi international students enrolled in U.S. universities, with a $p < .05$. Table 5 shows a significant positive moderate correlation between acculturative stress and depression: $r(103) = .49$, $p < .001$. According to these results, the more acculturative stress students have, the more depressed they are likely to be.

**Table 5: Descriptive Statistics and Correlation**

<table>
<thead>
<tr>
<th>Variables</th>
<th>$M$</th>
<th>$SD$</th>
<th>$r$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acculturative Stress</td>
<td>69.46</td>
<td>13.99</td>
<td>.49***</td>
</tr>
<tr>
<td>Depression</td>
<td>33.55</td>
<td>11.20</td>
<td></td>
</tr>
</tbody>
</table>

***$p < .001$***

55
RQ2: Do social resources, specifically social support and use of counseling services, mediate the relationship between acculturative stress and depression?

**Figure 1 Acculturative Stress and Depression**

As shown in Figure 1, the hypothesized path model includes four variables. Acculturative stress was used as the predictor variable in the model. It was hypothesized that acculturative stress would directly affect depression. Moreover, there were two separate mediation paths through which it was hypothesized that acculturative stress influences depression. The first mediator variable represents social support, while the second mediator represents the use of counseling services. Path analyses through multiple regression were performed to determine if social resources mediate the relationship between acculturative stress and depression.

(a) Does social support mediate the relationship between acculturative stress and depression?

To test if acculturative stress is correlated with social support, two regression analyses were conducted. The first regression analysis examined the relationship between acculturative stress and social support. Social support was the criterion variable, and acculturative stress was the predictor.
Acculturative stress was not a statistically significant predictor of social support: $F(1,10) = 1.77$, $p = .190$, $R^2 = .017$, adjusted $R^2 = .008$. The analysis indicates no statistically significant relationship between acculturative stress and social support ($\beta = -.13$, $B = -0.01$, $S.E. = 0.008$, $t = -1.33$, $p = .186$).

The second analysis explored the relationship between acculturative stress, social support, and depression. Depression was the criterion in this regression equation, and both acculturative stress and social support were the predictors. The results showed that both acculturative stress and social support jointly predicted depression: $F(2,10) = 17.06$, $p < .001$, $R^2 = .254$, adjusted $R^2 = .240$. Acculturative stress was a statistically significant predictor of depression ($\beta = .47$, $B = 0.38$, $S.E. = 0.07$, $t = 5.44$, $p < .001$), but social support was not ($\beta = -.12$, $B = -1.27$, $S.E. = 0.91$, $t = -1.41$, $p = .163$).

The direct and indirect effects were examined and summarized in Table 6. Results found that acculturative stress has a significant direct effect on depression. Acculturative stress did not significantly influence depression through social support ($\beta = .02$, $B = 0.01$, $SE = 0.04$, $p = .187$), indicating that social support did not mediate the relationship between acculturative stress and depression.

**Table 6 The Mediating Role of Social Support on the Relationship between Acculturative Stress and Depression**

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Predictors</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Social Support</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acculturative Stress</td>
<td></td>
</tr>
<tr>
<td></td>
<td>($R^2 = .02$)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\beta$</td>
<td>$B$ $S.E.$</td>
</tr>
<tr>
<td></td>
<td>0.13</td>
<td>-0.01 0.01</td>
</tr>
</tbody>
</table>

57
(b) Does the use of counseling services mediate the relationship between acculturative stress and depression?

Two multiple regression analyses were performed to determine if the use of counseling services mediates the relationship between acculturative stress and depression. First, a regression was run to predict the use of counseling services and another to predict depression. The correlations of the variables are shown in Table 7. The use of counseling services related to depression but not to acculturative stress.

To test if acculturative stress is correlated with the use of counseling services, the first regression analysis was run. The use of counseling services was the criterion variable, and acculturative stress was the predictor. Acculturative stress was not a statistically significant predictor of the use of counseling services: $F(1,10) = 2.66, p = .110, R^2 = .03$, adjusted $R^2 = .02$. The analysis indicated no statistically significant relationship between acculturative stress and the use of counseling services ($\beta = .16, B = 0.01, S.E. = 0.003, t = 1.63, p = .110$).

To test if the use of counseling services affects depression, the second regression analysis was run. Depression was the criterion in this regression equation, and both acculturative stress and the use of counseling services were the predictors. As indicated by the second regression analysis, acculturative stress and the use of counseling services jointly predicted depression: $F(2,10) = 17.37, p < .001, R^2 = .258$, adjusted $R^2 = .243$. In that analysis, acculturative stress was a statistically significant predictor of depression ($\beta = .47, B = 0.37, S.E. = 0.07, t = 5.36, p < .001$). However, the use of counseling services was not ($\beta = .14, B = 3.09, S.E. = 1.98, t = 1.56, p = .121$).
The direct and indirect effects are summarized in Table 7. Acculturative stress was hypothesized to predict depression, but it only did so directly rather than indirectly. In other words, acculturative stress did not significantly influence depression through counseling services ($\beta = .017$, $B = 1.53$, $SE = 0.04$, $p = .121$). Thus, counseling services did not mediate the relationship between Acculturative Stress and Depression.

**Table 7: The Mediating Role of Counseling Services on the relationship between Acculturative Stress and Depression**

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Predictors</th>
<th>Effects</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Direct</td>
<td>Indirect</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$\beta$</td>
<td>$B$</td>
<td>$SE$</td>
</tr>
<tr>
<td></td>
<td>Counseling Services</td>
<td>.16</td>
<td>0.01</td>
<td>0.003</td>
</tr>
<tr>
<td>($R^2 = .03$)</td>
<td>Acculturative stress</td>
<td>.47***</td>
<td>0.37</td>
<td>0.07</td>
</tr>
<tr>
<td>Depression</td>
<td>Acculturative stress</td>
<td>.02</td>
<td>1.53</td>
<td>0.04</td>
</tr>
<tr>
<td>($R^2 = .26$)</td>
<td>Counseling Services</td>
<td>.14</td>
<td>3.09</td>
<td>1.98</td>
</tr>
</tbody>
</table>

***$p < .001$***

**Summary of Results**

This study revealed a statistically significant relationship between acculturative stress and depression. The findings have shown a moderate positive association between acculturative stress and depression. In terms of the relationship between acculturative stress and depression through social resources (social support and the use of counseling services), results indicate that acculturative stress directly predicts depression, with no indirect effects going through either of the forms of social resources. As a result, neither social support nor the use of counseling services serve as a mediator of the relationship between acculturative stress and depression.
CHAPTER 5 Discussion

This research aimed to examine the relationship between acculturative stress and depression among Saudi international students in the U.S. An additional emphasis was placed on the role of social resources (social support and the use of counseling services) as mediators of the relationship between acculturative stress and depression. The central constructs being explored within this research were acculturative stress, as measured by the Acculturative Stress Scale for Saudi International Students (ASSSIS) (Bashir & Khalid, 2020), and depression, as measured by the Beck Depression Inventory (BDI) (Beck et al., 1996) and LEVEL 2–Depression–Adult (PROMIS Emotional Distress–Depression–Short Form) (Nolte et al., 2019). This chapter presents a summary of the study, an explanation of major findings from the study, a conclusion that may be drawn from the results, a consideration of the limitations of this research, and a discussion of recommendations for future research as well as implications for the field of counseling and counselor education.

Summary of the Study

This study aimed to understand the relationship between acculturative stress and depression among Saudi international students in the U.S. This study also examined the influence of social resources (social support and the use of counseling services) on this relationship. Previous literature examined the relationship between acculturative stress and depression among international students in the U.S. or specific groups of international students (Gebregergis, 2018; Hamamura & Laird, 2014; Ma, 2017; Rice et al., 2012; Zhang, 2012), but there was no apparent research examining the relationship between acculturative stress and depression specifically within the Saudi international student population. Therefore, this study aimed to fill this gap within the research. As many Saudi international students face varied difficulties associated with the process
of acculturation in the new culture that might cause acculturative stress and depression (Aldawsari et al., 2018; Al-Krenawi et al., 2021; Alqarni, 2018; Al Remaih, 2016; Heyn, 2013; Lefdahl-Davis & Perrone-McGovern, 2015), this study sought to explore the relationship between acculturative stress and depression to understand social resources that might help to decrease their acculturative stress and depression.

The results of this study provide evidence that acculturative stress is related to depression among Saudi international students in the U.S. Findings indicated a significant positive moderate correlation between acculturative stress and depression. The more acculturative stress students have, the more depressed they are likely to be. In addition, the study results reveal that acculturative stress did not significantly influence depression through the variable of social support. Therefore, social support did not mediate the relationship between acculturative stress and depression. Furthermore, results show that acculturative stress did not significantly influence depression through the variable of counseling services. Accordingly, counseling services did not mediate the relationship between acculturative stress and depression.

**Major Findings**

Hypotheses for this study and all research questions were exploratory. No apparent justification based on the literature could be made to indicate an anticipated directionality within the current research. It was hypothesized that there may be a relationship between acculturative stress and depression among Saudi international students in the U.S. The findings of this study will be discussed in consideration with the literature that most closely connects with the constructs investigated within this research. The existing literature has featured relationships between acculturative stress and depression among international students but does not focus on the relationship between acculturative stress and depression in this study’s particular population.
sample of Saudi international students. The findings in this section will be likened to the existing literature that most closely matches the constructs featured in this study.

The first research question (RQ1) in this study was: Is there a relationship between acculturative stress and depression among Saudi international students in the U.S.? Results from the correlation conducted for RQ1 produced statistically significant findings. Acculturative stress was found to be related to depression among Saudi international students in the U.S. This finding supports Berry’s (2005) acculturation theory, the theoretical foundation of the conceptual model in this study. When an individual fails to establish a reasonable degree of contact with the larger society, it is likely to make a significant difference and result in greater stress. Acculturative stress displays itself in various psychosomatic and psychological symptoms; the most common are prominent levels of anxiety and depression (Berry, 2005). The existing literature on similar constructs does not completely focus on the same prospective mediator variables. The finding of a relation between acculturative stress and depression aligns with previous findings suggesting a strong relationship between acculturative stress and depression. Gebregergis’s (2018) study implies that there is a substantial positive relationship between acculturative stressors and depression among international students. In addition, this finding supports Hamamura and Laird’s (2014) study among East Asian international students, which reported that a combined influence of perfectionism and acculturative stress accounted for more than 30% of the variance associated with depression. Similarly, Wei et al. (2007) conducted a study to investigate if perfectionism and length of time in the U.S. moderated the relationship between acculturative stress and depression. Results showed a significant main effect of acculturative stress and maladaptive perfectionism on depression, indicating that acculturative stress, maladaptive perfectionism, and length of time in the U.S. predict depression. Another study conducted by Rice et al. (2012) was also consistent
with the finding of this study about the strong relationship between acculturative stress and depression. It examined whether self-critical perfectionism, acculturative stress, and their interaction accounted for different directions of effects and variability in depression with a sample consisting of Chinese and Asian Indian international graduate students. This study illustrated that the selfcritical perfectionism × acculturative stress interaction significantly demonstrated worse depression for those students who were the most self-critical and most stressed (Rice et al., 2012).

Correspondingly, Zhang’s (2012) research aligns with the finding of this study. Zhang explored Chinese international students’ acculturation experiences by investigating the relationship between acculturative stress, perceived social support, and symptoms of depression. Results revealed that students with less acculturative stress experienced a better adjustment outcome and presented lower levels of depression. Furthermore, a study by Ma (2017) examined acculturation stress and depression among first-year international graduate students from China and India, with findings that support the conclusions of this study. Results indicated that acculturation stress was a significant predictor of depression among participants.

The second research question (RQ2) in this study was: Are there social resources mediating the relationship between acculturative stress and depression? (a) Does social support mediate the relationship between acculturative stress and depression? (b) Does the use of counseling services mediate the relationship between acculturative stress and depression? Results from the regression analysis conducted for RQ2(a) revealed no significant mediation. The results revealed that social support did not mediate the relationship between acculturative stress and depression. The existing literature generally features social support, acculturative stress, and depression but does not focus on social support as a mediator variable between acculturative stress and depression or on this study’s sample of Saudi international students. One of these studies was conducted by Hwang
(2014), who found a relationship between the cultural composition of social support networks and international students’ acculturative stress. The results of the analysis revealed that international students who are more likely to request support from members of their support network who are from a different culture experienced lower levels of acculturative stress. Similarly, the result of research conducted by Thomas and Sumathi (2016) showed that if students have social support when they move to another country, the acculturative stress can be decreased to a greater extent. Social support from their families, friends, and important others will also assist them in lowering their stress in the new setting. Also, the findings of the study conducted by Sullivan and Kashubeck-West (2015) discovered that international students with broad-based social support and an integration approach to acculturation experienced lower acculturative stress levels. Along these lines, previous research has looked at social support as a moderator, and this study looks at it as a mediator. Previous research shows social support significantly moderates the relationship between acculturative stress and depression, while the result of the current study is different when this variable is used as a mediator. Social support shows no significant mediation between acculturative stress and depression for Saudi international students in the U.S.

A potential explanation for the lack of a significant finding on social support as a mediator of the relationship between acculturative stress and depression among Saudi international students in the U.S. may be attributed to the variation in the perception of social support within the participants. Participants may have a different perception of social support and may give a different answer depending on his or her understanding of the concept of social support. Additionally, a flaw in the measurement of social support in this study could be a reason behind the finding. The social support factor was measured by using three self-report questions to determine whether the participants have social support or not. These questions may not be adequate to measure social
support; the results may have been different by using a social support scale that may help to have a better understanding of the level of social support the participants have.

Results from the regression analysis conducted for RQ2(b) revealed no significant mediation. The results reveal that counseling services did not mediate the relationship between acculturative stress and depression. The existing literature generally focuses on the importance of and need for using counseling services for international students but does not focus on the use of counseling services as a mediator between acculturative stress and depression or on this study’s sample of Saudi international students. The current study does not support the findings of previous research about the use of counseling services for international students.

A possible explanation for the lack of a significant finding of the use of counseling services as a mediator of the relationship between acculturative stress and depression among Saudi international students in the U.S. may involve the length of time participants have received counseling services. Survey responses showed that the majority of the participants (52.2%) had been receiving counseling services for less than six months. This amount of time may not be adequate for the counseling services to be effective or for the participants to see improvements in their mental health. Additionally, participants who had received counseling services did not report the issue for which they were receiving counseling. They may not have been receiving counseling regarding depression, and they may have been focusing on another concern, which could be an explanation for counseling services not mediating the relationship between acculturative stress and depression. As a result, the finding for RQ2 indicated that social resources did not mediate the relationship between acculturative stress and depression.
Limitations

Several limitations should be considered in interpreting the results of this study. The first limitation of this study was the limited sample size. Sampling a larger number of subjects than 103 might have resulted in greater variance in survey responses, which may improve analysis. The second limitation of this study was the limited amount of diversity within the demographics of the sample, especially in relation to participants’ nationality. This study primarily focused on acculturative stress and its association with depression for Saudi international students. The participants were selected from one group population, Saudi international students, rather than from various international groups. Saudi international students have common cultural traditions that are different from other cultural traditions. Choosing participants from one national group leads to limited generalizability of the findings to other international student groups. The third limitation is grounded in a one-time evaluation of students’ acculturative experiences and depression. Moreover, the continuity and discontinuity of these experiences may vary as a function of time.

The fourth limitation is the instruments that were used in the present study. If different instruments had been used to measure acculturative stress, depression, and social support, the study may have indicated different results, because the way each instrument use to measure is different. The fifth limitation involves using quantitative survey research. Quantitative studies do not give the participants the opportunity to describe their answers or to allow the researcher to know how the participants understand the questions. This may result in differentiation in the participants’ responses, which the researcher is unable to consider. Additionally, using self-reported information poses a risk of response bias, considering the social stigma that may be attached to have acculturative stress, depression, and receiving counseling services. Participants may have
responded with socially desirable answers when assessed about their acculturative stress, depression, and the use of counseling services.

**Implications**

The findings of this study have several important implications. The results demonstrate a significant positive relationship between acculturative stress and depression among Saudi international students in the U.S. For counselors, it is valuable to understand how Saudi international students adjust behaviorally and cognitively to their new culture and how their acculturative stress might lead to depression. Based on the findings of Gebregergis’s (2018) study, it is an essential responsibility of professionals working in the counseling field to have a comprehensive understanding of the acculturation experiences of Saudi international students. Counselors could make the best usage of the findings of the current study in their counseling programs by identifying significant causes of acculturative stress and their influence on the mental health of students (Gebregergis, 2018). Additionally, counselors should consider the factor of acculturation stress on this population’s mental health to support and help them with acculturation and to create an appropriate environment where they behave in the acculturation process effectively. Tummala-Nara and Claudius’s (2013) study found that Muslim students, who usually associate support with family and friends, are more likely to feel isolation in the U.S. These students must pursue psychotherapeutic help when integrating into American culture. This kind of support would help to alleviate difficult feelings experienced in a new culture.

Research suggests that intervention programs that support intercultural contact are helpful for the acculturation of international students (Lee et al., 2004). Therefore, counselors could help Saudi international students to examine their interpretations of the stress and depression they
experience and help them to develop coping strategies to deal with cross-cultural, stress-related issues (Rice et al., 2012).

More significantly, university counselors may assist Saudi international students in their cultural transition to living and studying in the U.S. by providing educational materials attentive to their mental health and particular acculturation experiences. Universities may also apply group interventions to enhance the acculturation of Saudi international students through the establishment of support services. It is recommended that university counselors offer groups for international students based on different cultural regions—for instance, a Middle Eastern group or an Arab group. This could allow for discussion of the specific difficulties that each cultural group might confront (Fritz et al., 2008). Accordingly, counselors could run programs that combat the main acculturative challenges of particular nationalities and provide better mental health services.

One of the intervention programs counselors might utilize to enhance the adaptation of Saudi international students is Excellence in Experiential Learning and Leadership (EXCELL), which is based on a cultural learning framework targeted to improve sociocultural adaptation. Furthermore, peer-pairing interventions could be used by pairing Saudi international students with domestic students to assist social adjustment or enhance social support and increase the use of university services involving counseling services (Smith & Khawaja, 2011). Outside of university counseling centers, collaboration with Saudi student associations and international student services and a variety of counselors who are skilled in areas related to international student studies and cross-cultural adjustment are needed to make counseling appropriate for international students (Mukthyala, 2013).

For counselor education, it is suggested that counselor educators teach from a multicultural perspective, with the awareness that acculturation is related to mental health. Also, counselor
educators may take a role in educating counselors about the acculturation process and the difficulties that international students go through during their academic journey, thereby facilitating intercultural communication (Bai, 2016). Additionally, counselors should be educated about the importance of the influence of acculturative stress on international students and its effect on their mental health, focusing on depression. Finally, counselors should be trained to become competent with culturally appropriate therapeutic approaches and to focus on working with international students to cope with acculturation difficulties and support them during their acculturation process (Hwang et al., 2014).

Whereas this study found a significant relationship between acculturative stress and depression, the variables chosen as prospective mediators (social support and the use of counseling services) did not mediate that relationship. The social resources variable did not seem to have as much influence as expected. Therefore, it is important to consider other variables that might help to mediate the relationship between acculturative stress and depression. Future research may want to address other variables. The next section discusses some ideas for future research.

**Recommendations for Future Research**

Future studies should attempt to increase the sample size of Saudi international students. Studies also need to be done on other populations of international students using the specific variables of acculturative stress, depression, and social resources. Mental health can be approached from multiple angles and directions, and there remain many possible variables that were not explored in this study. Based on the findings of previous research, it is suggested for future research to examine the relationship between acculturative stress and different aspects of mental health disorders, such as anxiety, stress, or the three mental health aspects together (anxiety, stress, and depression) (Ahmed et al., 2011; Aldawsari et al., 2018; Alghamdi, 2019; Arafeh, 2017; Fritz et
al., 2008). Future research might investigate additional mediators of the relationship between acculturative stress and depression, such as self-critical perfectionism (Rice et al., 2012), self-esteem (Rundles, 2013), cross-cultural competence (Aldawsari et al., 2018), and coping strategies (Smith & Khawaja, 2011), as these variables have the potential to reduce acculturative stress. The present study focuses on the use of counseling services as a mediator between acculturative stress and depression. Future research might focus on the role of the use of counseling services in the acculturation process for international students as a main construct in a study (Nilsson et al., 2004). The current study utilized different measurements to measure acculturative stress, depression, and social support and the findings did not show significant mediation for the relationship between acculturative stress and depression. Thus, I still suggest these variables to investigate in the future; other researchers could explore the benefits of using different instruments and may get different findings. Moreover, future research might use a qualitative methodology to allow the contributors to clarify their responses to the posed questions and to help avoid the limitations of a quantitative research methodology. Further, future research could utilize quantitative and qualitative methods together to improve the effectiveness of research in this area.

Conclusion

The purpose of this study was to explore the acculturation process of Saudi international students through examining the association between acculturative stress and depression. Previous literature examining the acculturation process focused on international students in general or some nationalities in particular. Moreover, previous research examined some variables affecting the relationship between acculturative stress and different aspects of mental health. In an effort to extend this literature, this study focused on the unique variable of social resources (social support and the use of counseling services). The aim of this study was partly to gain a better understanding
of the impact of social resources on how Saudi international students adjust to a new culture and how their acculturation process affects their mental health—particularly, depression. The results support the claim that there is a significant relationship between acculturative stress and depression among Saudi international students. Moreover, social support and the use of counseling services do not function as mediators of the relationship between acculturative stress and depression. The findings emphasize the importance of the acculturation process; however, how other variables associated with acculturative stress need to be further explored. Professionals dealing with international students may use findings from this study to better assist Saudi international students’ acculturation through applying culturally appropriate interventions. The ultimate goal is to help Saudi international students stay psychologically healthy during the acculturation process.
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APPENDIX A

Informed Consent

DUQUESNE UNIVERSITY
600 FORBES AVENUE PITTSBURGH, PA 15282

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

TITLE:

Examining The Relationship Between Acculturative Stress and Depression Among Saudi International Students In the USA

INVESTIGATOR:

Alaa Shawly, MA
Doctoral Candidate at Duquesne University
717-660-5649 shawly@duq.edu

ADVISOR: (if applicable)

Dr. David L. Delmonico, Ph.D., LPC
Professor of Counselor Education
Duquesne University, School of Education
(412) 396-4032
delmonico@duq.edu

SOURCE OF SUPPORT:

This study is being performed as partial fulfillment of the requirements for the Doctor of Philosophy degree in Counselor Education and Supervision in the School of Education at Duquesne University.

STUDY OVERVIEW:

Participation in this study includes rating levels of acculturative stress in different categories which are stress, academic, general living and finance, perceived discrimination, cultural and religious, local and environmental, and language barrier. Further, you will be asked to answer 2 depression questionnaires to evaluate your level of depression. Additionally, you will be asked to answer some demographic questions that include your nationality, age, gender, educational level,
marital status, length of stay in the U.S., social support, and the use of counseling services. This study aims to identify how depression may be affected by acculturative stress. The study will aim to inform professionals in the counseling field and international students with knowledge of potential influence of social support and the use of counseling services on depression among Saudi international students. I am expecting a total of 77+ participants.

PURPOSE:

You are being asked to participate in a study that is exploring the relationship between acculturative stress and depression among Saudi international students in the USA.

To participate in this study, you must be a Saudi student currently enrolled at a university in the USA.

PARTICIPANT PROCEDURES:

If you provide your consent to participate, you will be asked to select the link to complete the questions on the surveys, taking approximately 15-20 minutes. You will be asked to complete the survey one time. The surveys consist of questions measuring your level of acculturative stress as well as your level of depression.

RISKS AND BENEFITS:

There are minimal risks associated with participating in this study; none greater than those encountered in everyday life.

COMPENSATION:

There will be no compensation for participating in this study. There is no cost for you to participate in this research project.

CONFIDENTIALITY:

Your participation in this study, and any identifiable personal information you provide, will be kept confidential to every extent possible, and will be destroyed 3 years after the data collection is completed. Your name will never appear on any survey or research instruments. All written and electronic forms and study materials will be kept secure. Confidentially will be maintained via a password-protected survey software, Google Forms. In addition, any publications or presentations about this research will only use data that is combined together with all subjects; therefore, no one will be able to determine how you responded.

RIGHT TO WITHDRAW:

You are under no obligation to start or continue this study. You can withdraw at any time without penalty or consequence by not completing the study or leaving the survey unfinished.
Any survey that is unfinished will be considered withdrawn. Survey responses are anonymous and cannot be tracked back to the individual participant. Hence, once fully completed and submitted, a survey cannot be withdrawn.

**SUMMARY OF RESULTS:**

A summary of the results of this study will be provided to at no cost. You may request this summary by contacting the researchers and requesting it. The information provided to you will not be your individual responses, but rather a summary of what was discovered during the research project as a whole.

**FUTURE USE OF DATA:**

Any information collected that can identify you will not be used for future research studies, nor will it be provided to other researchers.

**VOLUNTARY CONSENT:**

I have read this informed consent form and understand what is being requested of me. I also understand that my participation is voluntary and that I am free to withdraw at any time, for any reason without any consequences. Based on this, I certify I am willing to participate in this research project.

I understand that if I have any questions about my participation in this study, I may contact Alaa Shawly via phone at 717-660-5649 or via email at shawly@duq.edu. If I have any questions regarding my rights and protections as a subject in this study, I can contact Dr. James Phillips (phillips@duq.edu), Senior Director of Sponsored Research and Compliance. Proceeding to the next page indicates your voluntary consent to participate in this project.
Hello, my name is Alaa Shawly and I am a doctoral candidate in Counselor Education and Supervision at Duquesne University. I am conducting a study to explore the relationship between acculturative stress and depression among Saudi international students in the USA as a part of my doctoral requirements. Your contributions may benefit other Saudi students who currently study in the U.S. and who will come to study in the U.S. in the future.

To participate in this study, you must be a Saudi student currently enrolled at a university in the USA.

Survey information: You will be asked to complete the survey one time only. The survey consists of questions measuring your level of acculturative stress as well as your level of depression. Demographic information will also be requested for reporting purposes only.

Confidentiality: Your answers to all questions are completely confidential. Your name will never appear on any survey.

Contacts: If you have any questions about this study, please contact the responsible parties:
Investigator: Alaa Shawly, Duquesne University, shawlya@duq.edu
Advising Faculty Member: Dr. David Delmonico, Duquesne University, delmonico@duq.edu
Duquesne University Institutional Review Board: Dr. David Delmonico, Duquesne University, delmonico@duq.edu

Please click on the link below to be directed to the informed consent and survey. Your participation is voluntary and without risk. You may discontinue participation at any time.

Thank you for your consideration and your participation.

Best,

Alaa Shawly
Doctoral Candidate Duquesne University
shawlya@duq.edu
APPENDIX C

Demographics, Use of Counseling Services, and Social Support Questionnaire

1. Which of the following best reflects your nationality?
   [ ] Saudi
   [ ] Not Saudi

2. Which of the following best reflects your identified gender?
   [ ] Male
   [ ] Female
   [ ] Other

3. What is your current age?
   [ ] 18-25 years
   [ ] 26-35 years
   [ ] 36-45 years
   [ ] 45 years or older

4. Which of the following best reflects your marital status?
   [ ] Single
   [ ] Married
   [ ] Divorced
   [ ] Other

5. Which of the following best reflects your length of stay in the U.S.?
   [ ] Less than 1 year
   [ ] 1-2 years
   [ ] 3-5
   [ ] 6 years or more

6. Which of the following best reflects the degree you are currently enrolled in?
   [ ] Bachelor
   [ ] Master
   [ ] Doctoral
   [ ] Other

7. Do you ever receive mental health services (physiatrist, psychologist, counselor)? [ ] Yes [ ] No
   If your answer is yes, how long have you been receiving mental health services?
   [ ] Less than 6 months
   [ ] 6-12 months
   [ ] 1-2 years
   [ ] 3 years or more

8. Choose the answer yes if the following reflects your social support resource situation There is a special person who is around when I am in need
   [ ] Yes
   [ ] No
There is a special person from whom I receive emotional help and support when I am in need. [ ] Yes
[ ] No

I have a special person who I can count on when things go wrong. 
[ ] Yes [ ] No
APPENDIX D

Acculturative Stress Scale for Saudi International Students

(Bashir & Khalid, 2020)

The scale has 5- self-rating responses format according to the following scale:
1 = Strongly Disagree
2 = Disagree
3 = Neutral
4 = Agree
5 = Strongly Agree

Please read each statement carefully. You have to choose one of the options for each statement according to the degree of agreement. Please respond to what you think or how you feel.

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Statements</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I am not happy with how my study plan is progressing.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>My quality of life is negatively affected by my academic burden.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Overall, teachers do not seem pleased with my academic efforts.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>I am not able to meet academic deadlines here.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>I am not getting enough academic support from my supervisor here.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>It is difficult to cope with the differences in Saudi and western academic setup.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>I am unable to celebrate my traditional religious activities (Eid, Ramadan) here.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>8</td>
<td>I do not feel free to perform my religious rituals (obligatory prayers) here.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>9</td>
<td>It bothers me when people judge my cultural and religious values.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>10</td>
<td>I do not feel free to wear my traditional clothing here</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
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<tr>
<td>11</td>
<td>Using local public services (transportation, healthcare system,</td>
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<tr>
<td></td>
<td>banking, etc.) is hard for me.</td>
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<td>12</td>
<td>I am not comfortable participating in the local events here.</td>
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<tr>
<td>13</td>
<td>I feel like I do not fit in here.</td>
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<tr>
<td>14</td>
<td>It is difficult to adapt to the new environment here.</td>
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<tr>
<td>15</td>
<td>I feel that I am denied several opportunities because of my</td>
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<tr>
<td></td>
<td>ethnicity.</td>
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<td>16</td>
<td>I feel that because I am a foreign student I am denied the</td>
<td></td>
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<td></td>
<td>privileges enjoyed by the local students here.</td>
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<tr>
<td>17</td>
<td>I feel discriminated against due to my gender.</td>
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<td>18</td>
<td>I face difficulties understanding the local language.</td>
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<td>19</td>
<td>I feel difficulty communicating due to the language barrier.</td>
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<td>20</td>
<td>I need to seek help to improve my language skills for daily</td>
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<td></td>
<td>use.</td>
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<td>21</td>
<td>I have trouble managing my living budget here.</td>
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<tr>
<td>22</td>
<td>I do not have enough money to cover all of my expenses.</td>
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<tr>
<td>23</td>
<td>I feel stressed because my basic expenses (rent, groceries,</td>
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<tr>
<td></td>
<td>clothing, etc.) are high.</td>
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<td>24</td>
<td>It is hard to find accommodation here.</td>
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</tbody>
</table>
APPENDIX E

The Beck’s Depression Inventory

(Beck et al. 1996)

On this questionnaire are groups of statements. Please read all the statements in a given group then pick out one statement in each group which describes you best in terms of the last three months.

1. 0 I do not feel sad.
    1 I feel sad.
    2 I am sad all the time and I can’t snap out of it. 3 I am so sad and unhappy that I can't stand it.

2. 0 I am not particularly discouraged about the future.
    1 I feel discouraged about the future.
    2 I feel I have nothing to look forward to.
    3 I feel the future is hopeless and that things cannot improve.

3. 0 I do not feel like a failure.
    1 I feel I have failed more than the average person.
    2 As I look back on my life, all I can see is a lot of failures. 3 I feel I am a complete failure as a person.

4. 0 I get as much satisfaction out of things as I used to.
    1 I don’t enjoy things the way I used to.
    2 I don’t get real satisfaction out of anything anymore. 3 I am dissatisfied or bored with everything.

5. 0 I don’t feel particularly guilty.
    1 I feel guilty a good part of the time.
    2 I feel quite guilty most of the time.
    3 I feel guilty all of the time.

6. 0 I don’t feel I am being punished.
    1 I feel I may be punished.
    2 I expect to be punished.
    3 I feel I am being punished.

7. 0 I don’t feel disappointed in myself.
1. I am disappointed in myself.
2. I am disgusted with myself.
3. I hate myself.

8. 0. I don’t feel I am any worse than anybody else.
1. I am critical of myself for my weaknesses or mistakes.
2. I blame myself all the time for my faults.
3. I blame myself for everything bad that happens.

9. 0. I don’t have any thoughts of killing myself.
1. I have thoughts of killing myself, but I would not carry them out.
2. I would like to kill myself.
3. I would kill myself if I had the chance.

10. 0. I don’t cry any more than usual.
1. I cry more now than I used to.
2. I cry all the time now.
3. I used to be able to cry, but now I can't cry even though I want to.

11. 0. I am no more irritated by things than I ever was.
1. I am slightly more irritated now than usual.
2. I am quite annoyed or irritated a good deal of the time.
3. I feel irritated all the time.

12. 0. I have not lost interest in other people.
1. I am less interested in other people than I used to.
2. I have lost most of my interest in other people.
3. I have lost all of my interest in other people.

13. 0. I make decisions about as well as I ever could.
1. I put off making decisions more than I used to.
2. I have greater difficulty in making decisions more than I used to.
3. I can’t make decisions at all anymore.

14. 0. I don’t feel that I look any worse than I used to.
1. I am worried that I am looking old or unattractive.
2. I feel there are permanent changes in my appearance that make me look unattractive.
3. I believe that I look ugly.

15. 0. I can work about as well as before.
1. It takes an extra effort to get started at doing something.
2. I have to push myself very hard to do anything.
I can’t do any work at all.

I can sleep as well as usual.

I don’t sleep as well as I used to.

I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.

I wake up several hours earlier than I used to and cannot get back to sleep.

I don’t get more tired than usual.

I get tired more easily than I used to.

I get tired from doing almost anything.

I am too tired to do anything.

My appetite is no worse than usual.

My appetite is not as good as it used to be.

My appetite is much worse now.

I have no appetite at all anymore.

I haven’t lost much weight, if any, lately.

I have lost more than five pounds.

I have lost more than ten pounds.

I have lost more than fifteen pounds.

I am no more worried about my health than usual.

I am worried about physical problems like aches, pains, upset stomach, or constipation.

I am very worried about physical problems and it’s hard to think of much else.

I am so worried about my physical problems that I cannot think of anything else.

I have not noticed any recent change in my interest in sex.

I am less interested in sex than I used to be.

I have almost no interest in sex.

I have lost interest in sex completely.
Please respond to each sentence by selecting the best option that describes your feelings during the last three months.

<table>
<thead>
<tr>
<th>Item</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>I felt worthless.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I felt that I had nothing to look forward to.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I felt helpless.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I felt sad.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I felt like a failure.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I felt depressed.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I felt unhappy.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I felt hopeless.</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>