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Acculturation and Emotional Eating Among Arabic Middle Eastern Women in the United States

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Walden University
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Abstract

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Sherri Alizz Roohi-Booroujeni

MA, Walden University, 2017

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Submitted as partial fulfillment

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Abstract

Obesity is a substantial problem that occurs worldwide and is highly associated with increased risks of chronic diseases such as Type II diabetes mellitus, cardiac-related diseases, hypertension, and some cancers. Middle Eastern cultures have one of the highest rates of overweight and obesity, estimated to be the second highest worldwide. The purpose of this study was to examine the relationship among stress, depression, emotional eating, and weight gain in Middle Eastern women, specifically Arabs, who have moved to the United States, using a quantitative approach. The theoretical foundation was psychosomatic theory, which explains the connection between psychological problems and emotional eating. This theory suggests that mental conditions increase the chances of overeating among people who find food rewarding. An online survey was used to collect data from a convenience sample of approximately 150 participants using demographics, Cohen's Perceived Stress questionnaire, the Hamilton Depression Rating Scale, the Vancouver Index of Acculturation questionnaire, and the 25-item Emotional Eating Scale. Arabic Middle Eastern women were focused on in this study to understand whether mental changes such as stress, depression, and acculturation may increase overeating because of moving to the United States. The findings, although they did not reach significance, may promote positive social change by showing the need for more medical practitioners who understand how better to treat Arabic Middle Eastern women who suffer from obesity as well as help these women to identify factors that may contribute to their overeating and subsequent weight gain.

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Dedication

I wholeheartedly dedicate this dissertation to my beloved parents, Suzanne and Farouk, who have been my source of strength and inspiration, who continually provide their emotional, spiritual, and financial support.

My husband, Sina, whose affection, love, and continuous encouragement made it possible for me to complete this work. He has always been there for me and shared his support, either morally, financially, and physically. He had cheered me on when I felt discouraged and believed in me when I thought of giving up. I will forever be thankful for you.

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I also want to express my deep appreciation for Emilio, my golden boy, my dog. Thank you for accepting me, lying next to me while writing my book, all the kisses and hugs, the adventures we do together, and more. But, most importantly, thank you for letting me be part of your life.

And lastly, I dedicate this book to God. Thank you for everything. Thank you for your guidance, protection, blessings, and for giving me strength and good health.

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Chapter 1: Introduction to the Study

Obesity is a significant public health problem, which may be in part the result of a person's inability to metabolize food properly or a person's genetic makeup, though the condition is more often the result of a calorie-rich diet and a sedentary lifestyle (Duarte et al., 2015; Song et al., 2018). Unhealthy eating practices may not only cause overweight and obesity but may also lead to other chronic comorbidities such as hypertension, diabetes mellitus Type II, and heart-related diseases (Emerson et al., 2016; Song et al., 2018). Other diseases related to obesity include stroke, some cancers, gallbladder disease and gallstones, osteoarthritis, gout, and breathing problems such as sleep apnea (Centers for Disease Control and Prevention 2019). Obesity contributes directly to an estimated four million deaths each year (Weiderpass et al., 2019), and the rate of Type II diabetes mellitus has quadrupled from the year 1980 to 2014, with an increase from 5% to 8% among women (Chivese et al., 2016).

Women are considered to be more susceptible to becoming overweight or obese than men because of many factors including eating in response to negative emotions (Costanzo & Musante, 1996) as well as physical characteristics that may lead to accumulation of fat (Duarte et al., 2015). According to Garawi et al. (2014), the prevalence of obesity among women is higher than for men globally; however, the rates can vary depending on the country. For example, in the United States, women are only 4% higher in the overall prevalence than men, whereas in Kuwait, they are 26% higher and 29% higher in South Africa. Women are also more likely to gain weight that later becomes associated with a high risk of developing chronic illnesses—both physical and

emotional—that disrupt quality of life (Emerson et al., 2016). Women in the Middle East in particular, are more susceptible to obesity and developing diseases such as diabetes mellitus Type II and heart diseases (Alnohair, 2014). There is a high percentage of obesity among Middle Eastern women, as 48% of those living in Kuwait, 42% from Dubai, and 32% from Qatar were diagnosed with obesity at rates that were among the highest in women in the Arab world (Alnohair, 2014). Therefore, lack of physical activities, cultural values, and food consumption patterns may factor in making Middle Eastern women more likely to become overweight and obese than men (Kanter & Caballero, 2012).

There are many reasons for the high obesity in Middle Eastern women. In Arab countries and cultures, consuming food that is high in fat and carbohydrates is a well-established, traditional practice (Al-Disi et al., 2015). Being overweight in some locales or countries may also be considered a sign of affluence, a factor that might lead to either deliberate weight gain (Donnelly et al., 2018). Another element that contributes to obesity among Arab women is likely to be their heavy clothing, as its size and weight discourages physical activities because it inhibits free movement (Donnelly et al., 2018). Nonetheless, many Arab women will comply with specific clothing requirements for social or religious reasons that outweigh both their comfort, mobility, appearance and the negative consequences of their being overweight (Sharara et al., 2018).

Additionally, many women from the Middle East tend to stress eat rather than eating because they are hungry and typically continue to overeat after emigrating to other countries (Klatzkin et al., 2018). Because these women are likely to overeat in response

to negative emotions (Costanzo & Musante, 1996), they are perhaps more likely to develop mental health issues and physical diseases associated with overeating (Duarte et al., 2015). However, cultures in the Middle East may discourage members of their groups from seeking professional help for psychological or physical changes that may lead to obesity, especially because of attitudes toward the roles of women and personal topics being discussed outside the group (Dardas & Simmons, 2015). Additionally, because some Middle Eastern women believe that symptoms of mental illness relate to supernatural forces (e.g., Jinn), they keep most of their negative emotions inside and instead find comfort in overeating (Dardas & Simmons, 2015). However, although several studies have confirmed the relationships among stress, depression, and emotional eating, it is not clearly understood how those psychological factors contribute to overeating and obesity among Middle Eastern women who now live in the United States.

The immigration of the Arab population to the United States has increased dramatically over the past 35 years, with the total number tripling from 610,000 to 1.8 million in 2015 (Read et al., 2018). Along with the increase in population is the need to find health care resources specific to the health needs and cultural requirements of this ethnic group (Read et al., 2018). Adult women ages 18 to 36 gain more weight than any other age group (Sand et al., 2015), and Middle Eastern women have a high risk of developing obesity at a younger age compared to men due to unhealthy food choices (Farrag et al., 2017). Unhealthy habits individuals have may also be exacerbated if they immigrate to a foreign country, where they lack the social and emotional support of their

friends and family. However, they seldom seek professional help for their problems due to a cultural stigma regarding emotional weakness (Dardas & Simmons, 2015).

Background

Stress Eating

Stress eating has been shown to negatively affect many women who find that eating is emotionally rewarding (Klatzkin et al., 2018). For example, Middle Eastern women, whose food preferences include high carbohydrates and fat-laden food, are at higher risk of developing chronic diseases including diabetes mellitus Type II and heart-related problems and diseases (Al-Disi et al., 2015). One of the reasons for stress eating may be acculturation, as the demands of acculturation have increased stress and depression symptoms among Hispanic women who left their countries and relocated to the United States for any reason (De Oliveira et al., 2017). Acculturation not only affects a person's physical and mental health but can also affect their self-esteem (Wilson & Tyler, 2018). Those who experience low self-esteem may also suffer from stress and anxiety and may tend to overeat as a way to enjoy subsequent comfort and satisfaction.

Acculturation

Acculturation can be difficult for anyone who moves to another country and lifestyle, but it is especially difficult for Middle Eastern women because of changes in dietary practices and habits and even the lack of availability of the food they were accustomed to back in their home country. Difficulties with acculturation can also be a significant factor in increasing psychological disturbances in those who move to another country (Al Wekhian, 2015). Doumit et al. (2016), for example, showed that Lebanese

women may begin to suffer from anxiety and insomnia, especially if they were relocated because of political conflicts that led to civil war in their home countries. These emotional changes may lead them to seek comfort from food, which may lead to weight gain. Similarly, Doumit et al. (2016) noted that women who developed posttraumatic stress disorder from war may increase their food consumption, particularly if they were deprived of food during wartime and food is now available.

There is also an association between psychological illnesses and acculturation (Adams & Boscarino, 2013). Research has indicated a relationship between low acculturation and poor health among many minority groups living in the United States. Thus, individuals who are less acculturated are more likely to experience a lack of social support, adverse life events, and more likely to develop poor mental status that can lead to poor physical health. On a similar note, Koneru et al. (2007) reported that anxiety, self-esteem, stress, and depression were associated with low acculturation. In a study that included 26 different cultural backgrounds indicated high levels of mental changes (eg., dissatisfaction, low self-esteem, and depression) associated with adjustment to a new country.

Many women in the Middle East undergo stress and depression due to culture, traditions, or trauma that can lead to overweight and obesity. However, because little is known about specific relationships among stress, depression, acculturation, and emotional eating in this population, they lack specific information that might enable them to change their unhealthy eating habits and seek other outlets for stress relief. Therefore, this study was necessary to learn other significant factors that may contribute to the

increase in overeating and obesity among Middle Eastern women who live in the United States, including learning the relationships among stress, depression, and acculturation that may contribute to emotional eating in this population.

The findings of this study may promote social change by showcasing the need for more medical practitioners that can treat overweight and obese Middle Eastern women, specifically Arabs. Medical professionals can learn to identify other factors that may contribute to this population's overeating and subsequent weight gain. Medical practitioners may use the results of this study to refer women of this population to therapists by illustrating the need for more services to help them with their emotional problems. The knowledge gained from this study may also be used to guide the creation of programs accepted by the culture that can help them overcome depression, reduce stress, and manage their weight. An additional potential benefit may be that women in this culture may realize that they are depending on food for comfort and that they are risking developing diseases such as diabetes mellitus Type II. As a result, they may take steps to curb the practice of comfort eating.

Problem Statement

Emotional problems and other psychological factors may contribute to unhealthy eating practices among women who seek comfort in eating. Because women are more likely to indulge in emotional eating than men, they have higher rates of overweight and obesity (Mosher et al., 2018). Studies on acculturation and mental illness have shown that women who moved to the United States are more likely to become stressed and depressed and therefore find comfort in overeating (Cordero & Gutierrez, 2016). In this study, I

aimed to find whether acculturation and psychological illnesses are a factor in increasing overweight and obesity among Arab women who are born in the Middle East and currently live in the United States. Besides the mental changes associated with overeating, unhealthy eating habits are also closely related to serious and chronic comorbidities, including the following: hypertension, dyslipidemia, Type II diabetes mellitus, coronary artery disease, stroke, osteoarthritis, sleeping and breathing problems, some cancers, body aches, and difficulty with physical functioning (Centers for Disease Control and Prevention, 2019).

Middle Eastern women tend to develop higher rates of diabetes mellitus Type II than other ethnicities (Al-Raifai & Aziz, 2018). This condition is increasing in the United States because of the increase in the immigration rate of the Middle Eastern population. As a result, it is anticipated that more healthcare resources will be required for this specific population in the United States (Read et al., 2018).

A significant body of evidence confirmed that psychological factors—including stress and depression—are related to increased eating and developing overweight and obesity in many people (Simon et al., 2006). However, little is known about the specific relationships among stress, depression, acculturation, and emotional eating among Arab women in the Middle East who have emigrated to the United States. However, researchers have suggested that Middle Eastern women are more likely to gain weight when they move to another country and that weight gain may be the result of many factors, including ethnicity, gender, life experiences, lifestyle, and availability of a

person's usual diet (Sand et al., 2015). Therefore, it is necessary to learn the relationships between psychological factors and acculturation for this population.

Purpose of the Study

The purpose of this quantitative, nonexperimental, correlational study was to examine the predictive relationship between stress, depression, and acculturation (independent/predictor variables) and emotional eating (dependent/outcome variable) among Arabic Middle Eastern women who moved to the United States. Researchers have suggested that women are more likely to develop mental and physical illnesses because of overweight and obesity than men (Duarte et al., 2015), so in this study, I aimed to present the specific relationships among stress, depression, and acculturation that have contributed to overweight and obesity among Arab women who live in the United States. As compulsive overeating among this population increases, it is causing other significant health problems including cardiac disease and diabetes mellitus Type II (Song et al., 2018). Although there have been studies of the relationships among stress, depression, emotional eating, and weight gain, little is known about how these psychological factors affect Arab women, especially those raised in the Middle East who immigrated to the United States. To fill this gap in the literature, I used a quantitative methodology to examine various factors that may be contributing to the increase in overweight and obesity in this population with the intent to inform knowledge among the healthcare professionals to help those suffering from weight gain.

Research Questions and Hypotheses

Research Question 1 (RQ1): What is the relationship between stress and emotional eating, after controlling for depression, among adult Arabic Middle Eastern women living in the United States?

Null Hypothesis ($H_0$1): There is no relationship between stress and emotional eating, after controlling for depression, among adult Arabic Middle Eastern women living in the United States.

Alternative Hypothesis (H_a1): There is a relationship between stress and emotional eating, after controlling for depression, among adult Arabic Middle Eastern women living in the United States.

Research Question 2 (RQ2): What is the relationship between depression and emotional eating, after controlling for stress, among adult Arabic Middle Eastern women living in the United States?

Null Hypothesis ($H_0$2): There is no relationship between depression and emotional eating, after controlling for stress, among adult Arabic Middle Eastern women living in the United States.

Alternative Hypothesis (H_a2): There is a relationship between depression and emotional eating, after controlling for stress, among adult Arabic Middle Eastern women living in the United States.

Research Question 3 (RQ3): What is the relationship between acculturation and emotional eating, after controlling for stress and depression, among adult Arabic Middle Eastern women living in the United States?

Null Hypothesis ($H_0$3): There is no relationship between acculturation and emotional eating, after controlling for stress and depression, among adult Arabic Middle Eastern women living in the United States.

Alternative Hypothesis (*Ha*3): There is a relationship between acculturation and emotional eating, after controlling for stress and depression, among adult Arabic Middle Eastern women living in the United States.

Theoretical Framework

The psychosomatic theory of emotional eating (Van Strien et al., 1995), which was derived from an earlier Van Strien study in 1986, explained the relationships among emotional eating and psychological factors. In the earlier study, Van Strien articulated the difference between eating to satisfy hunger and nutritional needs and eating for emotional needs caused by anxiety, stress, and depression. Van Strien et al. (1995) developed this theory to explain how overeating can be subsequent to experiencing negative emotions and theorized that negative emotions, including stress and fear, can contribute to increasing overweight and obesity. For some people, eating can become a habitual response to adverse events or psychological changes they may be experiencing. They start to overeat because they have found that it leads to a feeling of contentment. This feeling of satisfaction or comfort offset their feelings of distress and unhappiness; therefore, overeating continues and becomes rewarding. The Van Strien (1986) theory was an appropriate framework for this study because it posits that there is a relationship between stress, depression, other psychological factors, and emotional eating, which will be the focus of the study. The psychosomatic theory of Van Strien and subsequent

research have also provided insights into measuring how depression and stress may be associated with or a cause of emotional eating among Middle Eastern women from any Arab country who now live in the United States.

Nature of the Study

In this study, I explored the relationships among various variables using quantitative methodology. The independent variables of this study included stress, depression, and acculturation, with the single dependent variable of emotional eating. To measure stress, I used Cohen's Perceived Stress Scale (PSS; Cohen et al., 1983). To measure depression, I used the Hamilton Depression Rating Scale (HAM-D; Hamilton, 1960) to determine the severity of depression among participants, the Vancouver Index of Acculturation (VIA, Modified Arab Version) to measure acculturation (Amer, 2005), and the 25-item Emotional Eating Scale (EES) to measure emotional eating (Wilson et al., 2015).

Participant Selection

When necessary, I had a plan of using two different methods to recruit adult Middle Eastern women, specifically Arabs, who immigrated from their home countries and currently live in the United States. One method was to collect data using social media, Facebook, and the other one was the Walden Participant Pool, a group comprised of those who have volunteered to provide answers to queries posed by researchers and who are committed to answering honestly so data will be considered reliable. I had also prepared to create a survey for a women's group comprised of Arab women who have emigrated to the United States who attend a regular event every week where I live if more

participants are needed. However, the only method that I used for this study was Facebook to collect the appropriate amount of data.

Definitions of Terms

Acculturation: Acculturation is the process of immigrants adapting to a new lifestyle and culture once they move to another country. This process can affect the individual's mental and social well-being (Erten et al., 2018).

Depression: Is a serious and common medical illness associated with negative impacts on how the individual feels, thinks, and acts. Chronic depression is known to be related to chronic medical conditions, including heart attacks, high blood pressure, and diabetes (Fried & Nesse, 2014).

Emotional Eating: The practice of overeating in response to psychological changes, social pressures, and negative emotions (Frayn et al., 2018). This practice can occur among those who are obese and overweight as well as those who are normal weight (Frayn et al., 2018).

Middle Eastern Women: Those who grow up with specific cultural and religious beliefs and traditions that they are required to follow since many countries of the Middle East believe that women can only contribute to society by raising their children and taking care of their families (Romanowski & Al-Hassan, 2013).

Psychological Condition: Any of a number of influences that are characterized by a wide range of emotional changes that can influence a person's mood and behaviors. The causes of many mental illnesses are either unknown or unclear. The mental

dysfunction can be a pattern or single or multiple episodes that can be permanent or temporary, depending on the condition (Malala et al., 2015).

Stress: Is a tension-like feeling that is produced in response to negative events. These events may allow the person to feel anxious, frustrated, or nervous, and therefore, a body reaction occurs that can adversely affect the person's overall well-being (Butler, 1993; Schneiderman et al., 2005).

Assumptions

I assumed that all study participants understood of the purpose of the study and its target population. Kaiser (2009) reported that research studies that focus on anonymity and confidentiality are more likely to have their participants become comfortable with their answers. Therefore, I assumed that participants were unbiased and honest with their answers so that data derived from their responses were accurate and therefore led to results that included information that I used to fill the research gap. Similarly, I assumed that the questionnaire that was published through social media had reached an adequate number of potential participants and that their answers were honest. I used the information that I collected through these means to answer the research question about the factors that may contribute to increasing overweight and obesity among Arabic Middle Eastern women who live in the United States.

Scope and Delimitations

Since this research topic required learning whether there was a relationship between stress, depression, acculturation, and emotional eating among Middle Eastern women who have moved to and are now living in the United States, the research sample

included only those so identified. Therefore, I did not consider Middle Eastern women born or raised from an early age in the United States, because acculturation was one of the study variables. I collected data through a questionnaire that was published on Facebook as well as through the Walden participant pool to add to the validity and number of responses. If additional participants had been needed, I considered a handout survey to be given to a group of Middle Eastern women, particularly Arabs, who have emigrated to the United States who gather every week for socialization events that they have created near where I currently live.

Limitations

Challenges to the veracity of the study may have been that some participants were not honest in their responses to the questions for any reason (Oltmann, 2016). Lack of firm historical data or documentation related to the research gap might be another limitation, while another may be threats to validity from external factors that could heavily influence the study in a negative or a positive way and skew the results (Flannelly et al., 2018). Another limitation may have been using social media to recruit participants, as the process is not entirely reliable, and using information from that source has the potential to return inaccurate information. Recruiting most participants from an online source might also limit the generalizability of the study results (Koo & Skinner, 2005). I was seeking Arab female participants who had moved to the United States from a Middle Eastern country, and if respondents included those who did not reflect the criteria, the results may not have been entirely accurate. Therefore, women who did not meet the

inclusion criteria mentioned in the beginning of the survey were not able to participate in the study.

Significance

Al-Raifai and Aziz (2018) noted that Middle Eastern women have higher rates of obesity than Middle Eastern men have and are more likely to develop diabetes mellitus Type II than those born in the United States. To compound the difficulty, many who are from Arab countries are reluctant to seek professional help if they believe the cause may be from an illness with a psychological cause because of the stigma of seeking help for a condition that may be perceived as a personal weakness. Middle Eastern people with mental illnesses may also experience negative health-related outcomes if they also overeat or manifest obesity (Dardas & Simmons, 2015). This study's results can provide further insight into factors that may contribute to increasing overweight and obesity, including acculturation among Middle Eastern women, specifically Arabs. Understanding that psychological changes among Middle Eastern women due to low acculturation can lead to obesity can provide researchers and medical professionals with the opportunity to determine effective means to help women overcome depression, reduce stress, and manage their weight.

Summary and Transition

In Chapter 1, I presented the background of the study, the problem statement, the purpose of the research and its significance, definitions of essential terms as they are used in the study, and the conceptual framework of the proposed research. I also included the research questions and hypotheses as well as the assumptions, delimitations, and

limitations. Chapter 2 included a detailed discussion of the literature about related areas of the problem. I also presented an analysis of what I have found through research on the relationships among stress, depression, acculturation, and emotional eating in Arab women from the Middle East living in the United States.

Chapter 2: Literature Review

Being overweight or obese is the fifth leading risk of death worldwide. Many scholars believe that many developing countries underwent a shift from their traditional diets and overall lifestyle to the Western diet (i.e., fat-containing refined foods), decreased physical activities, and increased transportation opportunities (Gouda & Prusty, 2014). Goldschmidt (2017) believed that even though the body monitors food consumption, and it signals when its need for food is satisfied, some people may continue to eat even after they feel physically satiated. This is most likely due to the availability of food and individuals enjoying the taste of the food and the process of eating, or some might undergo a loss of control. If the individual consumes more food than their body can thoroughly metabolize, it will usually cause the individual to gain weight.

The causes for excessive eating that leads to significant weight gain are not fully understood, and some examples of dangerous obesity seem to occur in particular populations under specific conditions, such as overeating in response to negative emotions. The Middle Eastern population, for example, developed an increase in obesity, especially in the last 2 decades, with women experiencing obesity in greater numbers than men (ALNohair, 2014). Middle Eastern culture, religion, and traditions may be one reason for overweight and obesity, a condition that may lead to higher risks of developing chronic diseases such as Type II diabetes mellitus (Emerson et al., 2016; Sharara et al., 2018).

Middle Eastern families, including refugees, leave their home countries for many reasons including war, danger, and hardships, may undergo difficulties adjusting to the

new, unfamiliar environment. Despite the fact that these Middle Eastern families may feel safe in the new environment, they may face other kinds of complications that are unique to their population. These complications may include language barriers, racism, culture shock, unemployment, social isolation, and many more (Semaan, 2016). The literature shows that Middle Eastern parents, women more than men, are less acculturated when moving to the United States than children. They are more likely to undergo high levels of distress and depression; however, they refrain from seeking mental health services due to the issue of the stigma of seeking psychological help among this particular population (Dardas & Simmons, 2015; Semaan, 2016).

It is known that moving to a new country is highly associated with increased mental changes such as anxiety and stress, particularly among women (Alidu & Grunfeld, 2018). The immigration of the Arab population to the United States, as reported by Read et al. (2018), has tripled from 610,000 to 1.8 million in the past 35 years. This increase in population results in the need to find health care resources. Although many Middle Eastern women may seek medical help if they suffer from medical conditions, they are unlikely to seek psychological advice if they suffer from depression (Dardas & Simmons, 2015). Thus, Middle Eastern women are more likely to suffer from chronic diseases caused by overeating (ALNohair, 2014).

The purpose of this study was to examine the Middle Eastern population, particularly women, to understand whether mental changes such as stress and depression, as well as acculturation, may allow overeating to accelerate when they move to a new

country. In this study, I focused on obese Middle Eastern women who have emigrated to the United States.

Obesity may be a result of a calorie-rich diet, consistently and repeatedly overeating, a sedentary lifestyle, a glandular condition that prevents the body from metabolizing food properly, or from other medical or emotional conditions that may or may not be fully understood (Hruby & Hu, 2015). In most cases, however, obesity is a preventable condition that can be avoided if people control their eating habits and avoid overeating. However, there are cases of overweight and obesity related to other factors that may cause a person to depend on overeating to feel better. One of those can be the result of moving to a new country where the customs and people are different from those one is accustomed to. Alidu and Grunfeld (2018) found that women who immigrate to another country may experience health-related problems such as obesity and overweight. Because of the potentially unhealthy result of that overeating practice. I examined the reasons for continued and or increased overeating among a representative Middle Eastern population now living in the United States. Overeating may be associated with stress, depression, and difficulties with acculturation that have led to an emotional dependency on food and eating.

Literature Search Organization

I began the literature search for this study by accessing the Thoreau database available through the Walden University Library. I found articles in Google Scholar, SAGE journals, PubMed, PsychInfo, and other scholarly sources published from 1986 through 2019 by using the following key words: *stress and obesity, depression and*

obesity, obesity among women, emotional eating among Arabic Middle Eastern women, emotional eating and psychological factors, stress among women, depression among women, acculturation and obesity, acculturation and stress, acculturation and weight change, acculturation and women, depression and acculturation, obesity in Middle-Eastern women, and *obesity and mental health*. I also searched for and read other available sources from earlier publications for their historic relevance

The available literature about emotional eating suggested variables and assessment tools and scales that might be used as measures. Finding no specific studies that measured the relationships among stress, depression, acculturation, and emotional eating among Arabic Middle Eastern women who have moved to the United States, I examined the existing literature that addressed the relationships among the variables and found that those variables were often interconnected.

Theoretical Foundations

Psychosomatic Theory

Van Strien's (1986) psychosomatic theory is one explanation for the connection between psychological problems and emotional eating, as it suggests that psychological conditions propel overeating among many people because it satisfies a craving or need for fulfillment they perceive is lacking in their lives. Thus, in some people, eating can become a habitual response to the stress, anxiety, or depression they may be experiencing. They enjoy the process, and they have found that eating leads to a feeling of contentment—if only temporarily. This contentment or satisfaction often causes people to continue to indulge in this activity even after the stressors are mitigated. They

have learned that the process of eating is positive and rewarding because it offsets their feelings of unhappiness, frustration, or distress—at least for a short time. Thus, some become habituated to this response.

The psychosomatic theory is one explanation of the dualism between the human body and the mind, as it explains how a person's mind can both negatively and positively affect their body. Psychosomatic theory, a theory that has been the focus of much of the research in the United States, posits that psychosomatic thinking may be created because of social life, environment, genetics, or many other factors (Kirmayer & Gómez-Carrillo, 2019). Van Strien's (1986) psychosomatic theory includes the factor that mental changes such as stress, anxiety, or depression can be correlated with overeating among many individuals. The psychosomatic theory asserts that excessive eating because of negative emotions can be a result of psychological illnesses, as well as life experiences, including traumas (Van Strien, 1986).

The psychosomatic theory also suggests that mental changes, such as stress and depression, have a relationship with emotional eating (Mosher et al., 2018). Although it is known that psychological diseases and overeating are often linked, the way those particular psychological factors affect Middle Eastern women who have moved to the United States is not clearly known. I used the psychosomatic theory as a framework for this study.

Lifestyle Choices

A positive lifestyle is typically described as a person's choosing to maintain and reflect good health by following behaviors such as a low-carbohydrate and low-fat diet,

increasing physical activities and social interactions, and pursuing other activities that mitigate the effects of stress (Wang & Geng, 2019). The authors, including Wang and Geng (2019), also determined that high mortality rates are often caused by poor health-related risk behaviors such as tobacco, drug, or alcohol use and other unhealthy choices such as overeating and a sedentary lifestyle. Wang and Geng (2019) also concluded in their study that individuals are likely to undergo risky behaviors if they are under pressure that has resulted from stress, depression, or anxiety. Poor mental health will often lead people to find ways to make themselves feel better, and eating may provide the comfort some are seeking. Wang and Geng (2019) asserted that many kinds of events can lead to psychological disturbances that take place over the course of a lifetime. Although many people are able to manage these disturbances in an acceptable way that does not bring undesirable consequences, others unwittingly choose an outlet for their unhappiness that leads to another undesirable result, one of which is overeating to the point of obesity.

Mental well-being, as defined by Mintzer et al. (2019), is the internal stability and positive feelings that enable people to function well and cope with issues that they encounter. The authors asserted that poor health decisions such as drug and alcohol use are also associated with chronic diseases and a high mortality rate, noting that physical activities are associated with increased energy and produce a positive effect on an individual's overall health. Exercise is correlated with a healthier brain and improved ability to learn. Lack of physical activity is also associated with negative mental conditions such as depression, anxiety, or stress. Belvederi Murri et al. (2019) reported that one important intervention technique to decrease depression symptoms is increasing

physical activities. Exercising and staying active does not only shape the body, but are also beneficial to internal organs, including the brain, and are associated with increased energy and decreased stress (Belvederi Murri et al., 2019). Those who have a sedentary lifestyle may place themselves at risk of developing chronic diseases such as Type II diabetes mellitus or cardiovascular disease; they also have higher rates of depression and an increased mortality rate (Belvederi Murri et al., 2019; Emerson et al., 2016).

Molema et al. (2019) determined that physical inactivity is also associated with premature mortality. Those with minimal physical activities are more likely to become overweight and obese, a condition which can often lead to various types of chronic diseases. Medical providers of all specialties encourage physical activity because it leads to healthier life-changing behavior. Being active is also associated with improved eating behaviors. Those who participate in daily physical activities benefit from having a healthier lifestyle, increased energy, and less risk of developing diseases.

According to the American Heart Association, heart disease is the most common cause of death around the world (Garcia et al., 2018). Besides other factors such as smoking tobacco and a sedentary lifestyle that contribute to increasing the risk of cardiovascular disease, obesity is a particularly significant contributor to heart disease. Besides heart disease and the risk of hypertension associated with overweight and obesity, Type II diabetes mellitus may result from overeating (Garcia et al., 2018; Vallance et al., 2018). Emerson et al. (2016) also pointed out the significance of psychological factors in the increase in overweight and obesity. Emotional problems such as depression, stress, or anxiety may lead individuals to engage in compulsive eating

habits that may lead not only to being overweight but to overall poor health. Molema et al. (2019) discussed the importance of improving diet and physical activity. Being active may decrease the risk of chronic diseases such as heart disease and may also be associated with a better quality of life.

Overeating is an unhealthy habit that results from poor lifestyle choices (Sogari et al., 2018). In 2016, 40% of the world's population was estimated to be overweight or obese, conditions that increase the risk of developing various diseases (Yu et al., 2016). Pokrajac-Bulian et al. (2018) also noted that serious conditions such as obesity can cause a person to develop Type II diabetes mellitus. According to the World Health Organization (2020), billions of people are considered overweight, and millions more throughout the world are obese. Pokrajac-Bulian et al. (2018) concluded that Type II diabetes mellitus can be associated with psychological factors, including stress, anxiety, depression, and even mood swings, any of which can contribute to overeating that may lead to overweight and obesity.

Lifestyles of Middle Eastern Women and Obesity

In 2014, the World Health Organization recognized that obesity had increased among the Middle Eastern population in just 5 years (as cited in Alzaman & Ali, 2016). According to Weiderpass et al. (2019), the rate of obesity in the whole Middle East has been increasing since 1980, when the obesity rate was at 15%; it increased to 21% in a matter of 35 years. Similarly, Weiderpass et al. (2019) emphasized the prevalence of obesity among women was about 49% in Kuwait, making it the second-highest level of obesity in the Middle East after Qatar, which has the highest obesity rates in the

Mediterranean region. The rate of overweight and obesity, as reported by Saleh et al. (2018), is estimated to be the second worldwide. Alzaman and Ali (2016) showed the relationship between the increase in obesity and a possible health crisis that Middle Eastern citizens may undergo. One of the essential events mentioned in the study includes the sedentary lifestyle of the population, one that may be a factor in increasing obesity among women. Women are more likely to have a sedentary lifestyle; exercising or going to the gym is not a part of the Middle Eastern culture. Many women in the Middle East also wear traditional clothing that both hides their figures and makes physical activity difficult, decreasing their motivation to attempt physical activities (Sharara et al., 2018). This inactivity may increase obesity that may eventually lead to increased risk of developing chronic diseases such as Type II diabetes mellitus, cardiovascular disease, and breathing problems (ALNohair, 2014).

Many Middle Eastern women grow up in conservative families that teach them specific behavior they are supposed to follow, but they lack information about health and the need for physical activity (Donnelly et al., 2018). They are also discouraged or forbidden by their families to go leave their homes without a male relative, and when they move with their families to the United States, they continue this practice (Donnelly et al., 2018). Therefore, women in the Middle East, in the Gulf region to be specific, have limited access to physical activities, and they are more likely to stay home and take care of children. Middle Eastern women are also expected to have multiple pregnancies, and thus, they are likely to have a maid to help them with the housework and any shopping outside of the house when needed (ALNohair, 2014).

One of the few sanctioned activities for women outside the home is meeting with other women in their homes to socialize and to discuss household affairs. They find comfort in this activity and develop the support of others in the same situation (Mosher et al., 2018). When they move to the United States, they seek the same comfortable social practices, which almost always include sharing and enjoying food (Donnelly et al., 2018). Middle Eastern women are typically in an environment that has food readily available because those women who emigrate to the United States are unlikely to have a job (Donnelly et al., 2018).

Adults may also suffer from an increase in anxiety after they are diagnosed with diabetes mellitus Type II because of fear of the effects of the disease on their health, including hypoglycemia, blindness, loss of limbs, and kidney disease. Conditions such as those also raise the fear of early mortality (Pokrajac-Bulian et al., 2018). Although obesity is known to contribute to chronic, debilitating illnesses such as cardiac disease and respiratory-related diseases and conditions, as well as illnesses that may cause the brain to degenerate (Song et al., 2018), the satisfaction of eating at the moment seems to outweigh any anxiety about long-term negative effects. Alalwan et al. (2019) reported an increase in obesity among women in Bahrain. The authors also observed that increases in weight may cause significant lifestyle changes that lead people to seek unhealthy behaviors such as overeating and decreasing physical activities (Alalwan et al., 2019). Alalwan et al. reported that even simple changes in one's daily routine might increase stress levels that can lead to overeating. They also cited emotional eating among women

in Bahrain as being associated with increased energy intake, high calorie-containing foods, and lack of exercising (Alalwan et al., 2019).

Emotional Eating

Emotional eating, the practice of excessive consumption of food in response to psychological changes, is usually marked by the inability to find reasons for eating to excess (Jones et al., 2019). Jones et al. (2019) determined that emotional eating begins when individuals are unable to express, understand, or evaluate their own psychological distress. Negative emotions such as stress and depression may cause them to seek ways to feel better, and that may result in finding satisfaction in eating. The latter practice can distract people from their problems and lead them to find a way that is socially acceptable, and which provides physical and emotional comfort (Samuel & Cohen, 2018). The authors, Samuel and Cohen (2018), further determined that emotional eating varies depending on the individuals and the type of the problem or psychological distress they are experiencing. Similarly, they reported that adults are more likely than children to regulate their psychological distress through eating and that negative emotions are more highly correlated with emotional eating than positive emotions (Samuel & Cohen, 2018).

Likewise, Meyer et al. (2010) focused on understanding the levels of emotions and the ability of the individual to tolerate negative feelings. Researchers have indicated that eating disorders, including eating in response to emotions, depends on how individuals express their feelings (Meyer et al., 2010). Some believe that expressing emotions is a sign of weakness, and they should keep it to themselves. Others believe that negative emotions may harm others if they are shared, so they keep their feelings inside.

Meyer et al. thought that these types of behaviors could be associated with posttraumatic stress disorder and high levels of stress. Meyer et al. believe that women, in particular, have high levels of eating disorders because they are more likely to hold unhealthy attitudes toward expressing their negative feelings than men. Meyer et al. agreed with the hypothesis and found a positive correlation between emotional eating and negative attitudes toward expressing feelings among women. The authors, Meyer et al. (2010), claimed that social support among this particular population, including Middle Eastern women, may have a positive impact on their overall mental health.

Shouse and Nilsson (2011) also discussed that the development of eating disorders might be due to the suppression of voice among many individuals, females in particular. Self-silencing is a serious issue, and it is highly correlated with mental health problems such as anxiety and depression. It is believed that self-silencing begins at a younger age and may develop into a depression that leads to unhealthy eating habits in the future. Social media views of body image and the idea of thin bodies have led many women to fast or use other ways to lose their weight to look slim. This has led many women to ignore the cues for hunger to reach the goal of losing weight (Shouse & Nilson, 2011). Shouse and Nilsson also reported that women who silence their emotions might have a high possibility of developing mental illness that can, in return, allow them to find comfort in overeating. Because of the suppressed feelings, women are more likely to overeat in response to negative emotions. Shouse and Nilsson also showed a positive relationship between self-silencing and unhealthy eating habits. At the same time, women

who speak their minds and share their feelings are less likely to experience unhealthy eating patterns.

Other studies revealed that emotional eating can exist in healthy individuals as well as those with unhealthy eating habits. Wong and Qian (2016) reported that women are more likely to develop a learned behavior eating disorder than men. This practice may develop when a person discovers that eating makes him or her feel happy, and thus it becomes a way to cope with negative emotions. Overeating can become worse over time if it is not managed. Wong and Qian focused on understanding whether feelings such as low self-consciousness and high self-consciousness are associated with emotional eating; in other words, exploring the role of shame and its relationship with this eating disorder. The results of the Wong and Qian study showed a positive correlation between shame and emotional eating among women. The authors discussed the positive association between shame and depression, which leads individuals to seek comfort food to help them cope (Wong & Qian, 2016).

Emotional eating is also associated with induced negative emotions that may also contribute to emotional eating. When people experience stress or depression, they may be more likely to find eating to be a quick escape from these negative emotions. Therefore, if the episodes of stress and depression increase, the likelihood of emotional eating may also increase (Annesi, 2019). Braden et al. (2018) reported that emotional eaters often consume foods that are higher in calories than nonemotional eaters do and that those who eat in response to stressors are more likely to snack more frequently than nonemotional eaters. The authors also noted that adverse health outcomes may be associated with

increased negative emotions that individuals may experience if they become aware that their eating habits cannot be managed (Braden et al., 2018).

Van Strien et al. (2016) examined whether the relationship between the effect of emotional eating and depression was similar in Spain and Denmark. The researchers examined the impact of emotional eating in these countries by gender and changes in appetite (van Strien et al., 2016). Denmark was found to have higher rates of depression than Spain and revealed a positive mediation effect of emotional eating for females with a change of appetite in Denmark (van Strien et al., 2016). However, the Spanish participants suggested that emotional eating affected females more than males, but there was no change of appetite (van Strien et al., 2016). The results suggested that depression is highly associated with emotional eating, which leads to obesity that may followed by life-threatening diseases in females more than for males (van Strien et al., 2016). Females are more likely to experience difficulties with adjusting to stressful situations; therefore, they are more likely to find other ways to find ways to make them feel better, such as eating even when they are not hungry.

One of the essential factors of overweight and obesity among young adults includes mental changes, including depression. Lazarevich et al. (2016) determined the existence of a strong relationship between depression symptoms and the increase in obesity. At the same time, the authors reported that depression symptoms might lead to overweight and obesity and cause a young adult to develop mental changes. Depression can also cause psychological or emotional eating. The study also showed that individuals are more likely to overeat to cope with stress, frustration, sadness, and anxiety and tend

not to care about the amount they eat as long as they forget what is bothering them. In a study among Dutch adults who were suffering from depression, the authors found that one coping mechanism included food, resulting in higher BMI levels among depressed women more than men. Emotional eating can become an unhealthy behavior that puts individuals at risk of developing diseases that affect their quality of life.

Emotional eating, also known as comfort eating, is also associated with responses to depression. Finch and Tomiyama (2015) concluded that depression is associated with the tendency to self-medicate by eating in response to negative emotions. In an experiment with women suffering from depression, Finch and Tomiyama determined that chocolate and cheese helped reduce depression and confirmed their effectiveness by measuring their traumas, stress levels, and symptoms of depression of the study group following the experiment with these foods. The results were that the positive effects of comfort eating increased no matter what level of stress and depression the person was experiencing, confirming a relationship between reduced anxiety and emotional eating.

Van Strien et al. (2020) examined possible mediators, including emotional eating, between diet and weight change that occur in women more than men. Dieters may limit themselves from having full meals, and therefore, their bodies start to act as if in starvation mode, which increases their hunger and appetite. The authors noted that going through a diet is already stressful, so dieters are likely to get affected by negative emotions and find comfort in overeating. The study included 116 women to examine whether emotional eating is a mediator among dieters and their weight gain. The results of this study showed emotional eating was a consistent mediator among dieters and the

subsequent change in weight. The authors reported that emotional eating must be taken into account when treating female dieters for overweight and obesity.

Similarly, Dhivyadharshini et al. (2019) reported that during stressful events, restrained individuals tend to increase their eating habits more than unrestrained ones. Those who change their living environments, for example, going to live on a college campus, may experience stress due to the new change. Also, it is found that those who are stressed are more likely to consume unhealthy snacks, including soda and junk food, compared to those who are less stressed, who are more likely to include fruits and vegetables into their daily meals. The authors did a study to measure how individuals react during stressful situations. The population used in this study included 118 individuals. Some of these individuals ate less when they underwent stress; however, the majority, 66%, found comfort in overeating due to stress.

Studies that focus on distinguishing if stress is linked to obesity by means of food quality and eating characteristics or by other components aside from diet are scarce, especially when it comes to women in low socioeconomic standing (Richardson et al., 2015). Individuals, women more than men, are more likely to become unhealthy due to stressors. Unhealthy eating can be identified as a coping mechanism for some women. Individuals who are stressed or depressed are likely to seek high carbs and fat-containing snacks instead of fruit and vegetables. The authors also mentioned that women with low incomes are likely to be stressed and seek unhealthy food, including fast foods, to help cope with the stress. The authors conducted a study to understand whether high levels of stress are associated with severe obesity among women in low socioeconomic standing.

The results of this study showed a positive relationship between stress and severe obesity among low-income women. The authors identified this association as stress or emotional eating that women practice when they go through panic attacks or stress events. Women eat in response to these negative emotions to help decrease the pressure, especially if these women have children that they have to take care of and feed.

Risks of Emotional Eating

Duarte et al. (2015) reported that women feel shame, guilt, and even more distress after they realize they are gaining weight. Thus, ironically, they may tend to overeat in response to their negative emotions and decreased self-confidence caused by weight gain. Although some do not necessarily overeat and gain weight in response to negative emotions, emotional eating, according to Frayn et al. (2018), is correlated with increased compulsive eating habits, decreased social interactions, and lower self-monitoring. If the eating becomes chronic, it may lead to physical illness and a greater risk of mortality. Abdelaal et al. (2017) revealed not only the relationship between obesity and higher mortality levels but also the decreased quality of life among those suffering from illnesses caused by being overweight.

Mensorio et al. (2017) reported that emotional eating is considered one of the most serious eating problems because of its mental and physical effects on the individual. the author also hypothesized that emotional eating is associated with the presence of cholesterol because of the dysregulation with food people undergo because of psychological illnesses. The study conducted among 68 overweight and obese individuals, mostly women, revealed a relationship between psychological diseases and

increased cholesterol levels. The study also illustrated that mental disorders such as stress and anxiety tend to justify a person's overeating, resulting in inappropriate food choices that may cause obesity (Mensorio et al., 2017). This obesity may also be associated not only with diabetes mellitus Type II, but various chronic diseases such as hypertension and hyperlipidemia (Mensorio et al., 2017; Garcia et al., 2018).

Cotter and Kelly (2018) observed that the number of obese adults in the United States started to increase, placing significant numbers of people at higher risk of developing chronic diseases that may affect their quality of life. The authors also noted that the behavioral and psychological changes that individuals with stress and depression experience may also lead to an increase in eating and subsequent obesity. Cotter and Kelly (2018) also reported that stress has a high association with the rise in body mass index (BMI) among females more than males. Similarly, stress and depression have been a factor in increasing overeating among women, as eating can be used to cope with negative emotions. Overeating is, however inadvertently, a coping method used by some women that increases the likelihood of their developing many chronic conditions such as heart disease and many types of cancers.

Wilson et al. (2015) revealed that 3 out of 10 college students are considered to be overweight or obese. The authors reported that the most affected age group by obesity are those between the age of 18 to 29 years. There are multiple reasons why college students could experience weight gain, including stress because of school, poor dietary choices, lack of physical exercise, lack of social interaction, or depression. Emotional eating is associated with increased health-related risks such as hypertension, Type II diabetes

mellitus, or heart disease. The authors wanted to explore coping mechanisms used to handle stress among college students, suggesting emotional eating as a predictor. Their results indicated that young adults, females more than males, are likely to gain weight when transitioning into college. College is considered to be a stressor, and one coping mechanism used among students, as the study showed, is overeating.

Emotional eating is highly associated with increased consumption of high fat and carbohydrate-containing foods. It is also associated with high BMI levels, demonstrating overweight and obesity (Bourdier et al. 2018). Emotional eating, as indicated by the authors, is associated with negative emotions leading individuals to overeat. Previous studies, as reported by the authors, have shown that negative moods are highly associated with increased eating behaviors, whereas those with positive emotions report no desire for high food intake. Emotional eating is a reaction to adverse events that cause individuals to undergo changes in weight that can have an impact on their overall health. Therefore, one of the significant risks of emotional eating is obesity, which can be developed if the person becomes an emotional eater in response to adverse events or trauma.

Emotional Eating Among Middle Eastern Women

Because the region has suffered through many wars, Middle Eastern countries manifest high stress levels among its citizens, who have a greater risk of developing serious responses to stress or depression than those in peaceful areas (Al-Thani & Khaled, 2018; Doumit et al., 2016). Civil unrest also strongly affected them, as many suffered a great deal of stress and anxiety (Doumit et al., 2016). When the hostilities

ended, and they were able to relax and let their guards down, they subsequently gained weight. Those results suggest a correlation between suffering from harrowing experiences when food is unavailable and overeating when food is plentiful (Doumit et al., 2016).

The increase in obesity and overweight individuals in the Middle Eastern is often related to chronic comorbidities and high rates of mortality (Saleh et al., 2018). People in Middle Eastern countries are likely to develop eating disorders such as emotional eating, especially girls and women. The authors hypothesized that Palestinian women going to college are more likely to undergo emotional eating due to the lifestyle changes and stressors they may encounter. Participants in this study were large female students from An-Najah National University in Palestine. The results of this study were compared to the rates of other countries such as Iran, the United States, France, Greece, and others; the results showed higher levels of emotional eating among Middle Eastern females than most of the compared countries. Palestinian women grow up with traditions and a culture that is different than the Israeli culture. Multiple universities in Palestine, including An-Najah National University, include both Palestinians and Israeli female students, which are two different cultures. When Palestinians attend these universities, they become exposed to the Israeli culture that they generally have limited contact with before attending college. This exposure could impact the views of Palestinian women concerning body weight and image and, therefore, may cause these individuals to undergo low self-esteem, which causes stress and anxiety. Emotional eating is one of the coping resources used to overcome these stressful events.

Although intense emotions may lead to not eating at all, a study by Van Strien (2018) showed that those who are stressed or depressed may develop intense feelings of deprivation and might choose to eat to excess to try to feel better. The practice of ignoring diet, calories, and nutrition can also lead to obesity and overweight. The study focused on examining whether psychological distress, such as negative emotions, may be a factor in increasing weight gain and argued that increased weight gain is more prevalent among females than males because women are more likely to undergo emotional distress that may lead to abandonment of a healthy diet. Van Strien (2018) conducted two studies to learn whether psychological conditions such as depression and stress may be causing an increase in weight gain in children. The studies, however, showed that it is usually true only among girls because they are more likely to develop psychological/emotional distress than boys are. The study also indicated that the problem might start at a younger age and increase as the person gets older.

Acculturation and Emotional Eating

Acculturation refers to individuals being able to adapt to new cultures and traditions that may not be like their own, including the differences in language, religion, customs, and the overall lifestyle of the new country (Erten et al. 2018). The Cordero and Gutierrez (2016) study aimed to understand how Latina adults adjust to being less acculturated than those from many other countries when they move to the United States due to the strong orientation toward their own culture. The focus of this study was to learn whether Latina women who were less acculturated are more susceptible to developing anxiety, depression, and stress that affected their weight-related eating

behaviors. One hundred forty-one women who were adults from a graduate program participated in the study. The results showed that Latina women who moved to the United States were more likely to develop mental changes such as anxiety, depression, and stress and therefore become emotional eaters.

Acculturative stress, according to Claudat et al. (2016), is the process of adjusting to a new culture in which the individual undergoes internal conflicts to settle cultural differences. Seeking a standard solution to combining their own culture with the new culture may cause them to undergo mental changes. The authors reported that Asians and Latinos are more likely to develop an eating pathology such as overeating in response to depressive feelings they experience when they move to the United States, as they are more likely to become stressed and depressed because of body image and appearance. The authors also noted that exposure to the American's ideal body image for women and their appearance could cause women from different cultures to undergo distress. Consequently, self-esteem can be a factor in less acculturated women overeating to cope with the stressful environment. The authors also noted that women college students, more often than males, are at greater risk of becoming emotional eaters due to peer influence. The study examined the relationship between stress, self-esteem, and overeating among Asian and Latina female college students who moved to the United States. The results of this study showed a positive relationship between acculturative stress, eating pathology such as emotional eating, and self-esteem.

Latinas who live in the United States, as indicated by Reyes-Rodríguez et al. (2016), were also found to undergo eating disorders including overeating in response to

stress. The authors reported that Latina women were also found to have a higher prevalence of overweight and obesity than white women. Latinas are used to the traditional food that they make at home every day, which includes tortillas, rice, beans, and different types of salsa. Latina mothers feel strongly about cooking at home and allow their children to get used to traditional dishes. However, when Latina women move to a different country, including the United States, they undergo several changes in their lives including financial stressors, lifestyle changes, change in time, and overall convenience. Therefore, many Latinas seek foods that are affordable to them, given their financial constraints. Many Latinas seek jobs right away to make a living. Thus, they do not watch their diets and they depend on fast foods as being one of the essential options due to its low cost and fast service. For some women who stay home without jobs may find overeating an easy way to take their minds off of their current situation. They also find their children prefer American fast foods like burgers, fries, and hot-dogs than home-cooked meals. This change may put pressure on these women, especially less-acculturated Latinas, and they are likely to snack and find overeating comforting (Cordero & Gutierrez, 2016; Reyes-Rodríguez et al., 2016).

D'Alonzo et al. (2019) discussed the health-related changes that Mexican immigrants undergo, including heart disease, the longer they stay in the United States. Mexican women are reported to have one of the highest rates of obesity-related diseases, including Metabolic Syndrome (MS), in the world. One of the most critical factors that increases the rates of MS among this population is the impact of acculturation among women, in specific. Women may suffer from separation from their support systems,

lifestyle changes, cultural differences, financial struggles, language barriers, and difficulty of finding jobs. These struggles cause women to feel stressed and depressed, and therefore they become more susceptible to overeating to cope with these emotions. The authors hypothesized that Mexican women have higher levels of obesity-related diseases, such as Allostatic Load (AL), which may contribute to MS when they move to the United States due to stress. The results of this study showed an increase in AL among Mexican women who moved to the United States. The results also showed higher BMI levels among this particular population, primarily upon their arrival to the United States. The authors concluded that Mexican women might find nutrition transitioning, besides other factors, from their hometown to their current homes difficult; in that case, they depend on unhealthy foods to satisfy their needs.

Similar studies, including the one by Cachelin et al. (2006), discussed that many Latina women find their larger bodies rather attractive among their population. It is believed that there is quite an ethnic difference in body size preference between Hispanic and non-Hispanic (white) women. Latina women are known to care about dieting much less than white women. However, this particular population may start to experience dissatisfaction with their bodies upon immigrating to the United States. Because Western people believe that the ideal body image includes those with thinner figures, Latina women may become affected by this change when they move to the United States. Therefore, this study focused on understanding whether body image and acculturation among Hispanic women have a significant effect on their overall health. This study found that many Hispanic women tend to become obese upon moving to the United States

because of the psychological changes they experience, including the shame of not having thinner figures. Health professionals, as advised by the authors, must consider these factors when treating Hispanic women who are suffering from obesity.

Alidu and Grunfeld (2018) found that many women who move to the United States gained unhealthy weight because their families ate to relieve the stress and anxiety of moving to a different culture with expectations that were different from their former country. Although that would not seem to have as deleterious an effect as living through wartime, others have suggested that leaving one's home country even under peacetime conditions, may be tantamount to suffering through as devastating a condition as experiencing a loss in war (Shishehgar et al., 2015).

Emotional problems can also contribute to the increase in overeating among women who eat as a source of comfort (Mosher et al., 2018), and Emerson, Hurley et al. (2016) suggested that many psychological factors, including stress, depression, and anxiety, can lead women to overeat and subsequently suffer from poor health. The authors also suggested that factors such as depression, anxiety, and stress may lead individuals to overeat in response to these emotions. Emotional eating may, however, increase the individual's BMI and lead to chronic diseases. Negative emotions may have resulted from multiple reasons, including gender, culture, ethnicity, pregnancy, and traditions. These causes may allow women, more than men, to seek comfort in eating. Al-Dosari (2019) presented other factors that might influence the increase in overeating among women, especially those from the Middle East. The author noted that moving from one's home country may increase the risk of developing mental problems such as stress and

depression. The researcher also listed multiple events that may cause overeating in Middle Eastern women who have moved to the United States: They may be having difficulty becoming acclimatized to life in a new country and, as a result, may be experiencing increasing stress, anxiety, fear, or depression. Their husbands will typically be engaged in work outside the home, and the women may have few, if any, women friends to discuss their lives with. Except those who are employed themselves, Middle Eastern women who lack acquaintances to talk with typically do not seek outside activities unless they are highly self-sufficient, as their culture and often their husbands may not give their permission for them to seek activities outside their culture or family. A personal choice they make that may that give them a sense of power, control, and pleasure is eating.

Stress

Stress refers to the body's reaction to certain challenging events that leave the individual sad, angry, or frustrated (Besse et al., 2018). Stress is considered a common psychological change that affects individuals in various ways. The authors observed that stress is highly associated with cognitive impairment, decreased physical activities, and increased depression symptoms. Stress is also correlated with reduced energy, appetite change, and decreased socialization. Chronic stress is known to be one of the psychological risks that lead to chronic diseases. Stress can also be associated with poor mental health and the occurrence of other psychological illnesses such as anxiety and depression. Individuals who suffer from stress may not be able to perform well at their jobs because they are unable to concentrate fully. The authors tested an intervention

method used by an employer to ensure that employees can work their best without having to go through chronic stress. This method is known as individual placement support (IPS), which ensures that those who experience psychological changes can find the support they need to keep the problem from becoming chronic. This method was effective with the employees used in the study, as participants seemed to have a positive reaction when they spoke about their problems with others and tried to find solutions for them.

Stress has long been cited as having a deleterious effect on a person's health. Jaff and Woods (2018) noted the negative effects of stress on a person's health and quality of life, while Sievert et al. (2018) noted the different life events women may undergo that can cause them to experience stress, including lifestyle changes, financial crises, family conflicts, divorce, racism, and sexism. The authors also found that the accumulation of trauma may lead to life-long stress that affects the individual's physical health and social welfare.

Dalton and Hammen (2018) concluded that factors such as increased habits of oversleeping, substance abuse, alcoholism, overeating might all be related to psychological changes, including stress. Unhealthy habits begin to develop slowly and become difficult to control if they are not managed. For example, acute stress reactions can turn into chronic stress if it is not managed earlier. Those who try to cope with their feelings of stress may indulge in risky behaviors such as overeating, smoking, drinking, or drug use to make themselves feel better. Those suffering from stress and depression experience more negative energy than positive ones and are likely to feel anger, worry, or

guilt, and have fewer feelings of happiness, satisfaction, or motivation. If they seek an activity that helps decrease such feelings, they may choose behaviors that cause more harm than good.

The results of a 2017 study by Levoy et al. suggested that mental changes can initiate comfort eating in many individuals. Negative emotions are generally developed after the person experiences trauma or stressful events that may allow risky behaviors to begin. The authors found that treating stress is essential to decrease and prevent health-related behaviors from occurring. Once stress is reduced, the individual may be less likely to need to continue other activities to feel better.

Challenging situations may create negative emotions that disturb the individual's daily activities and his or her overall quality of life if they are continued. Feltrin et al. (2019) studied the effects of stress on a student's quality of life at a teaching hospital. The results of that study showed that stress was highly associated with the disturbance of the internal balance among those students. Stress, then, affected the quality of life of these students and seemed to prompt them to attempt risky behaviors such as smoking, using drugs, and overeating. The authors also reported that social interaction has been shown to be a useful way to help people decrease their feelings of stress and are associated with increased attempts to pursue healthy activities.

Konttinen et al. reported in a 2019 study that some tend to overeat to cope with mental changes or negative emotions they may be experiencing. Women, in particular, may overeat in response to psychological traumas such as stress, depression, fear, or anxiety more than men do (Emerson et al., 2016), while Dardas and Simmons (2015)

noted that those who experience mental illnesses will also experience negative health-related outcomes if they overeat or become obese.

Vicennati et al. (2009), for example, believed that individuals who cannot cope with stressful events might experience health-related illnesses if the case becomes chronic. For instance, abnormal deposition of visceral adipose tissue, insulin resistance, inability to tolerate glucose in the body, high risks of heart-related diseases, including coronary artery disease, can be developed due to prolonged exposure of stress. This study also discussed the relationship between increased food intake and chronic stress, among women in particular. The study focused on understanding whether there is a stress-related involvement of obesity and cortisol levels among women. It was found that women who experience stress-related obesity have a rapid onset of developing abnormal adrenocortical function than those with non-stress-related obesity.

Razzoli et al. (2017) reported that people respond to stressing experiences in various ways. Although some may lose their appetites, others overeat as they try to cope. Challenging events can produce negative responses and increase the risk of obesity and overeating among many people. It may cause a disturbance in the person's life and disrupt his or her overall lifestyle. Stress, if not controlled, can become a serious problem and may cause overeating. Chronic stress may also cause the person to develop mental and physical disturbances that reduce his or her quality of life. The authors suggested annotative therapies to help better manage stressful events and decrease the risk of overeating and obesity.

Depression

Depression, according to Mickeviciene et al. (2019), is associated with brain and motor dysfunction among those suffering from the condition. People who are depressed may have difficulties making decisions and learning new information. The author also noted that depressed people typically become more depressed when they try to learn and find they have difficulty understanding and retaining new information (Mickeviciene et al., 2019). Many seek ways to overcome their depression and may find and indulge in risky behaviors as a result, including drug or alcohol use (Dalton & Hammen, 2018). Depression, although it has been manifested in many way and stems from many causes as the culture becomes more complex, is the reaction produced in response to challenging events or trauma that cause a person to experience fear and sadness (Maji, 2018). It continues to be related to those causes, but it has developed into multiple categories that describe the severity of the depressive state and the treatment it requires. These categories also classify the condition depending on their cognitive, behavioral, or cognitive processes.

An essential distinction that must be remembered when defining depression is that it is more prevalent in women than men. Maji (2018) reported that actual gender differences in depression are not biological but are products of social forces. Depression will increase as long as society continues to define women as dependent and treats men as the source of power. Depression will also increase unless and until the culture evolves to the point that men and women have the same pay, treatment, and resources for the

same work. The culture, according to Maji, often contributes to increasing depression symptoms among women that can become chronic and cause actual physical illnesses.

Depression is one of the most common mental disorders and one of the leading health indicators of significant diseases such as stroke, heart disease, fibromyalgia, and chronic pain (Goodwin, 2006; Le, Muñoz et al., 2003). The World Health Organization, according to Le et al. (2003), reported that depression is responsible for 11 percent of major health disabilities worldwide. It affects women more than men; in particular, there is one case of depression in every five women. Le et al. (2003) acknowledged many reasons why women are more likely to become depressed than men. It is believed that society has a significant impact on how women are valued at work. Women are more likely to have less power than men, and they are looked at as being responsible for meeting the demands of both their homes as well as the workplace. They are more likely to be discriminated against and go through domestic violence in the workplace. Women may also have more financial struggles than men due to having lower pay rates than men. Women may also struggle when transitioning to motherhood, which increases their responsibilities and therefore, may be at risk of developing depression. Le et al. (2003) recommended psychological help to help reduce depression symptoms among women to help decrease the chances of developing chronic diseases in the future.

The number of people suffering from depression, according to Konttinen et al. (2019), has reached nearly 300 million throughout the world. Although some researchers have shown that depression is associated with weight loss and loss of appetite, more researchers have found that the causes of obesity are more highly correlated with

increased depression than was previously thought. Depression and feelings of stress may affect not only people's cognitive performance but also their social interactions and behaviors as well, as they are also associated with decreased positive energy and productivity (Yeshaw & Mossie, 2017). Because depression can cause an individual to feel a loss of control, finding comfort through a necessary and acceptable activity such as eating is one way to overcome that depression (Garcia et al., 2018).

In 2015, depression was ranked as the second cause of disease worldwide and often contributes to attempts at suicide. As depression is linked to a high mortality rate, it is also associated with an increase in risky behaviors. Zhang et al. (2019) believed that people should be checked for signs of depression at a young age because the condition can affect a person's physical and mental health and lead to chronic diseases that are difficult to manage in later life. The authors also studied whether depressive symptoms were related to poor oral health among college students, with the results revealing a clear association between depression and poor oral health. Since depression may contribute to a poor diet, depressed college students are likely to be malnourished as they may ignore good nutrition.

Albert (2015) predicted that by the year 2030, the primary cause of diseases among women will be depression that may manifest itself as early as puberty. Similarly, women have higher rates of depression at older ages than men. Albert also reported that one of the reasons women more than men develop depression and mental distress can be because women are typically more sensitive to their environments and develop close relationships more easily than men.

Majumdar et al. (2019) discussed the relationship between depression and sleep disorders. These authors reported that tragic life events, chronic pain, overall changes in lifestyle, and others might cause individuals to undergo depression or anxiety, which in turn may cause sleep disturbances. Sleep disorders are known to be associated with chronic diseases such as cancer, diabetes mellitus Type II, and hypertension. The authors aimed to measure the extent of poor sleep quality and mental health changes, including depression, through screening programs. The authors also sought to understand other predictors for poor sleep among females. Their results of this study demonstrated that poor-quality sleep among females is highly associated with anxiety and depression.

Carpena et al. (2019) discussed the high prevalence of depression among the Latin community, in specific, those in low-income settings. The authors reported higher levels of depression occurred in Brazil, in particular Southern Brazil and Sao Paulo, for which the prevalence of depression has reached 10.4% annually. It was noted that depression is highly associated with the increase of the Brazilian currency. Therefore, the study aimed to understand the risk factors of depression among adults living in urban areas in Brazil. This study confirms explicitly that cases of depression in women are three times higher than in men, even after examining socioeconomic variables. This study also indicated that among other studies, the prevalence of depression among women is consistently high among low, medium, and high-income countries, including Brazil and Italy.

Dardas et al. (2018) reported that many studies have shown those who believe that biological factors cause depression may nonetheless have a positive attitude toward those

with depression symptoms; however, those who have negative attitudes toward depression prefer social distancing and may treat those with this condition as sick. The authors also noted that depression is defined differently depending on the culture. Individuals who were raised to think that depression is a sickness that crazy people have will react differently from those who believe the condition is a reaction to stress or trauma. In one example, the authors presented the results of a study of Iranians who were raised to believe depression is a normal part of life. However, the authors said that Middle Eastern people tend to stigmatize the term, causing many people to believe—females more than males—that they should not seek professional help for the condition. Rather, they are encouraged to talk to family members when they need help. As a consequence, Middle Easterners, at a younger age, may accept the fact that depression is a biological factor that happens to many, especially women, and that women should continue with their lives and accept the condition. It is believed that seeking psychological help is humiliating and is only to be sought by those who have a severe mental illness.

Middle Eastern women who emigrate to the United States face the difficulties of acculturation into a society that is significantly different from the one they left in their home countries. One profound difference is the independence of many American women who do not have to rely on their husbands for support. Lacking contemporaries or role models, they are also more likely to undergo stress and depression than other ethnicities, yet they are discouraged from acknowledging depression or admitting they have mental health problems or frustrations (Dardas & Simmons, 2015). Because acknowledging

problems such as these are taboo in Middle Eastern culture, women sublimate and hide them and do not seek psychological help because of the fear of what their spouse, families, or friends would think of them if they did (Dardas & Simmons, 2015). Dealing with depression and stress is also a significant challenge among this population since treatment options are limited. Women are expected to share their thoughts and feelings only with their spouse or family members if they are feeling distressed (Qutteina et al., 2018).

Trauma, including the events of 9/11, has led to a surge in discrimination against Middle Eastern individuals. Muslims, in particular, are an at-risk group (Al Wekhian, 2015). Discrimination against Arabs has presented itself in various ways in the United States since the 9/11 attacks. Women with head-covers are especially prone to those attacks; the discrimination they might face in places, such as supermarkets and the workplace, is a constant worry. For those reasons, women with head-covers tend to avoid leaving their homes. The author discussed that such events might lead individuals to undergo mental changes such as depression, anxiety, or stress. Therefore, Middle Eastern individuals may keep themselves within their community to avoid the discrimination that they may get with other groups.

Associations Among Psychological Illness, Acculturation, and Emotional Eating

Corazon et al. (2018) argued that stress-related illness is a growing issue that negatively affects well-being and also noted that many diseases are associated with stress, such as hypertension, heart-related conditions, as well as other psychological illnesses, including depression. The authors in this study also reported that stress not only affects

the individual's health and well-being, but also creates negative economic conditions due to increases in the requests for health care services, increased days lost from work, and early retirement. Konttinen et al. (2019) argued that many of those individuals, mainly women, tend to overeat in response to stressful situations and may become obese if that eating is not checked. In the case of immigrants, one of these situations includes leaving their homes and moving to a new country where they may lack their familiar traditions, culture, or social support. Feelings of isolation may create stress that eventually leads to significant depression (Li et al., 2014).

Emotional eating can also be caused by mental illness, negative emotions, or trauma that may influence people to seek food whenever they are distressed—even if they are not hungry and do not have the desire to eat (Emerson et al., 2016). It might have been a practice in their families in the home country for women to eat rather than indulge in less acceptable ways of giving vent to their frustrations. Emerson et al. also reported that women who do not work outside the home are more likely to experience the kind of psychological distress that leads to seeking comfort in food, possibly because they do not have the outlets for their energy and interests that others might have through employment. Emotional eating among women is a problem that in a 2019 study, Abdul Razzak, Harbi, and Ahli determined that women in the Middle East are more likely than other groups to develop psychological illnesses such as depression that may lead them to overeat. These unhealthy eating habits may continue and even become accelerated when they move to a foreign country where they are in an unfamiliar setting without the family and friends of their home country.

Summary

Women who move to the United States from a Middle Eastern country often experience unintended weight gain. One of the causes of this condition is that living in a new country may contribute to stress and depression because of losing the comfort of loved ones in their home country, anxiety about acceptance in the United States, and lack of familiarity with new customs (Shishehgar et al., 2015). Although weight loss may be associated with mental illnesses (Wang & Geng, 2019), some people women may self-medicate by eating, as the process can be physically and emotionally satisfying (Duarte et al., 2015). This practice is called "comfort eating" (Finch & Tomiyama, 2015), which carries with it the problem of serious potential weight gain and may lead to physical problems as well as diseases such as diabetes mellitus Type II.

Chapter 3 I included a detailed description of the methodology I used to determine whether there was any direct relationship between psychological illnesses and obesity in Middle Eastern women who have moved to the United States. l also included a description of the study design and the method used to select participants who took part in the study. In it, I also presented the procedures, instrumentation, research questions, data analysis, threats to validity, and ethical considerations, as well as the reason I selected this study design and the rationale for the sample size.

Chapter 3: Research Method

The purpose of this study was to examine the relationship between stress, depression, acculturation, and emotional eating among Arabic Middle Eastern women who moved to the United States. Few researchers have explored the relationship among this set of variables and whether emotional eating mediates the relationship among them in this population. I used a quantitative approach to examine other potential factors that may contribute to the increase in overweight and obesity among Arab women from the Middle East who moved to the United States. This chapter includes a description of the study design, participants of the study, methodology including population, procedures, instrumentations, research questions, and data analysis. Furthermore, this chapter addresses threats to validity as well as ethical considerations.

Research Design and Rationale

This study utilizes a quantitative approach because it is designed to examine a relationship among variables. I chose this nonexperimental design to examine possible relationships between variables that may account for excessive eating among a specific population. I used an online survey design using social media, specifically Facebook, for recruitment of an adequate sample quickly and without monetary cost. A few issues are associated with online surveys: the participants are chosen using a convenience sample, they may or may not be honest in their answers, and the researcher has no control over the data collection setting (Nayak et al., 2019). I examined the relationship between the three predictor variables—stress, depression, acculturation—and the outcome variable—

emotional eating—among Arabic Middle Eastern women who moved to the United States. I used means, standard deviation, and simple bivariate correlation coefficients to determine whether the relationship between the variables was statistically significant. I also examined the relationship between Arabic Middle Eastern women and obesity; then I assessed the relationship between emotional eating and acculturation. Finally, I examined whether there was an association between psychological changes, acculturation, and emotional eating. I utilized standard multiple regression analysis to test for an association among stress, depression, and acculturation as the predictors, respectively, and emotional eating as the outcome.

Methodology

Population

The population for this research included adult women from any Arabic country in the Middle East, 18 years of age and older, who moved to the United States as first-generation immigrants. According to Sanou et al. (2014), recent immigrants are more likely to develop health-related issues, including the lack of a support system, change in diet, and decreased physical activities. I recruited participants through the social media site, Facebook, or from referrals. The survey asked participants to respond to a questionnaire that was designed to reveal whether psychological changes, such as stress and depression, as well as challenges of acculturation, are associated with overweight and obesity. To determine the sample size for this study, I conducted a statistical power analysis for an F test-ANOVA using a medium size effect ($f2 = 0.15$) with alpha level of 0.05 and power of 0.80 (Faul, Erdfelder, Buchner, & Lang, 2009). Using this power

analysis and following previous studies that examine related variables in Middle Eastern samples have used approximately 100 participants but were looking at fewer predictor variables in their analyses. For example, Khshaiboon (2013) examined the relationship of acculturation and depression using two factors: ethnic and dominant society immersion. Because I also plan to examine stress, in addition to depression and acculturation in the context of eating, I believe that a sample of approximately 150 participants would ensure this community sample had enough cases to conduct my planned analyses.

Procedures

I first obtained an approval from Walden University's Institutional Review Board (IRB). I have then created my survey using SurveyMonkey. I used Facebook to recruit adult Arabic Middle Eastern women living in the United States. If additional participants were required, I considered using Walden Participant Pool, and a handout survey to be given to a Middle Eastern group gathering for weekly events. Those who agreed to participate completed a set of questions to establish eligibility. Eligible candidates consented prior to beginning the questionnaire in order to participate in the study. I created a consent form to ensure that participants have a full understanding of the study and the reasons behind conducting this research.

Those identified as eligible to participate in this study and have read and agreed to the informed consent, had the opportunity to complete questionnaires that revealed the way they perceived their eating habits, including whether they believed there were both psychological and cultural reasons related to being overweight or obese. The survey contained the following measurements: Cohen's Perceived Stress questionnaire (Cohen et

al., 1983; see Appendix D), the Hamilton Depression Rating Scale (Hamilton, 1960; see Appendix E), the Vancouver Index of Acculturation (Amer, 2005; see Appendix F), and the 25-item Emotional Eating Scale (Wilson et al., 2015; see Appendix G). I shared the survey as an invitation to participate in the study on Facebook. Once candidates contacted me, I obtained an informed consent and then sent participants a link to the survey. I also considered enlisting in the Walden Participant Pool to identify additional respondents, as those who have elected to be a part of this process are committed to supporting the research efforts of other Walden students. However, Facebook advertisement has helped recruit all the data needed for the study.

Participants answered the questionnaire using their cellphones or home computers. The consent form alerted participants to the study's minimal risks and to the questions that some participants may find uncomfortable. At the end of the questionnaire, all participants saw a thank you letter.

Instrumentation and Operationalization of Constructs

I used five instruments in the study: (a) a short demographic questionnaire (see Appendix C), which included questions to describe the study; (b) Cohen's Perceived Stress Questionnaire (Cohen et al., 1983; see Appendix D); (c) the Hamilton Depression Rating Scale (Hamilton, 1960; see Appendix E); (d) the Vancouver Index of Acculturation (Amer, 2005; see Appendix F); and (e) the 25-item Emotional Eating Scale (Wilson et al., 2015; see Appendix G). Completing all five questionnaires did not take longer than 30 minutes.

Demographics

The survey included questions regarding demographic information (see Appendix C) to ensure participants' eligibility. The survey included questions about gender, age, ethnicity, and whether they were born outside of the United States. Only adult women from any Arabic country in the Middle East who were not born in the United States were eligible for the survey. The invitation letter included the inclusion and exclusion criteria. The demographic information was another way, besides the invitation letter, to disqualify those who were not fit for the study.

Instrumentation

Cohen's Perceived Stress Questionnaire

Cohen's Perceived Stress Scale (PSS; Cohen et al., 1983; see Appendix D) is known widely to be used to measure the perception of stress and its impact on individuals. PSS examines how erratic and overburdened an individual's life is under stressful situations. Most of the questions in the PSS reveal the levels of stress the individual experienced in the previous month (Cohen et al., 1983). Maroufizadeh et al. (2018) believed that the questionnaire to be a reliable instrument that is used frequently across multiple cultures and populations to measure the levels of stress. Rizvi et al. (2015) used the 14-item PSS to determine the level of stress among undergraduate women in the University of Makkah, Saudi Arabia. The Cronbach's alpha coefficient reported by Rizvi et al. (2015) included 0.85 and a test-retest reliability also included 0.85 (Rizvi et al., 2015).

PSS is a 14-item, Likert-type questionnaire that uses a 5-point scale (0 = *never*, 1 = *almost never*, 2 = *sometimes*, 3 = *fairly often*, 4 = *very often*); (Cohen et al., 1983; see Appendix D). Examples for measuring the perception of stress are:

- In the last month, how often have you felt nervous and stressed?
- In the last month, how often have you found that you could not cope with all the things that you had to do?
- In the last month, how often have you been able to control irritations in your life?

The survey questions were a mix of positive and negative answers. If an item is true and was given a 4 (*very often*) by the participant, a total score of 4 was given to that one answer. Similarly, if an item is false and was answered with one correct answer (never), a total of 4 points was given for that answer. The questions will start to lose points if the response is given incorrectly. At the end of the questionnaires, the scores ranged from 0 to 56 (Rizvi et al., 2015). The answers were divided into two quartiles, labeled as stressed and not stressed individuals. Higher scores indicate higher levels of stress (Rizvi et al., 2015). The Cohen's Perceived Stress Questionnaire (Cohen et al., 1983; see Appendix D) is a public domain measure; no permission is needed to use this measure.

Hamilton Depression Rating Scale

The Hamilton Depression Rating Scale (HAM-D; Hamilton, 1960; see Appendix E) serves as the standard measure for depression. It examines the severity of depression among individuals (Hamilton, 1960). A study by Zeidan et al. (2019) discussed the

relationship between obesity, binge eating, and depression that occurs among Arab women more than men. Zeidan et al. (2019) also reported that eating disorders among those Arab individuals can be due to depression. The study by Zeidan et al. (2019) included the HAM-D, which has been valid and useful in many countries, including the Middle East. It has been translated into many different languages to be used worldwide. The HAM-D (Hamilton, 1960; see Appendix E) contains a 3–5-point scale in a total of 21 questions. Even though the depression scale is a set of 21 questions, the patient's score will be calculated on the first 17 questions. An example of the depression scale that is used to measure the severity of the condition include this mood evaluator:

- Depressed mood (0= *Absent*, 1=*sadness*, etc., 2=*Occasional weeping*, 3=*Frequent weeping*, 4= *Extreme symptoms*)
- Work and interests (0= *No difficulty*, 1= *Feelings of incapacity, listlessness, indecision and vacillation*, 2= *Loss of interest in hobbies, decreased social activities*, 3= *productivity decreased*, 4= *unable to work*, *stopped working because of present illness only*)

The scoring for this depression scale depends on the answers reported by the participants. For instance, scoring between 0 to 7 can be considered within the normal range for depression, whereas scoring over 20 is moderately severe depression (Hamilton, 1960).

Other studies also suggested that the HAM-D is a valid and reliable measure used to examine the levels of depression among individuals. Mutiso (2015) noted that the HAM-D reveals good internal reliability that ranges from .46 to .97. The most recent

mean alpha coefficient observed by Mutiso includes 0.789. The HAM-D demonstrates a high test-retest reliability, which indicates mean ratios that range from .81 to .98 and 0.87 to 0.94 (Mutiso, 2015). In contrast, the HAM-D inter-rater reliability test shows a coefficient of .79 and a kappa coefficient of 0.81(Mutiso, 2015). Zeidan et al. (2019) reported that the most recent HAM-D Cronbach's alpha coefficient is 0.879. Finally, the Hamilton Depression Rating Scale (Hamilton, 1960; see Appendix E) is a public domain measure; no permission is needed to use this measure.

Acculturation Questionnaire

The Vancouver Index of Acculturation (VIA; Amer, 2005; see Appendix F) is used to measure the scale of acculturation among individuals (Amer, 2005). The VIA is designed to assess the components of culture that are considered important among ethnic individuals including traditions, family values, and behaviors. Naturally, adapting to a new environment can take time and sometimes individuals react in a certain way to cope with that change (Amer, 2005). The author, Amer (2005) measured acculturation among individuals and found that those with higher scores showed adaptation to the new environment and culture, those with lower scores demonstrated not being able to adapt to the new culture, and those who scored 50/50 showed biculturalism, a combination of both cultures. The VIA is a valid and useful questionnaire (see Appendix F) that was first used in the study by Amer (2005) to measure the level of acculturation among Arabs living in the United States.

The VIA-Modified Arab Version (see Appendix F) contains a 7-point scale that is listed as the following (1 = *strongly disagree*, 2 = *disagree*, 3 = *slightly disagree*, 4 =

neutral/depends, 5 = *slightly agree*, 6 = *agree*, 7 = *strongly agree*; Amer, 2005; see Appendix F). This set of questionnaires (see Appendix F) contains 20 questions. Ten of these questions are most specific to the individual's culture and heritage, and the other 10 assess the participant's adaptation to the American lifestyle and culture (Amer, 2005). Examples of the acculturation questionnaire (see Appendix F) used by Amer (2005) include the following statements:

- I often participate in Arab cultural traditions
- I enjoy social activities with people of Arab ethnicity
- It is important for me to maintain or develop American cultural practices

A score of nine out of 10 in the first 10 questions is considered to be less acculturated to the host culture and more attached to the traditional culture. Similarly, I calculated the 10 American-based questions the same as the Arab heritage questions; however, the higher the score is, the more acculturated the individual is to the host country, including the United States (Amer, 2005).

The VIA-Arab version was first used in the Arab American study by Amer (2005). This questionnaire uses the term *heritage culture* to identify ethnic cultures or Arab culture. The VIA-Arab version questionnaire (see Appendix F) is within the public domain, and no permission is required to use this measure. Amer also discussed a study that was done in Ohio that included 76 Arab individuals living in the United States. The survey was distributed among churches and mosques, in areas where the Arab population normally gathers. Participants were adults with a mean age of 30. Arabs were found to have 42.1% Christians and 57.9% Muslims in total. Those participants were mostly from

Egypt, Lebanon, Palestine, or Syria. The Cronbach's alpha coefficient within the Arab subscale is found to be .80, whereas the American subscale is found to be .84.

Emotional Eating Scale

The Emotional Eating Scale (ESS; Wilson et al., 2015; see Appendix G) is used to examine whether there is a relationship between negative emotions and overeating. It was developed to measure the types of feelings that urge people to seek comfort in eating. The ESS is a 25-item measure with three types of subscales including depression, anger, and anxiety. Participants were able to rate various types of emotions including:

- *Sad*
- *Jittery Bored*
- *Upset*

using a 5-point Likert scale (1 = *no desire to eat*, 2 = *a small desire to eat*, 3 = *moderate desire to eat*, 4 = *a strong urge to eat*, 5 = *an overwhelming urge to eat*; Wilson et al., 2015; see Appendix G). Individuals who score high using the ESS in each of the subscales will be considered to experience these issues; for example, a score of >25.4 will be considered high in the anger subscale, likewise, a score of >15.9 will be considered high in the anxiety subscale (Wilson et al., 2015).

Wilson et al. (2015) discussed a study that was done to examine the relationship between negative emotions and overeating. It weighed three negative emotions: anger, anxiety, and depression. The results of this study showed a mean for the anger subscale of 23.96, 15.19 for the anxiety subscale, and 12.00 for the depression subscale. The coefficient alpha, as noted by Wilson et al. (2015), is .81, which suggests good internal

consistency. The coefficient alphas for anger, anxiety, and depression are shown to be .78, .78, and .72. The test-retest reliability showed .79, which indicates acceptable temporal stability (Wilson et al., 2015). This 25-item questionnaire (Wilson et al., 2015; see appendix G) is a public domain measure; no permission is needed to use this measure.

Data Analysis

The study used the most current version of the Statistical Package for the Social Sciences (SPSS 25), to analyze the data. Standard multiple regression analysis was calculated using the data obtained from the demographic questionnaires in the study; these statistics included means, standard deviation, and simple bivariate correlation coefficients. These determined whether the relationship between the variables in the study, including stress, depression, acculturation, and emotional eating was significant. I used the correlational model in this study to help gain a better understanding of the relationship between the psychological changes related to emotional eating among Arabic Middle Eastern women living in the United States.

Research Questions and Hypotheses

In this study, I explored the relationship between stress, depression, acculturation, and emotional eating among Arabic Middle Eastern women living in the United States. Below are the research questions and hypotheses that were selected for this study:

Research Question 1 (RQ1): What is the relationship between stress and emotional eating, after controlling for depression, among adult Arabic Middle Eastern women living in the United States?

Null Hypothesis ($H_0$1): There is no relationship between stress and emotional eating, after controlling for depression, among adult Arabic Middle Eastern women living in the United States.

Alternative Hypothesis (H_a1): There is a relationship between stress and emotional eating, after controlling for depression, among adult Arabic Middle Eastern women living in the United States.

Research Question 2 (RQ2): What is the relationship between depression and emotional eating, after controlling for stress, among adult Arabic Middle Eastern women living in the United States?

Null Hypothesis ($H_0$2): There is no relationship between depression and emotional eating, after controlling for stress, among adult Arabic Middle Eastern women living in the United States.

Alternative Hypothesis (H_a2): There is a relationship between depression and emotional eating, after controlling for stress, among adult Arabic Middle Eastern women living in the United States.

Research Question 3 (RQ3): What is the relationship between acculturation and emotional eating, after controlling for stress and depression, among adult Arabic Middle Eastern women living in the United States?

Null Hypothesis ($H_0$3): There is no relationship between acculturation and emotional eating, after controlling for stress and depression, among adult Arabic Middle Eastern women living in the United States.

Alternative Hypothesis (H_a3): There is a relationship between acculturation and emotional eating, after controlling for stress and depression, among adult Arabic Middle Eastern women living in the United States.

Threats to Validity

I used a quantitative survey design for this nonexperimental research. The participants of this research included women from any Arabic country in the Middle East who moved to the United States in recent years who are recruited through referrals or from social media. To interpret any data, a study generally depended on external and internal validity. External validity refers to applying a conclusion about the research study to the general population (Khorsan & Crawford, 2014). Threats to the data collected may have occurred when the results of the study are generalized. This sample consisted of women recruited from Facebook and referrals. Because of this, I made sure that I was cautious when interpreting the results of the research study. I utilized the demographics of the participants as qualitative data in my study.

Internal validity, on the other hand, refers to whether the study and the conclusion of the study are valid for the population being studied (Khorsan & Crawford, 2014). Threats to internal validity may have occurred if extraneous variables influenced the results and thus skew the data and negatively impact the outcome of the study. These variables were taken into account when analyzing the data. Because the study was collecting data using a correlational design, I have experienced some difficulty because I was not able to compare my data to a control group, which may have resulted in having a weak internal validity of the study.

Finally, construct validity refers to using the appropriate instruments to measure the data adequately (Strauss & Smith, 2009). To avoid errors and reduce subjectivity, construct validity is essential in research studies. To ensure construct validity, I made sure that all the instruments used in my study were approved and have been used in previous research studies.

García-Pérez (2012) noted a fourth aspect of the research validity, called Statistical Conclusion Validity (SCV). SCV refers to the degree to which the results of the relationship between the independent and the dependent variables are accepted as reasonable, as far as statistical issues. Threats to SCV may occur if the sample size is not sufficient and causes low statistical power, and thus an insignificant null hypothesis may occur. Risks to SCV may arise if the data do not meet the assumptions of the study. It is essential to ensure the use of adequate sampling tests and procedures to prevent threats of SCV from occurring (García-Pérez, 2012).

Ethical Issues

To ensure minimal ethical risks in my study, I first obtained an approval from the IRB before conducting my study. My research was voluntary, and participants were completely anonymous to ensure confidentiality. According to Chen (2019), using anonymity in research is associated with higher participation and interaction rates. It is also correlated with decreased anxiety among participants (Chen, 2019). The advertisement that was posted on Facebook explained the purpose of the research study, and the privacy of the research to protect the rights of all the participants of the study. By reading the consent form, participants knew that I am the only one who collected the data

and had access to these records. The consent form also described the procedures for completing the study, as well as the purpose of the research. Participants had no obligation to complete any part of this research if they felt uncomfortable. Participants were also advised if there were any risks with participating in the study, and they had all the freedom to withdraw from participating whenever they wanted without consequences.

For this study, the researcher used a computer that was protected by a safe passcode. No personal identification information was collected during this process, including Social Security numbers or addresses. At the same time, to protect the participant identity, all the data collected for this study was placed on the online website known as Survey Monkey; this site ensures participants' confidentiality due to its strict privacy policies (Survey Monkey, 2020). The data was not intended to be printed, but any data that was printed was kept in a secure area where no one else had access to it. The data will be destroyed five years after data collection, as required by the university.

Summary

The purpose of Chapter 3 was to discuss the research methodology that was used for this quantitative cross-sectional study. Research design and rationale, participants, procedures, instruments, research questions, data analysis, and ethical issues were described in this chapter. The purpose of this research study was to examine the relationship between stress, depression, acculturation, and emotional eating among Arabic Middle Eastern women who moved to the United States. Data was obtained from individuals who voluntarily participate in the study by agreeing to take a survey that is advertised through Facebook and referrals. To analyze the data, I used SPSS 25.

Participants of this study were informed that their information will not be shared and will be protected; a particular emphasis had been placed on the importance of this matter. Chapter 4 provides the appropriate information in regard to the data collection, as well as the results of this study.

Chapter 4: Results

The purpose of this study was to examine the relationships between stress, depression, and acculturation, and emotional eating among Arabic Middle Eastern women who moved to the United States. The study employed a quantitative approach to explore the relationship among the variables listed and investigate whether emotional eating mediates the relationship among these variables in this population. I also examined other potential factors that contribute to the increase in obesity and overweight weight among Arab women from the Middle East who moved to the United States. The research questions and hypotheses used in the study are repeated in this chapter to guide the analysis.

Data Collection and Management

Data collection began on November 8, 2020, ending on January 10, 2021. To begin the data collection, participants completed an online survey consisting of questions from four different psychological assessments. I utilized the questions from the Cohen's Perceived Stress Scale (PSS) to measure participants' perception of their experience of stress (Cohen et al., 1983). Following the PSS were the relevant questions from the Hamilton Depression Rating Scale (HAM-D), which measured the level of depression experienced during the previous month (Hamilton, 1960). The third set of questions came from the Vancouver Index of Acculturation (VIA) (Amer, 2005). These questions assessed the components of culture considered important to participants' adaptation to a new cultural environment (Amer, 2005). I used his compilation of questions to assess the

predictive variables as one becomes acculturated to a new culture and potentially experiences an effect on their weight.

The participants then completed the relevant questions from the Emotional Eating Score (EES) that was designed to measure the relationship between emotions and eating, particularly negative emotions and overeating (Wilson et al., 2015). These questions were added at the end of the survey, culminating in 84 questions from the PSS, HAM-D, VIA, and EES, all related to the first three predictive variables – stress, depression, and acculturation – and to the outcome variable, emotional eating. The study survey was distributed through SurveyMonkey, a third-party internet vendor that markets surveys and questionnaires for target audiences. By completing the study survey, participants yielded scores on the three predictor variables: stress, depression, and acculturation, and the outcome variable: emotional eating. Below, I provided the research questions to help guide the development of the study and to ensure alignment with the research problem and purpose statement.

I used means, standard deviation, and simple bivariate correlation coefficients to determine whether the relationships between the variables were statistically significant. I also used standard multiple regression analysis to test for an association among stress, depression, and acculturation as predictor variables, whereas I used emotional eating as the outcome for the study. This chapter includes a summary of the data collection procedures, enhancement of the descriptions of data for analysis, and the results of the analysis. I included the research questions and hypotheses of the study in this chapter to guide the analysis. This chapter includes a summary of the data collection instrument and

procedures along with the process of preparing the data for analysis. Chapter 5 concludes with a discussion of the implications and applications of the data analysis.

Research Questions and Hypotheses

Research Question 1 (RQ1): What is the relationship between stress and emotional eating, after controlling for depression, among adult Arabic Middle Eastern women living in the United States?

Null Hypothesis ($H_0$1): There is no relationship between stress and emotional eating, after controlling for depression, among adult Arabic Middle Eastern women living in the United States.

Alternative Hypothesis (H_a1): There is a relationship between stress and emotional eating, after controlling for depression, among adult Arabic Middle Eastern women living in the United States.

Research Question 2 (RQ2): What is the relationship between depression and emotional eating, after controlling for stress, among adult Arabic Middle Eastern women living in the United States?

Null Hypothesis ($H_0$2): There is no relationship between depression and emotional eating, after controlling for stress, among adult Arabic Middle Eastern women living in the United States.

Alternative Hypothesis (H_a2): There is a relationship between depression and emotional eating, after controlling for stress, among adult Arabic Middle Eastern women living in the United States.

Research Question 3 (RQ3): What is the relationship between acculturation and emotional eating, after controlling for stress and depression, among adult Arabic Middle Eastern women living in the United States?

Null Hypothesis ($H_0$3): There is no relationship between acculturation and emotional eating, after controlling for stress and depression, among adult Arabic Middle Eastern women living in the United States.

Alternative Hypothesis (H_a3): There is a relationship between acculturation and emotional eating, after controlling for stress and depression, among adult Arabic Middle Eastern women living in the United States.

Focusing on the intent of the RQs in the study, I tested each hypothesis to discern its applicability to the RQ. I listed below the tests used in this study.

RQ1

I conducted a bivariate correlation to examine the relationship between stress and emotional eating after controlling for depression, while I used standard multiple regression analysis to test the association between stress, as the predictor, and emotional eating, as the outcome. I measured stress by using the PSS.

RQ2

I conducted a bivariate correlation to evaluate the relationship between depression and emotional eating after controlling for stress, while I used standard multiple regression analysis to test the association between depression, as the predictor, and emotional eating, as the outcome. I used the HAM-D rating scale, a standard measure for depression, to

examine the severity of depression among Arabic Middle Eastern women living in the United States.

RQ3

I conducted a bivariate correlation to evaluate the relationship between acculturation and emotional eating after controlling for stress and depression, while I used standard multiple regression analysis to test the association between acculturation, as the predictor, and emotional eating, as the outcome. I used the VIA to measure the degree of acculturation each participant experienced.

Research Findings

I utilized the Statistical Package for the Social Sciences (SPSS 25) for the statistical analysis of this data. Participant demographic information, such as age, gender, and ethnicity, was gathered and is shown in Table 1. Statistical tests included the Pearson correlation coefficients and linear regression analysis. The following subsections show the results of the relationships between the three predictor variables: stress, depression, and acculturation, and the outcome variable: emotional eating.

Participants

A group of 151 Arabic Middle Eastern women who had relocated to the United States comprised the sample for this study. Over 700 people responded to the recruitment efforts through social media, including Facebook. All the women were 18 years of agae and older, having relocated to the United States and a new culture. The criteria for participation were clearly noted in the Letter of Invitation (see Appendix A), posted through social media, including Facebook. All the women were invited to complete the

survey. Of the more than 700 people who showed an interest in the study, only 151 of these met the precise demographic criteria of the study, which was determined through the first four questions in the survey. I subsequently selected these 151 women as participants. The age of participants accepted in the study was limited to 18 years and older. All 151 respondents indicated that they were Arab women born outside of the United States.

The respondents who I ultimately selected to participate in the study, 151 women, completed the survey consisting of questions from the following scales, PSS, HAM-D, VIA, and EES, related to the first three predictive variables: stress, depression, and acculturation, and the outcome variable, emotional eating. The mean, standard score of stress included 27.85 with a standard deviation of 5.3 and a range of 39. The total score of depression was 12.18 with a standard deviation of 9.62 and a range of 41. At the same time, the mean, standard score of acculturation was 29.80 with a standard deviation of 13.54 and a range of 82. Finally, the mean, standard score of emotional eating was 32.11 with a standard deviation of 20.32 and a range of 93.

Table 1

Sociodemographic Characteristics of Participants

Characteristic		Frequency (n = 151)	Percentage %	Cumulative %
Age-Group	18 or Older		100.00	100.00
Gender	Quest. Female	151.00	100.00	100.00
	Unspecific	0	0	0
	Skipped Quest	0	0	0
Ethnicity	Arabic	151.00	100.00	100.00
	Persians	0	0	0
	Kurdish	0	0	0
	Azerbaijanis	0	0	0
	Egyptians	0	0	0
	Turks	0	0	0
	Skipped Quest.	0	0	0
Were You	Yes	0	0	0
Born in the	No	151.00	100	100.00
United States?	Skipped Quest.	0	0	0

Table 2

Coefficients of the Three Predictor Variables and the Outcome Variable

		VAR Stress	VAR Depression	VAR Acculturation	VAR Emotional Eating
VAR stress	Pearson Correlation	1.0	.486	.020	.107
	Sig. (2-tailed)		.000	.810	.190
	n=151	151	151	151	151
VAR Depression	Pearson Correlation	.486	1	.183	.006
	Sig. (2-tailed)	.000		.024	.938
	n=151	151	151	151	151
VAR Acculturation	Pearson Correlation	.020	.183	1	-.087
	Sig. (2-tailed)	.810	.024		.290
	n=151	151	151	151	151
VAR Emotional Eating	Pearson Correlation	.107	.006	-.087	1
	Sig. (2-tailed)	.190	.938	.290	
	n=151	151	151	151	151

The strongest correlation appeared to be stress and depression (r=.486, p<.001). This is based on N = 151 women and its 2-tailed significance, the p value is less than .05 (p=0.001), indicating results that were significant. Acculturation and depression are also significantly correlated, r=.183, p=.024, the p value that is less than 0.5 (p=.024), indicating results that the relationship between these two variables is significant.

RQ1: Stress and Emotional Eating

The first research question investigated whether there is a relationship between stress and emotional eating after controlling for depression. Table 3 includes the analysis of predictor variables stress and depression, versus the outcome variable emotional eating.

Table 3

Coefficients of Two Predictor Variables and the Outcome Variable

Model	Unstandardized B	Coefficients Std.Error	Standardized Coefficients Beta	t.	Sig.	Correlations Zero-order	Correlations Partial	Correlations Part
(Constant)	20.669	8.842		2.338	.021			
Stress	.411	.312	.107	1.317	.190	.107	.107	.107
(Constant)	19.108	9.188		2.080	.039			
Stress	.522	.358	.136	1.461	.146	.107	.119	.119
Depression	-.126	.197	-.060	-.641	.522	.006	-.053	-.052

Note. Dependent Variable: Emotional Eating

Table 3 shows the statistical test that was conducted to examine the relationship between stress and emotional eating after controlling for depression among adult Arabic Middle Eastern women living in the United States. A reverse scoring was conducted to this PSS before the data analysis began. The questions that needed reverse scoring included Questions 4, 5, 6, 7, 9, 10, and 13; I found a total score afterward. I conducted a multiple linear regression analysis for emotional eating as the dependent factor, and stress and depression as the predictors. Stress (B = .522, SE = .358, ß =.136, t = 1.461, p =

.146), and depression (B = -.126, SE = .197, ß =-.060, t = -.641, p =.522) were not statistically significant in predicting emotional eating among adult Arabic Middle Eastern women living in the United States. Similarly, R2 (0.012) for stress and R2 (0.014) for depression, indicating that neither stress nor depression were significantly associated with emotional eating. The null hypothesis was accepted.

RQ2: Depression and Emotional Eating

The second research question investigated whether there is a relationship between depression and emotional eating after controlling for stress. Table 4 includes the analysis of predictor variables, depression and stress, versus the outcome variable, emotional eating.

Table 4

Coefficients of Two Predictor Variables and the Outcome Variable

Model	Unstandardized B	Coefficients Std.Error	Standardized Coefficients Beta	t.	Sig.	Correlations Zero-order	Correlations Partial	Correlations Part
(Constant)	31.948	2.683		11.908	.000			
Depression	.013	.173	.006	.078	.938	.006	.006	.006
(Constant)	19.108	9.188		2.080	.039			
Depression	-.126	.197	-.060	-.641	.522	.006	-.053	-.052
Stress	.522	.358	.136	1.461	.146	.107	.119	.119

Note. Dependent Variable: Emotional Eating

The next statistical test was conducted to examine the relationship between depression and emotional eating after controlling for stress among adult Arabic Middle

Eastern women living in the United States. A multiple linear regression analysis was conducted for emotional eating as the outcome variable, while depression and stress are the predictor variables. Depression (B = -.126, SE = .197, ß =-.060, t = -.641, p = .522) was not statistically significant in predicting emotional eating among adult Arabic Middle Eastern women living in the United States. Neither stress (B = .522, SE = .358, ß =.136, t = 1.461, p = .146) nor depression were statistically significant in predicting emotional eating among adult Arabic Middle Eastern women living in the United States. The analysis showing the relationship between depression and emotional eating if stress is controlled also showed R2 (0.000) for depression and R2 (0.014) for stress, indicating that neither depression nor stress were significantly associated with emotional eating. The null hypothesis was accepted.

RQ3: Acculturation and Emotional Eating

The third research question investigated whether there is a relationship between acculturation and emotional eating after controlling for stress and depression. Table 5 includes the analysis of predictor variables acculturation, stress, and depression versus the outcome variable emotional eating.

Table 5

Coefficients of Two Predictor Variables and the Outcome Variable

Model	Unstandardized B	Coefficients Std.Error	Standardized Coefficients Beta	t.	Sig.	Correlations Zero-order	Correlations Partial	Correlations Part
(Constant)	35.986	4.006		8.982	.000			
Acculturation	-.130	.122	-.87	-1.061	.290	-.087	-.087	-.087
(Constant)	23.069	10.040		2.298	.023			
Acculturation	-.122	.125	-.082	-.979	.329	-.087	-.081	-.080
Stress	.494	.359	.129	1.377	.171	.107	.113	.112
Depression	-.087	.201	-.041	-.433	.665	.006	-.036	-.035

Note. Dependent Variable: Emotional Eating

The last statistical test examined the relationship between acculturation and emotional eating after controlling for stress and depression among adult Arabic Middle Eastern women living in the United States. A multiple linear regression analysis was conducted for emotional eating as the outcome variable, while acculturation, stress and depression are the predictor variables. Acculturation (B = -.122, SE = .125, ß =-.082, t = -.979, p = .329) was not statistically significant in predicting emotional eating among adult Arabic Middle Eastern women living in the United States. Both stress (B = .494, SE = .359, ß =.129, t = 1.377, p = .171) and depression (B = -.087, SE = .201, ß =-.041, t = -.433, p = .665) were not statistically significant in predicting emotional eating among

adult Arabic Middle Eastern women living in the United States. The analysis showing the relationship between acculturation and emotional eating if stress and depression are controlled also showed R2 (0.008) for acculturation and R2 (0.021) for acculturation, stress, and depression, indicating that neither acculturation, stress, nor depression were significantly associated with emotional eating. The null hypothesis was accepted.

Summary

Chapter 4 reviewed the results of the study. Analysis of the quantitative data led to answers for the three research questions. Each question pertained to the significance of the relationships between stress, depression, acculturation, and the outcome variable, emotional eating, among Arabic Middle Eastern women who moved to the United States.

The use of descriptive analysis and standard multiple regression answered the first research question. I calculated the regression using the data obtained from the inventories on stress and emotional eating after controlling for depression. The second research question involved the means and standard deviations displayed and simple bivariate correlation coefficients. These determined whether the relationship between the variables used in the study: stress, depression, acculturation, and emotional eating, were significant. In this study, I used the correlational model to help gain a clear understanding of the relationship between the psychological changes related to emotional eating among Arabic Middle Eastern women living in the United States.

The results of the first research question regarding the relationship between stress and emotional eating among adult Arabic Middle Eastern women living in the United

States indicate that null hypothesis is accepted, and the alternative hypothesis is rejected. There is no significant relationship between stress and emotional eating.

As per the results of the second research question regarding the relationship between depression and emotional eating among adult Arabic Middle Eastern women living in the United States, indicating that the null hypothesis is accepted, and the alternative hypothesis is rejected. There is no significant relationship between depression and emotional eating.

The results of the third research question regarding the relationship between acculturation and emotional eating among adult Arabic Middle Eastern women living in the United States indicate the null hypothesis is accepted, and the alternative hypothesis is rejected. There is no significant relationship between acculturation and emotional eating.

In summary, each of the research questions presented in this paper aimed to test the significance between stress, depression, acculturation, and the outcome variable, emotional eating, among Arabic Middle Eastern women who moved to the United States. The *p* values generated throughout the data analysis indicated greater than 0.05, meaning that there was no significance between the psychological characteristics and emotional eating.

Chapter 5 contains further discussion on the study and interpretation of these results. Having arrived at the results of the analysis, the exploration of implications and applications of these results can proceed. Analysis of the quantitative data reviewed in this chapter answered the three research questions. The use of descriptive analysis and

standard multiple regression answered the first research question. I calculated the regression using the data obtained from the stress and emotional eating after controlling for depression. The second research question saw the means and the standard deviations displayed and simple bivariate correlation coefficients. These determined whether the relationship between the variables used in the study, including stress, depression, acculturation, and emotional eating, were significant. I used the correlational model in this study to help gain a better understanding of the relationship between the psychological changes related to emotional eating among Arabic Middle Eastern women living in the United States.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

This chapter includes an interpretation of the research findings, limitations of the study, recommendations for future research, implications for social change, and the conclusions of this research study. I designed the present research study to expand the understanding of the correlation between psychological problems and emotional eating. The purpose of this research study was to examine the relationship among stress, depression, emotional eating, and weight gain in Middle Eastern women, specifically Arabs, who have moved to the United States. I explored the relationship among stress, depression, acculturation and investigated whether emotional eating mediates the relationship among these variables in this population.

Interpretation of Findings

Data collection took about 3 months to complete. I gathered data for the study through SurveyMonkey and analyzed it by using correlation and standard multiple regression analysis to test the study hypothesis. The targeted sample for the analysis was 150; a total of 151 participants completed the survey and 549 ultimately did not meet the criteria. Individuals who met the criteria for the survey have completed a set of 84 questions from the following scales, Cohen's Perceived Stress Scale (PSS), Hamilton Depression Rating Scale (HAM-D), Vancouver Index of Acculturation (VIA), and Emotional Eating Score (EES), related to the first three predictive variables: stress, depression, and acculturation, and the outcome variable, emotional eating.

The correlation matrix revealed nonsignificant relationships between stress, depression, acculturation, and weight gain in Middle Eastern women, specifically Arabs, who have moved to the United States. With these results, the null hypotheses for the current study were not rejected; however, further interpretation of the findings are discussed in the following sections.

RQ1: Stress and Emotional Eating

The purpose of this research question was to find whether there is a relationship between stress and emotional eating, after controlling for depression, among adult Arabic Middle Eastern women living in the United States. Prior research also indicated that women with high-stress levels are more likely to hold unhealthy attitudes toward expressing their negative feelings than men (Meyer et al., 2010). The finding of this study appears to be inconsistent with the past studies that displayed that women with high levels of stress may try to handle their emotions by adapting to unhealthy eating habits (Meyer et al., 2010). As these scholars demonstrated, stress is consistent with reduced energy, appetite change, and lack of socialization, decreasing the individual's quality of life. Women with high-stress levels are at risk of developing obesity due to overeating to cope with stressful events (Besse et al., 2018; Razzoli et al., 2017).

Although this study's hypothesis was not significant, considering the amount of past studies supporting the relationship between stress and overeating, many women would need to consult their healthcare professionals for many reasons related to their stress or overweight and obesity. This could support these women in their efforts to avoid developing diabetes mellitus Type II and heart diseases related to obesity. It can also

reduce the psychological changes and prevent them from worsening. Alalwan et al. (2019) reported that a simple increase in stress levels could lead to overeating among women. Therefore, it is essential to advise a healthy relationship between women, specifically Arabic Middle Eastern, and their doctors to help reduce stress and prevent unhealthy behaviors.

High levels of stress among women are highly associated with unhealthy attitudes toward food to express their negative feelings (Meyer et al., 2010). There is also a possibility that patients were not provided enough knowledge to understand the effect of stress on our overall health and wellbeing. Regardless of how often women visit their healthcare providers about overweight and obesity, if they are not educated about possible stressors that may cause them to overeat, they would continue to suffer from the issue. Some women choose to self-silence themselves when they undergo life stressors, which leads to unhealthy eating habits in the future (Shouse & Nilson, 2011). Healthcare professionals must discuss this particular relationship between stress and emotional eating among their patients because it can help many women make the connection and thus seek help to reduce its effects.

Educating patients using evidence-based tools can reduce their stress and increase the likelihood of pursuing healthy activities (Feltrin et al., 2019). For example, the authors, Feltrin et al. (2019), reported that social interaction might help women who seem to be prompted to attempt risky behaviors such as overeating, smoking, or using drugs caused by stress. Thus, using tools such as conversion, handouts, or brochures can help inform patients regarding the effects of stress. This can create a possibility for the patient

to ask questions to help them decrease the stressful feelings and choose behaviors that cause more good than harm.

Regardless of the results of this study, existing studies have proven the importance of past traumas and their effect on the individual (Levoy et al., 2017). Women with a history of trauma may react differently to stressors. Shouse and Nilson (2011) indicated that those women are more likely to undergo risky health behaviors. There is a possibility that Arabic Middle Eastern women who have a history of trauma experience stress when moving to the United States. These women may find overeating rewarding to vent their emotions. This study educ ates those suffering from stress and medical professionals who treat this particular population when moving to the United States.

RQ2: Depression and Emotional Eating

The purpose of the second question was to determine whether there is a relationship between depression and emotional eating, after controlling for stress, among adult Arabic Middle Eastern women who moved to the United States. Maji (2018) reported that depression is more prevalent in women than men, and Le et al. (2013) acknowledged that depression occurs in one out of every five women. Previous research also reported that depressed women are more prone to obesity than others (Konttinen et al., 2019). Depression and high levels of stress are positively correlated; therefore, individuals may seek comfort through a necessary and acceptable activity such as eating (Garcia et al., 2018). This study found no statistical significance in the relationship between depression and emotional eating among this specific population. This finding is

surprising as well, as Middle Eastern women, specifically, may be prone to experiencing stigma when traveling outside of their countries, so moving to the United States may cause these women to undergo mental changes such as stress or depression (Al Wekhian, 2015). Based on these findings, it would be logical to assume that Middle Eastern women who experience mental changes such as depression would also experience overeating caused by their emotions. The results, however, did show that there is a correlation among the psychological illness among this particular population.

This present study showed nonsignificant results between emotional eating and depression. Yet, this study is significant to Middle Eastern women because it can help them understand this disease. Maji (2013) reported that depression is developed into several categories that describe the severity of depression. Each category is approached with a different treatment. The categories are classified depending on the condition's cognitive or behavioral processes. It is possible that Middle Eastern women may have symptoms of sadness, depressed moods, and/or occasional crying, which they may think is normal behavior. This type of behavior, if not well managed, may develop into a severe case of depression. Therefore, it is vital that Middle Eastern women who recently moved to the United States be advised of these symptoms that may come and go and see a professional to have it managed.

Regardless of the results of this study, medical professionals must educate Middle Eastern women, especially those who recently moved to the United States, about depression. Goodwin (2006) and Le et al. (2003) reported the leading health indicators of depression, including stroke, heart disease, fibromyalgia, and chronic pain. Their study

also indicated that these diseases occur among depressed women more than men. It is essential to highlight the importance and severity of depression when visiting any doctor. Medical professionals may use iPads or a piece of paper to give to each of their patients when waiting to be seen. The information on this device or form can include a depression scale and whether the patient is complaining of any. This can give the doctor an idea of how each patient feels and remind the patient of these symptoms to speak to the doctor about them.

Educating individuals about depression before it accelerates is important to reduce the liklihood of risky behaviors. In 2019, Zhang et al. reported that depression was ranked as the second cause of disease that contributes to suicide attempts among people. Depression is an illness that is able to control the individual's physical and mental health. It leads to chronic diseases that affect the individual's quality of life. Symptoms of depression can start by finding comfort in unhealthy activities such as drinking, smoking, or overeating. This study by Zhang et al. (2019) showed a nonsignificant relationship between depression and overeating among Middle Eastern women; however, further research into this topic is highly advised. Though, women need to be warned about the symptoms of depression and its effects in the long run. The immigration service may include some brochures about depression when speaking to the immigrated families to educate them further about the topic. Medical professionals seeing these immigrated women for the first time can also discuss this particular topic with them. This can help decrease the disease from spreading and help better manage the symptoms.

RQ3: Acculturation and Emotional Eating

The purpose of this final research question was to determine whether there is a relationship between acculturation and emotional eating, after controlling for stress and depression, among adult Arabic Middle Eastern women who moved to the United States. Alidu and Grunfeld (2018) found that many women who move to the United States gained unhealthy weight because of the stress and the anxiety of moving to a different culture with expectations that were different from their former country. Al-Dosari (2019) also suggested that immigrating to a different country can increase the likelihood of developing mental illness, such as stress and depression. It is also suggested that Middle Eastern women may suffer from overeating when they move to the United States due to many reasons, including: having difficulty adjusting to a new culture, loneliness, loss of participation in activities and culture (Al-Dosari, 2019). The findings of the present study do not match the literature and would normally be difficult to explain; however, the study showed that the relationship between acculturation and depression was statistically significant. This suggests that Arabic Middle Eastern women who move to the United States may develop psychological changes including depression. Yet, no significant results were shown to relate acculturation to emotional eating, and this may also be due to the population that participated in this study was small, which determined such results.

Even though this study suggested a nonsignificant relationship between acculturation and emotional eating among women from the Middle East who immigrated to the United States; but, learning about the effects of a new culture on women, specifically, is vital. Al Wekhian (2015) reported the difficulty of moving to the United

States for Middle Eastern women because of the drastic changes they may experience when they move to a different country. Moving to the United States can have an overall impact on their lifestyle, dietary practices, and social life. These women may undergo psychological disturbances to those changes, and Doumit et al. (2016) noted that women who undergo emotional changes might find comfort in food, leading to weight gain. The lack of educational information about the effects of acculturation might enable these women to change their unhealthy eating habits and seek other outlets to decrease their stress.

Regardless of the findings of this particular research question, educational programs need to be created that can guide women who move from a different culture to the United States. These programs can help these women with the challenges that they may have when first moving to the United States. Koneru et al. (2007) reported that signs of anxiety, depression, and stress are highly associated with low acculturation among women. Therefore, these programs can also help women overcome depression, reduce stress, and manage weight. Medical professionals can initiate the subject of acculturation by asking those women how they are adjusting so far and whether they have any issues. These health professionals can suggest these programs for these women to participate and benefit from to avoid following unhealthy behaviors in the future.

Further research showed that other cultures have found a relationship between psychological illness and being less acculturated when moving to the United States. Latina women who moved to the United States are said to be more susceptible to unhealthy eating behaviors. They become depressed when they move out of their

hometowns and thus find comfort in eating (Cordero & Gutierrez, 2016). Regardless of the results of the present study, the relationship between acculturation and emotional eating have been shown to be significant among other cultures and therefore, it is essential to focus on spreading the awareness of mental changes among the Middle Eastern women who move to the United States. These women might be in need to speak to a therapist or medical professionals about their feelings about moving to a new country. Middle Eastern women may not ask about a referral to a psychologist or even discuss mental health because they may be culturally discouraged from seeking psychological help in the first place (Dardas & Simmons, 2015). Accordingly, medical professionals must be able to educate these women, and offer psychological services that can help reduce their stress and adjust to life in a new country.

Post Hoc Analyses

Previous research such as the one by Corazon, et al. (2018) revealed that stress is associated with many diseases and other psychological illnesses, including depression. The correlations matrix for this study showed that the strongest correlation appeared to be stress and depression (r=.486, p<.001). This is based on N = 151 women and its 2-tailed significance, the p value is less than .05 (p=0.001), indicating results that were significant. Other research, including the one by Cordero and Gutierrez (2016) reported that Latina women who moved to the United States were more likely to develop mental changes such as anxiety and depression. This present study also showed that acculturation and depression are significantly correlated, r=.183, p=.024, the p value that

is less than 0.5 (p=.024), indicating results that the relationship between these two variables is significant.

Limitations of the Study

The first limitation was that the data collection process occurred during the COVID-19 global pandemic. According to Gomathy and V. (2021), this pandemic not only affected the health and lifestyle of individuals but also impacted the population's mental health. Therefore, there is a possibility that female participants who took the survey may be feeling a great deal of worry and concern about COVID-19 that might potentially impact the results found.

Another limitation of the study was recruiting participants using social media, which may not be entirely reliable. Furthermore, using information from platforms, like Facebook, to collect data may have the potential to return inaccurate information. Koo and Skinner (2005) reported that recruiting most participants from an online source might also limit the generalizability of the study results. The study was seeking to recruit Arab female participants who have moved to the United States from a Middle Eastern country, and if respondents included those who do not reflect the criteria, the results may not be entirely accurate. Therefore, women who do not meet the inclusion criteria mentioned in the beginning of the survey, were not able to participate in the study.

Moreover, it is possible that this finding would have been obtained at normal times, but it is also possible that the population that participated in this study was small, which determined such results. Research by Konttinen et al. (2019) argued that women are more likely to overeat in response to stressful situations, such as immigrating and

leaving their homes to move to a new country, had a sample size of 10,000 participants. Thus, the number of participants may have affected the results of this study. Other research, including Button et al. (2013), reported that the size of the data sample could reduce the likelihood of the results being statistically significant. There were 700 individuals who took the survey, but only 151 women fit the criteria. The sample size might not be representative of the target group.

Another limitation may have been that the individuals who participated in the study have been living in the United States for a longer period of time. The survey did not indicate a specific time frame for participants to be living in the United States after moving from the Middle East Therefore, those participants may have had the time to adjust to the new environment and the new culture compared to when they first moved. Consequently, they might have forgot how they felt when they moved to the country.

Recommendations

In this quantitative non-experimental study, I generated the results regarding the relationship between stress, depression, acculturation, and emotional eating among Arab Middle Eastern women who moved to the United States. Several interpretations of the findings were proposed. This study showed a significant relationship between stress and depression and between acculturation and depression; however, it did not establish any significant relationship between stress, depression, acculturation, and emotional eating. That being said, the study does not dismiss that there is a relationship between those psychological changes, acculturation, and emotional eating among this particular population. It simply implies the need for other measures to investigate the stated

limitations above and determine why the relationship between stress and emotional eating, depression and emotional eating, and acculturation and emotional eating were not statistically significant.

Based on the current body of literature, individuals who immigrate, leave their homes, and move to a new country, where they may lack their traditions, culture, or social support, may develop psychological changes, such as stress and depression (Li et al., 2014). Those individuals are more likely to overeat, even if they are not hungry and do not have the desire to eat (Emerson et al., 2016). Therefore, it is essential to explore this research topic further. Utilizing a different research method and having a larger sample size is also recommended to determine if there would be any changes from the results shown in this study.

Identifying specific stressors, including lack of social support among Arab Middle Eastern women who moved to the United States in comparison to their social life back in their home countries. Abdul et al. (2019) discussed that women in the Middle East are more likely to develop psychological changes when they move to a foreign country where they are in an unfamiliar setting without the family and the friends of their home country to be around. For that reason, it is crucial to include the need for social interaction and support as one of the stressors when measuring the relationship between acculturation and emotional eating among Arabic Middle Eastern women who moved to the United States.

In order to explore the present study further, qualitative measures could also be utilized. Arabic Middle Eastern women could be interviewed to talk about their situation

when they first moved to the United States from their home country. They could also discuss the psychological changes they are exploring when moving to a new country and whether these emotions are causing them to gain weight. They could also provide suggestions on how healthcare providers can help them reduce these psychological changes and manage their weight. On the other hand, healthcare professionals could also provide in-depth information to help Arabic Middle Eastern women identify factors that may contribute to their overeating and subsequent weight gain.

Implications

It is known that Arab Middle Eastern women are more likely to develop diseases such as diabetes mellitus Type II due to obesity (Al-Raifai, & Aziz, 2018). To compound the difficulty, many Middle Eastern women are reluctant to seek professional help if they believe the cause may be from an illness with a psychological cause because of the stigma of seeking help for a condition that may be perceived as a personal weakness. Thus, these women who do not seek help may experience negative health-related outcomes including overeating (Dardas & Simmons, 2015). Therefore, the results of this study can help provide further insights into factors that may contribute to increasing obesity, including acculturation among Arabic Middle Eastern women.

Literature has found that Middle Eastern parents, women more than men, are more likely to be less acculturated when moving to the United Stated. They are more prone to undergoing high levels of stress and depression when moving to a different country which may be caused by the language barriers, fear of racism, culture shock, and many more (Dardas & Simmons, 2015; Semaan, 2016). The results of this study also

revealed that there is a significant relationship between depression and acculturation among Arabic Middle Eastern women who moved to the United States. By relating the psychological changes to low acculturation among those women, researchers and medical professionals will have the opportunity to determine effective means to help women overcome depression, reduce stress, and manage their weight.

The results of this study may contribute to positive social change by expanding on more research conducted on Arab Middle Eastern women who are living in the United States during COVID-19 global pandemic. According to Abuelezam (2020), Arab individuals who are living in the United States may be at increased risk of developing symptoms, infection, complications, or even death from COVID-19 due to a number of reasons, including psychological changes, stigma, lack of social support, and inadequate prevention measures. Similarly, some health factors of COVID-19 include diabetes mellitus Type II and heart disease. Middle Eastern women are found to have a more significant number of diabetic cases than the white population living in the United States (Al-Raifai, & Aziz, 2018; Abuelezam, 2020). Consequently, it is crucial to expand on this topic with its association with COVID-19 among Arab Middle Eastern women in the future. The future study can be shared with medical health professionals who can help implement strategies to provide the proper care and social support to those affected by the pandemic.

Conclusions

In this research study, I examined the following hypotheses: whether stress and emotional eating are correlated, after controlling for depression; whether depression and

emotional eating are correlated, after controlling for stress; and whether acculturation and emotional eating are correlated, after controlling for stress and depression. According to the results, the relationship between stress and emotional eating, after controlling for depression was not statistically significant. The correlation between depression and emotional eating, after controlling for stress, was also not statistically significant. Finally, the relationship between acculturation and emotional eating was not statistically significant in this study. However, a statistically significant and positive relationship between stress and depression was found. Similarly, another significant correlation was also found between acculturation and depression, which was consistent with previous research studies (Alidu & Grunfeld 2018; Cordero & Gutierrez, 2016; Cachelin, 2006; D'Alonzo et al. 2019; & Reyes-Rodríguez et al., 2016). Further recommendation is advised to help expand the research study by utilizing a different research method, having a larger sample size, and specifying the topic even further by including lack of social support to investigate whether narrowing the topic will change the significance of the results. The results of this study may contribute to social change by helping researchers and medical professionals find other factors that may contribute to increasing obesity among Arabic Middle Eastern women. The correlation findings between stress and depression, and between depression and acculturation reveal the importance of focusing on the relationship between psychological illness and acculturation among this population, which may help provide further insights that can better their quality of life.

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Appendix A

You are invited to take part in a survey research study that examines the relationship between stress, depression, acculturation, and emotional eating among Middle Eastern women from any Arabic country who moved to the United States. This study could help guide healthcare professionals treating Arabic Middle Eastern women with obesity. This survey is part of the doctoral study for Sherri Alizz Roohi-Booroujeni, a Ph.D. student at Walden University.

About the study:

- This survey should take from 25-35 minutes to complete.
- To protect your privacy, no names will be collected.

Volunteers must meet these requirements:

- 18 years and older
- Arabic Middle Eastern women
- Born and raised in the Middle East
- Moved to the United States

Appendix B: Demographic Survey

Please fill out the following demographic information.

Are you 18 years of age or older?

1- Yes

2- No

Gender:

1- Male

2- Female

3- Unspecific

Ethnicity:

1- Arabic

2- Persians

3- Kurdish

4- Azerbaijanis

5- Egyptians

6- Turks

7- Other

Were you born in the United States?

1- Yes

2- No

Appendix C: Perceived Stress Questionnaire

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

O Never

O Almost Never

O Sometimes

O Fairly Often

O Very Often

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

O Never

O Almost Never

O Sometimes

O Fairly Often

O Very Often

3. In the last month, how often have you felt nervous and “stressed”?

O Never

O Almost Never

O Sometimes

O Fairly Often

O Very Often

4. In the last month, how often have you dealt successfully with day to day problems and annoyances?

O Never

O Almost Never

O Sometimes

O Fairly Often

O Very Often

5. In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?

O Never

O Almost Never

O Sometimes

O Fairly Often

O Very Often

6. In the last month, how often have you felt confident about your ability to handle your personal problems?

O Never

O Almost Never

O Sometimes

O Fairly Often

O Very Often

7. In the last month, how often have you felt that things were going your way?

O Never

O Almost Never

O Sometimes

O Fairly Often

O Very Often

8. In the last month, how often have you found that you could not cope with all the things that you had to do?

O Never

O Almost Never

O Sometimes

O Fairly Often

O Very Often

9. In the last month, how often have you been able to control irritations in your life?

O Never

O Almost Never

O Sometimes

O Fairly Often

O Very Often

10. In the last month, how often have you felt that you were on top of things?

O Never

O Almost Never

O Sometimes

O Fairly Often

O Very Often

11. In the last month, how often have you been angered because of things that happened that were outside of your control?

O Never

O Almost Never

O Sometimes

O Fairly Often

O Very Often

12. In the last month, how often have you found yourself thinking about things that you have to accomplish?

O Never

O Almost Never

O Sometimes

O Fairly Often

O Very Often

13. In the last month, how often have you been able to control the way you spend your time?

O Never

O Almost Never

O Sometimes

O Fairly Often

O Very Often

14. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

O Never

O Almost Never

O Sometimes

O Fairly Often

O Very Often

Appendix D: Hamilton Depression Rating Scale

1- DEPRESSED MOOD (Gloomy attitude, pessimism about the future, feeling of sadness, tendency to weep)

O Absent

O Sadness, etc.

O Occasional weeping

O Frequent weeping

O Extreme symptoms

2- FEELINGS OF GU ILT

O Absent

O Self-reproach, feels he/she has let people down

O Ideas of guilt

O Present illness is a punishment; delusions of guilt

O Hallucination of guilt

3- SUICIDE

O Absent

O Feels life is not worth living

O Wishes he/she were dead

O Suicidal ideas or gestures

O Attempts at suicide

4- INSOMNIA- Initial (Difficulty in falling asleep)

O Absent

O Occasional

O Frequent

5- INSOMNIA- Middle (Complains of being restless and disturbed during the night. Waking during the night.)

O Absent

O Occasional

O Frequent

6- INSOMNIA- Delayed (Waking in early hours of the morning and unable to fall asleep again)

O Absent

O Occasional

O Frequent

7- WORK AND INTERESTS

O No difficulty

O Feelings of incapacity, listlessness, indecision and vacillation

O Loss of interest in hobbies, decreased social activities

O Productivity decreased

O Unable to work. Stopped working because of present illness only. (Absence from work after treatment or recovery may rate a lower score).

8- RETARDATION (Slowness of thought, speech, and activity; apathy; stupor.)

O Absent

O Slight retardation at interview

O Obvious retardation at interview

O Interview difficult

O Complete stupor

9- AGITATION (Restlessness associated with anxiety)

O Absent

O Occasional

O Frequent

10- ANXIETY-PSYCHIC

O No difficulty

O Tension and irritability

O Worrying about minor

O Apprehensive attitude

O Fears

11- ANXIETY-SOMATIC (Gastrointestinal, indigestion, Cardiovascular, palpitation, Headaches Respiratory, Genito-urinary, etc.)

O Absent

O Mild

O Moderate

O Severe

O Incapacitating

12- SOMATIC SYMPTOMS-GASTROINTESTINAL (Loss of appetite, heavy feeling in abdomen; constipation)

O Absent

O Mild

O Severe

13- SOMATIC SYMPTOMS- GENERAL (Heaviness in limbs, back or head; diffuse backache; loss of energy and fatiguability)

O Absent

O Mild

O Severe

14- GENITAL SYMPTOMS (Loss of libido, menstrual disturbances)

O Absent

O Mild

O Severe

15- HYPOCHONDRIASIS

O Not present

O Self-absorption (bodily)

O Preoccupation with health

O Querulous attitude

O Hypochondriacal delusions

16- WEIGHT LOSS

O No weight loss

O Slight

O Obvious or severe

17- INSIGHT (Insight must be interpreted in terms of patient's understanding and background.)

O No loss

O Partial or doubtful loss

O Loss of insight

18- DIURNAL VARIATION (Symptoms worse in morning or evening. Note which it is.)

O No variation

O Mild variation; AM ( ) pm ( )

O Severe variation; AM ( ) pm ( ) ( )

19- DEPERSONALIZATION AND DEREALIZATION (feelings of unreality, nihilistic ideas)

O Absent

O Mild

O Moderate

O Severe

O Incapacitating

20- PARANOID SYMPTOMS (Not with a depression quality)

O None

O Suspicious

O Ideas of reference

O Delusions of reference and persecution

O Hallucinations, persecutory

21- OBSESSIONAL SYMPTOMS (Obsessive thoughts and compulsions against which the patient struggles)

O Absent

O Mild

O Severe

Appendix E: Acculturation Questionnaire

[VIA- Arab Version]. Please answer each question as carefully as possible by selecting one of the following choices to indicate your degree of agreement and disagreement. In the statements, the term "ARAB" is used to refer to the NORTH AFRICAN/ MIDDLE EASTERN CULTURES or to persons who have a North African/ Middle Eastern ethnic background (even if the person identifies themselves with a different term such as "Arab American," "Coptic," or "Lebanese."). The term "AMERICAN" is used to refer to MAINSTREAM EUROPEAN-AMERICAN CULTURE or persons who have a European-American ethnic background.

1- I often participate in Arab cultural traditions.

O Strongly Disagree

O Disagree

O Neutral/ Depends

O Agree

O Strongly Agree

2- I often participate in mainstream American cultural traditions.

O Strongly Disagree

O Disagree

O Neutral/ Depends

O Agree

O Strongly Agree

3- I would be willing to marry a person of Arab ethnic background.

O Strongly Disagree

O Disagree

O Neutral/ Depends

O Agree

O Strongly Agree

4- I would be willing to marry a (non-Arab) American person.

O Strongly Disagree

O Disagree

O Neutral/ Depends

O Agree

O Strongly Agree

5- I enjoy social activities with people of Arab ethnicity.

O Strongly Disagree

O Disagree

O Neutral/ Depends

O Agree

O Strongly Agree

6- I enjoy social activities with typical American people.

O Strongly Disagree

O Disagree

O Neutral/ Depends

O Agree

O Strongly Agree

7- I am comfortable working with people of Arab ethnicity.

O Strongly Disagree

O Disagree

O Neutral/ Depends

O Agree

O Strongly Agree

8- I am comfortable working with typical American people.

O Strongly Disagree

O Disagree

O Neutral/ Depends

O Agree

O Strongly Agree

9- I enjoy Arab entertainment (e.g., movies, music).

O Strongly Disagree

O Disagree

O Neutral/ Depends

O Agree

O Strongly Agree

10- I enjoy American entertainment (e.g., movies, music).

O Strongly Disagree

O Disagree

O Neutral/ Depends

O Agree

O Strongly Agree

11- I often behave in ways that are typical of the Arab culture.

O Strongly Disagree

O Disagree

O Neutral/ Depends

O Agree

O Strongly Agree

12- I often behave in ways that are "typically American."

O Strongly Disagree

O Disagree

O Neutral/ Depends

O Agree

O Strongly Agree

13- It is important for me to maintain or develop the practices of the Arab culture.

O Strongly Disagree

O Disagree

O Neutral/ Depends

O Agree

O Strongly Agree

14- It is important for me to maintain or develop American cultural practices.

O Strongly Disagree

O Disagree

O Neutral/ Depends

O Agree

O Strongly Agree

15- I believe in Arab values.

O Strongly Disagree

O Disagree

O Neutral/ Depends

O Agree

O Strongly Agree

16- I believe in mainstream American values.

O Strongly Disagree

O Disagree

O Neutral/ Depends

O Agree

O Strongly Agree

17- I enjoy typical Arab/ Arabic jokes and humor.

O Strongly Disagree

O Disagree

O Neutral/ Depends

O Agree

O Strongly Agree

18- I enjoy typical American jokes and humor.

O Strongly Disagree

O Disagree

O Neutral/ Depends

O Agree

O Strongly Agree

19- I have friends of Arab ethnic background.

O Strongly Disagree

O Disagree

O Neutral/ Depends

O Agree

O Strongly Agree

20- I have friends who are mainstream American.

O Strongly Disagree

O Disagree

O Neutral/ Depends

O Agree

O Strongly Agree

Appendix F: Emotional Eating Scale

We all respond to different emotions in different ways. Some types of feelings lead people to experience an urge to eat. Please indicate the extent to which the following feelings lead you to feel an urge to eat by checking the appropriate box.

1- Resentful

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

2- Discouraged

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

3- Shaky

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

4- Worn Out

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

5- Inadequate

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

6- Excited

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

7- Rebellious

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

8- Blue

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

9- Jittery

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

10- Sad

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

11- Uneasy

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

12- Irritated

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

13- Jealous

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

14- Worried

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

15- Frustrated

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

16- Lonely

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

17- Furious

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

18- On edge

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

19- Confused

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

20- Nervous

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

21- Angry

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

22- Guilty

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

23- Bored

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

24- Helpless

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat

25- Upset

O No desire to eat

O A small desire to eat

O A moderate desire to eat

O A strong urge to eat

O An overwhelming urge to eat