Attitudes towards the Diagnosis and Treatment of Depression among South Asian Muslim Americans

Sadia Rahman Chaudhury

Submitted in partial fulfillment of the requirements for
the degree of Doctor of Philosophy
under the Executive Committee of the Graduate School of
Arts and Sciences

COLUMBIA UNIVERSITY

2011

ABSTRACT

Attitudes towards the Diagnosis and Treatment of Depression among South Asian Muslim Americans

Sadia Rahman Chaudhury

While Muslim Americans are one of the fastest growing communities in the United States, very little is known about their mental health needs or concerns. In an effort to better understand their mental health needs, this study explores the attitudes towards the diagnosis and treatment of depression among South Asian Muslim Americans, specifically examining how acculturation shapes these attitudes. A sample of 427 South Asian Muslim Americans (mean age 30.67 years, 73.8% female) completed an anonymous survey on the internet. Participants answered questions about how strongly they agreed with certain diagnostic and treatment recommendations after reading two clinical vignettes, and completed the Attitudes towards Seeking Professional Psychological Help Scale and the Acculturation Rating Scale for Mexican-Americans II. Participants were also asked about their personal experiences with depression, religious identity; and demographic information. Results indicated that educated participants were more accepting of a clinical diagnosis of depression, while females and educated participants had more positive attitudes towards seeking professional psychological help for depression. Acculturation predicted more positive attitudes toward seeking professional psychological help for depression, but did not predict acceptance of a clinical diagnosis of depression, comfort level talking to people outside the family,

likelihood of seeking professional help, or importance of ethnic match with mental health provider. Exploratory analyses were conducted to determine how personal history of depression shapes attitudes; however, this variable was not particularly salient in shaping attitudes in this sample. While the results suggest that acculturation did not play as strong a role in predicting attitudes as initially anticipated, several limitations, including the fact that the instrument used to measure acculturation and enculturation in this study has not been validated in this sample and that the sample may be more acculturated than the general South Asian Muslim American population, must be taken into consideration. The results of this study begin to shed light on the attitudes towards depression and its treatment in this community. Future studies should further explore the roles of acculturation and enculturation, while also collecting more personal qualitative information to more fully understand the experiences and needs of South Asian Muslim Americans.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEDGEMENTS

While the credit of a dissertation goes to its writer, there are undoubtedly numerous people who help that writer during this arduous process. I would like to take a moment to thank the many people who provided encouragement and support in a multitude of ways.

First, I would like to acknowledge Dr. Lena Verdeli, who over the years has been my advisor, mentor, and friend. Your passion for your work is inspiring and has encouraged me to dream bigger in my own work. Thank you for your steady encouragement and for helping me grow as a student and a professional. Furthermore, thank you for helping me learn to juggle my many roles in both the professional and personal realms. Your words of advice and support through the years have been invaluable and I will treasure them always.

To Dr. Dinelia Rosa, thank you for your consistent support and for helping a budding clinician find her voice. To Dr. Lisa Miller, your passion and enthusiasm have always been inspiring. To Dr. Barry Farber, your steady presence and clinical wisdom will always stay with me. To Dr. Marla Brassard, your statistical acumen and fresh perspective helped me reevaluate my work for a different light. Thank you for bringing your expertise to my committee. To Dr. Anne Conway, thank you for helping a frazzled doctoral candidate at the last minute by offering to chair my committee. Your friendly demeanor and encouraging nature were like a breath of fresh air.

I wouldn't have been able to complete this journey without the help and support of my classmates. While there are too many to mention, I would in particular like to

thank Beatriz, Karen, Vijay and Anitha. Thank you for your letting me vent, making me laugh, and reminding me to enjoy the process. To my friends outside of the field, thank you for keeping me sane and for continuously encouraging me with your love and kindness.

Finally, to my family, words are not enough to thank you for your unwavering support throughout the years. I could never have done this without your help. To my parents, I cannot even begin to list the ways you have inspired and motivated me over a lifetime. For everything that you have done and continue to do, I thank you from the bottom of my heart. I am who I am today because of what you have seen in me and instilled in me. For all of your love, I am eternally grateful. To my brother, thank you for being the most amazing kid brother a girl could ever ask for. I treasure the bond that we have and all of the love and encouragement you have given me over the years. I truly am the luckiest sister in the world because of you. Finally, to my husband, thank you for your love and support throughout this difficult process. For believing in me, for your patience when I was unable to spend enough time with you, and for putting up with my stress and anxiety throughout this process, I will always be thankful.

DEDICATION

To my princess, Safiya: I love you more than I ever thought was possible. You have been my light and my inspiration from the moment I first heard your heartbeat. Your smile warms my heart and your laughter fills me with joy. Thank you for the happiness you have brought to my life.

Chapter I

Introductory Chapter

Given the rapidly growing population of South Asian Muslims in America, it is imperative to develop a better understanding of the mental health needs and concerns of this community. The primary aim of this study is to investigate the attitudes towards the diagnosis and treatment of depression among South Asian Muslim Americans. While attitudes can comprise of many different things, in this study *"attitudes towards the diagnosis of depression"* will be defined as 1) a person's acceptance of the clinical diagnosis of depression in self and/or others; and 2) a person's willingness to talk to others, both within and outside of the community, about the diagnosis of depression in self and/or others. Similarly, *"attitudes towards the treatment of depression"* will be defined as 1) a person's willingness to undergo psychotherapy or psychiatric care or recommend these treatments to others and for what presentation/degree of severity of depression; and 2) a person's willingness to work with mental health providers who are of similar and/or different backgrounds to treat depression. By exploring these attitudes, it is hoped that a better understanding of the South Asian Muslim American community's beliefs about the diagnosis and treatment of depression will be developed. In particular, the role of *acculturation* on shaping these attitudes will be explored. Acculturation is defined as the process by which a person experiences changes in their cultural values and behaviors as they come into firsthand, continuous contact with a dominant host culture (Graves, 1967).

The results of this study will ideally help develop effective psychoeducational tools to increase awareness about depression, to remove possible barriers from treatment, and also to increase the cultural sensitivity of mental health professionals working with the South Asian Muslim American community.

Chapter II

Literature Review

The South Asian Muslim Population in America

It is estimated that there are approximately 8.5 million Muslims living in the United States (Institute of Islamic Information and Education, 2005), residing mainly in large metropolitan cities, such as New York, Chicago, and Houston (Haniff, 2003; Johnson, 1991; Stone, 1991; Wilgoren, 2001). In recent years, the rate of conversion to Islam in America has quadrupled, making Islam the fastest growing religion in the United States (Johnson, 1991; Stone, 1991; Wilgoren, 2001), and the second largest religion in the world (Al-Mateen & Afzal, 2004). More than half of the Muslims in America hold graduate degrees and earn more than $50,000 per year. In addition, 7 in 10 Muslim Americans are actively involved in their mosques (Al-Mateen & Afzal, 2004).

It is believed that the first Muslims may have arrived in America as slaves from Africa beginning in the 1530's, though this has not been factually confirmed (Haniff, 2003). Presently, the Muslim community in the United States is remarkably diverse, comprised of people of African, Arab, European, Central Asian, South Asian and Southeast Asian ancestry. The three largest Muslim communities are of African American, South Asian and Arab descent, making up respectively 30%, 33% and 25% of the total Muslim-American population (Al-Mateen & Afzal, 2004). In the past, Muslim immigrants to the United States from the Middle East and North Africa outnumbered those from any region of the world. However, in the past two to three decades, this trend has shifted so that the largest Muslim immigrant community consists of Muslims who

emigrated from South Asia (Mohammad-Arif, 2002; Numan, 1992; Stone, 1991). Most South Asian Muslim immigrants first moved to the United States after the Immigration and Naturalization Act was passed in 1965 (Mohammad-Arif, 2002; Haniff, 2003).

South Asia, which is comprised of India, Pakistan and Bangladesh, has two dominant religions—Hinduism, which is prevalent in India, and Islam, which is prevalent in Pakistan and Bangladesh; other religions, such as Buddhism, Sikhism and Christianity, are practiced by smaller groups on the subcontinent. To date, there have been numerous publications exploring the South Asian experience, both in South Asia and abroad (Bacon, 1996; Fisher, 1980; Helweg & Helweg, 1990; Jensen, 1988; Das & Kemp, 1997; Farver, Narang, & Bhadha, 2002; Maselko & Patel, 2008; Patel, Rodrigues, & DeSouza, 2002; Parkar, Dawani, & Weiss, 2008; Pereira, Andrew, Pednekar, Pai, Pelto, & Patel, 2007; Pillai, Andrews, & Patel, 2008; Pillai, Patel, Cardozo, Goodman, Weiss, & Andrew, 2008; Randhawa & Stein, 2007; Trivedi, Mishra, & Kendurkan, 2007). However, these studies have focused almost exclusively on South Asian Hindus, and have overlooked the experience of South Asian Muslims. Because of the religious differences between South Asian Hindus and Muslims, it is unclear whether it would be representatively accurate to generalize the South Asian Hindu American experience to the South Asian Muslim American experience.

At the same time, there are many regions in the world where Islam is the predominant religion, including the Middle East, North Africa, parts of South Asia, and Southeast Asia. However, the research to date has focused primarily on Arab Muslims, both in their native country and abroad (Sayed, 2003; Ali, 2005; Douki, Zineb, Nacef, & Halbreich, 2007; Dubovsky, 1983; Dwairy, 2006; Erickson & Al-Timimi, 2001; Farooqi,

2006; Haque, 2004); though a few studies have focused on South Asian Muslims (Ganatra, Zafar, Qidwai, & Rozi, 2008; Messent, 1992; Mirza & Jenkins, 2004; Mohammad-Arif, 2002; Syed & Khan, 2008). When reviewing the literature on the Muslim experience, the cultural distinction between Arab and South Asian Muslims is important to keep in mind, as it is unclear whether the experience of Arab Muslims can be generalized to the population of interest in this study.

In the literature review below, research on both South Asian and Muslim populations will be highlighted. The literature on the South Asian community focuses on South Asian Hindus, while a large portion of the literature on Islamic populations focuses on non-South Asian Muslims. It is hoped that the research on these two distinct populations together will help develop an understanding of the South Asian Muslim experience.

Cultural Beliefs and Understanding of Mental Health and Mental Healthcare among South Asian Muslims

Collectivism in Muslim and South Asian Cultures.

As is common in many cultures throughout the world (Greenfield & Cocking, 1994; Uba, 1994; Phinney, 1996), both Muslim and South Asian cultures encourage a collectivist family structure, where members of the family are interdependent (Dwairy, 2006). Collectivism is defined as "a social pattern consisting of closely linked individuals who see themselves as part of one or more collectives (family, coworkers, tribe, nation); are primarily motivated by the norms of, and duties imposed by, those collectives; are willing to give priority to the goals of those collectives over their own personal goals; and emphasize their connectedness to members of their collectives"

(Dwairy, 2006). In collectivist cultures, opinions and decisions of individuals are shaped and dictated by the collective's point of view. Furthermore, there is a great deal of respect for elders and their opinions, as they are viewed as very knowledgeable and wise (Al-Mateen & Afzal, 2004). Taking this into consideration, it is possible that a South Asian Muslim American's decision to seek help for depression will be shaped by the attitudes that his or her family and community have towards the diagnosis and treatment of the disorder. By understanding the attitudes of the community as a whole, it is hoped that reasons for seeking treatment, as well as barriers against seeking treatment will be better understood.

At the same time, it is important to keep in mind the role of immigration on the collectivism perspective. The preference for individualism in Western society may have some influence on how members of this community interact with one another, particularly among younger South Asian Muslim Americans, or those who have lived in America for several generations. More specifically, younger South Asian Muslim Americans or those who have lived in the United States for several generations may be less inclined to be influenced by their family's and/or community's attitudes towards mental illness and mental healthcare and be more willing to develop their individual attitudes on these matters. While this trend has not been studied directly in the South Asian Muslim American community, there is indication based on other immigrant communities in Western countries that this may be taking place.

A study of Chinese immigrants was conducted in Canada to determine whether this population identified more with the collectivist perspective of their country of origin or the more individualistic perspective of their country of migration (Dyson, 2004). An

immigrant group of 125 Chinese immigrants and a non-immigrant group of 90 Canadians of European ancestry were recruited for the study and the Individualism-Collectivism scale was administered to all subjects. Interestingly, Dyson found that the Chinese immigrant group scored higher on individualism compared to the non-immigrant Canadian group. This is a dramatic departure from what has been found in studies conducted in China, suggesting that immigration and country of residence may have a significant impact on a group's adherence to collectivist or individualistic perspectives. It is possible that Chinese immigrants, in an attempt to assimilate into Canadian culture, adopted, or even potentially over-adopted, the Canadian principle of individualism. Similarly, among South Asian Muslim Americans, there may be a tendency to abandon the collectivist ideals of the older generations, and adopt a more individualistic perspective as assimilation occurs. Further research is required to determine whether this is actually occurring.

South Asian Muslim understanding of mental health and mental healthcare.

In India, the term for madness, "pagalami", can refer to three different phenomena—ghost possession, black magic or sorcery, and malfunctioning of the head. The first two phenomena are treated by a folk-healer; however, a doctor will be consulted for a "malfunctioning of the head". This treatment for the latter problem is likely a result of the influence of Western medicine. It is believed that malfunctioning of the head is caused by a shock, such as grief or some kind of loss, which leads to an imbalance that can be cured with medication and diet. Indians, who are predominantly Hindu, tend to utilize both folk-healers and medical doctors either simultaneously or sequentially to treat mental illness (Messent, 1992).

The Islamic perspective of mental health is also dramatically different from the Western nosology of mental health. In Islam, it is believed that good mental health comes from "the unblemished belief in Allah as the Ultimate Maker and Doer, and hence any deviation from the firm acceptance of Allah's ultimate dominance over the lives of his followers leads to disintegration and disruption of inner harmony" (Sayed, 2003, p. 449-450). The Qur'an explicitly states that certain virtues will preserve good mental health, including acts of worship, doing good to others and following Islamic rules of attire, eating, cleanliness, relationships, good intentions, and a desire to seek knowledge of self and knowledge of God (Haque, 2004). Thus, mental illness stems from doubt or uncertainty about the basic teachings of Islam, as well as a direct result of acting in a manner that is in direct opposition to the teachings of Islam (Farooqi, 2006). This is consistent with what Al-Mateen and Afzal (2004) found in Pakistan, where there is a tendency to believe that depression is caused by spiritual weakness and an inability to believe in God. In other words, while the overall South Asian understanding of mental health attributes mental illness to spirit possession, the belief among South Asian Muslims is that mental illness stems from straying away from God and Islamic principles.

It is possible, however, that this perspective of mental illness may be more dominant among South Asian Muslims living in Eastern countries, and especially in more indigenous communities, compared to South Asian Muslim immigrants living in the West. With modernization and awareness of Western views of medicine, the perspectives of South Asian Muslims throughout the world with regard to mental health may be changing. Further research is required to determine how modernization and

possibly Westernization have altered the understanding of mental health and mental healthcare in this population.

South Asian Muslim Population and Depression

Prevalence of depression in Muslim populations.

To date, there are no published large-scale epidemiological studies of overall prevalence rates of depression in Islamic countries. The two prevalence studies that have been conducted in nations that are predominantly Muslim have taken place in the United Arab Emirates, a Middle Eastern nation, and Tunisia, a North African nation. These two studies have surprisingly different findings, making it difficult to generalize their results to Muslims as a whole.

Srairi (1995) conducted a study of 5000 Tunisian adults sampled from the general population and found a 9% lifetime prevalence rate of major depression in women and 7.4% in men (as cited in Douki, Zineb, Nacef, & Halbreich, 2007). On the other hand, a second study conducted by Ghubash (2001) in the United Arab Emirates with a sample of 1,394 subjects, also collected from the general population, found that women were six times as likely to have a lifetime prevalence of depression compared to men (as cited in Douki, Zineb, Nacef, & Halbreich, 2007). The disparity in gender differences between Tunisia and the United Arab Emirates has been partially attributed to the fact that while women in the United Arab Emirates suffer under severe discrimination, women in Tunisia are protected by very strict legislation outlawing discrimination (Douki, Zineb, Nacef, & Halbreich, 2007). In both of these studies, major depression was assessed using the Composite International Diagnostic Interview (CIDI). The CIDI is a standardized diagnostic interview designed to assess for psychiatric disorders using the definitions of

the Diagnostic Criteria for Research of ICD-10 and DSM-III-R. The instrument has been found to be highly reliable and appropriate for use in different settings and countries (Wittchen, 1994). In addition, the gender difference in the prevalence of depression in both of these countries may be partially attributed to the fact that it is more socially acceptable for women to suffer emotionally than men. Alternately, the ICD and DSM may be better able to capture depressive symptoms in women compared to men. These hypotheses have not yet been explored in this population.

Prevalence of depression in South Asian populations.

The Global Burden of Disease Study funded by the World Health Organization (WHO) found that in 2000, depression was the fourth leading cause of disease burden in the world, and the largest cause of non-fatal burden, accounting for almost 12% of years lived with disability worldwide (DALYs) (Ustun, Ayuso-Mateos, Chatterji, Mathers, & Murray, 2004). Based on this study, the estimated yearly prevalence of depression in South Asian countries was 1.75% for males, and 2.96% for females. Furthermore, the researchers found that unipolar depression was the fourth leading cause of disease burden in South Asia, contributing to 4.7% of total disability adjusted life years for this region.

Most large-scale epidemiological studies of the prevalence of depression in South Asia have focused on different regions in India, rather than South Asia as a whole. In these studies, the population has been predominantly Hindu; nevertheless, these studies suggest that there is significant evidence that depression is a serious and debilitating problem in South Asia. In a community study of 2,494 women living in Goa, India, Patel et al. (2006) found that 6.5% (n=162) of women surveyed met ICD-10 criteria for either a current depressive or anxiety disorder. In terms of depressive diagnoses, mixed anxiety-

depressive disorder (n=105), mild depressive disorder (n=36), and moderate or severe depressive disorder (n=13) were the most common diagnoses. Furthermore, 2.5% of the women surveyed (n=62) reported having made at least one suicide attempt in their lifetime. Numerous other studies have suggested that depression and suicide are significant problems in India (Parker, Dawani & Weiss, 2008; Pillai, Andrews & Patel, 2008; Maselko & Patel, 2008; Pillai, Patel, Cardozo, Goodman, Weiss & Andrew, 2008) and that often depression occurs either postpartum or along with certain reproductive or gynecological problems (Pereira, Andrew, Pednekar, Pai, Pelto & Patel, 2007; Patel, Rodrigues & DeSouza, 2002).

Similarly, depression is a serious problem in Pakistan and is indeed a cause for concern among South Asian Muslims. In a systematic review of 20 studies conducted in Pakistan (19 cross-sectional studies and 1 case-control study), the overall prevalence for depression in Pakistan was found to be approximately 33%, with women having a higher prevalence rate than men (Mirza & Jenkins, 2004). Specifically, the point prevalence for women was found to vary between 28.8% to 66% (overall mean 45.5%), whereas the point prevalence for men was found to range from 10% to 33% (overall mean 21.7%).

Pakistanis of all age groups are affected by depression. A cross-sectional study of 402 elderly subjects aged 65 and above in Pakistan was conducted to determine the prevalence and risk factors related to depression (Ganatra, Zafar, Qidwai & Rozi, 2008). The subjects were all seeking medical care at the Community Health Center of the Aga Khan University in Karachi, Pakistan. In this sample, the prevalence of depression was found to be 22.9% (n=92), based on the 15-item Geriatric Depression Scale. It was also found that a higher number of daily medications (p=0.03), total number of health

problems (p=0.002), financial problems (p<0.001), urinary incontinence (p=0.08) and inadequately fulfilled spiritual needs (p=0.067) were all associated with depressive symptoms in this sample. However, depression does not seem to be a problem for the elderly exclusively. Syed and Khan (2008) conducted a retrospective descriptive case note study of 69 children and adolescents under the age of 18 who were admitted to a university hospital in Karachi, Pakistan for deliberate self-harm. The most frequent diagnosis in this sample was major depressive disorder (18%). The authors noted that even though 98% of the sample self-identified as practicing Islam, where it is strictly forbidden to commit suicide, 76.8% of subjects reported an intent to die at the time of their suicide attempt.

Cultural trends influencing the expression of depression among South Asian Muslims.

In order to understand the attitudes towards the diagnosis and treatment of depression among South Asian Muslim Americans, it is first important to understand how this population talks about depression and its symptoms. There has been significant debate between two schools of thought with regard to the expression of depression. The universalist perpective adheres to the biomedical model of mental disorders. In this perspective, mental disorders are believed to be biological in nature, and given the physiology of human beings is the same throughout the world, the manifestation of depressive symptoms will be consistent worldwide as well. Proponents of this perspective believe that the DSM is accurate in terms of capturing depressive symptoms regardless of what population is being assessed. On the other hand, the relativist perspective argues that there are significant cultural differences in the expression of

depression. Since the expression of depression can vary in different cultural contexts, relativists argue that no single criteria for depression will capture its manifestation in different populations (Thakker & Ward, 1998).

A great deal of research has been conducted in recent years to understand the expression of depression in different cultures, and has found that in numerous non-Western cultures, including Asian, Hispanic and American Indian, there is a significant overlap between depressive mood and somatic symptoms (Kuo, 1984; Ying, 1988; Garcia & Marks, 1989; Guarnaccia, Good & Kleinman, 1990; Baron, Manson & Ackerson, 1990; Manson, Ackerson & Dick, 1990). Halbreich et al. (2007) conducted a qualitative study to explore the complaints of depression around anxiety in women from various cultures, including Asia, Latin America, North Africa and Eastern Europe. In this study, participants, who were clinicians (psychiatrists and psychologists) interested in women's mental health from various parts of the world were invited to a series of round tables and workshops on cross-cultural diversity of the phenomenology of depression and anxieties in women. In total, there were eleven groups representing nine countries, including India (2 groups), Brazil (2 groups), Chile, Peru, Venezuela, Morocco, Tunisia, Serbia and Hungary. During the round tables and workshops, participants were asked to elaborate on the main symptoms and complaints that were interpreted by the clinicians as a manifestation of a depressive or anxiety disorder. Ten groups (and five out of eight countries, including India, Brazil, Peru, Morocco and Tunisia) reported that the main complaints of depression in women were manifested as multiple somatic complaints, such as multiple aches, sleep disturbances and tiredness.

Since the expression of emotion is often seen as a cultural artifact, it is not surprising that in non-Western cultures where the expression of emotion is discouraged, depressed patients express their complaints in somatic rather than psychological terms (Dwairy, 2006). In fact, it has been noted that in Asian cultures, there is no distinction made between the 'psyche' and 'soma' as there is in Western philosophy; therefore, the Asian patient will not view the expression of physical symptoms for an emotional problem as problematic or incomprehensible (Messent, 1992).

Bhugra and Mastrogianni (2004) conducted a review of studies focusing on the transcultural aspects of depression, looking specifically at the role of globalization on the expression of depression. Globalization is defined as the process by which traditional boundaries of culture change over time due to the effects of industrialization, urbanization and media influence. Bhugra and Mastrogianni have found that globalization has influenced how idioms of distress are expressed in different cultures. The authors highlight the difference between *somatic metaphors* and *somatic complaints.* They argue that while it is a common misconception that certain populations, including Asians, typically present with *somatic complaints*, what actually occurs is that psychological distress is described through the use of *somatic metaphors*. While physical symptoms may be present, oftentimes, the *somatic metaphors* (such as "my heart is heavy") allude to emotional, rather than physical pain. The authors also note that while somatic metaphors are common in certain regions of the world, including Asia, as acceptable cultural idioms of distress, when further probed, psychological symptoms can usually be found. Because depression may not be properly assessed for in certain

cultures, including South Asian and Muslim populations, depression may actually be underdiagnosed in these populations.

In Arab Muslim communities, physical symptoms are accepted as legitimate and morally appropriate expressions of emotional pain (Trivedi, Mishra & Kendurkan, 2007). In addition, since Islam condemns suicide, many Arab Muslim patients are reluctant to divulge suicidal feelings to a therapist. Rather, when asked directly about suicidal thoughts, Muslim patients often respond by saying that they are good people and would never consider such an idea (Dubovsky, 1983). However, this does not mean that suicidal ideation does not exist in this population. Rather, it is found to be more culturally appropriate to state a wish for God to end their lives, rather than an active plan to kill themselves (Trivedi, Mishra & Kendurkan, 2007).

Research has also been conducted to better understand the expression of depression in South Asian populations. Pereira et al. (2007) conducted a qualitative study in Goa, India to better understand "the explanatory models of illness in depressed women, in particular, their idioms of distress, and their views of their social circumstances and how this related to their illness" (p. 209). For this study, thirty-five women were recruited based on two eligibility criteria—they were married at some point in their life and they were currently suffering from a depressive disorder, as assessed by the Revised Clinical Interview Schedule (CISR). Most of the women had mild depressive disorders or mixed anxiety-depressive disorders. In-depth qualitative interviews were conducted with the participants to gather information on the participants' personal narrative for depression and also to explore the relationship between depression and stressors in the women's lives. Interviewers were instructed to 1) ask about stressors

in the women's lives; 2) collect a 24-hour timeline of the women's daily activities; and 3) obtain illness narratives. Secondary interviews were conducted to collect necessary supplemental information as needed. Qualitative analyses suggested that the most common category of symptoms reported by these women were physical aches and pains (n=32), in particular pain in the limbs and joints and headaches. The next most common type of complaint was autonomic symptoms (n=25), including palpitations, numbness, blood pressure and difficulty breathing. This was followed by complaints of weakness and tiredness (n=23); behavioral symptoms (n=23), such as lack of sleep or appetite; gynecological problems (n=18) and mental problems (n=7), such as poor concentration, forgetfulness and nightmares. The authors also found that the most common causes cited by the women for their depression were economic difficulties and interpersonal problems, particularly marital problems. The women were reluctant to attribute their depression to a biomedical reason, though most of the participants sought medical treatment for somatic and reproductive complaints associated with their depression. This study underlines the importance of taking note of the somatic complaints South Asians may report, as they may be indicative of an underlying depressive disorder.

Attitudes towards Mental Healthcare among Immigrant Populations

Attitudes towards mental healthcare among South Asian immigrants.

To date, there are no studies exploring the attitudes towards mental healthcare among South Asian immigrants living in the United States. There is, however, research on this population in other Western nations, specifically the United Kingdom. An exploratory study examining attitudes toward mental health and mental health services was conducted among South Asian adolescents living in the United Kingdom (Randhawa

& Stein, 2007). They recruited Pakistani Muslims (n=27, average age=14.0 years) and Indian Sikhs (n=22, average age=14.3) in ninth through eleventh grade from two schools in Luton and Bedford. Semi-structured interviews were conducted, focusing on the adolescents' knowledge of local support clinics, experience with Child and Adolescent Mental Health Services (CAMHS), sources of CAMHS-related information and "suggestions on how to improve local support and CAMHS services so that they are more accessible for young people" (p. 27). Based on the exploratory interviews conducted, Randhawa and Stein found that while South Asian adolescents in the United Kingdom were aware of mental health support services, they were not willing to seek assistance for their difficulties from these services. The study also found that the South Asian adolescents felt that their friends and family would also likely avoid these services, suggesting that the resistance to treatment has less to do with awareness and more to do with a concern with confiding in strangers and social stigma

Attitudes towards mental healthcare among Muslim Americans.

Research suggests that Muslim communities in the United States are burdened with many of the same social burdens as other immigrant and non-immigrant communities in this country, including emotional disturbances, substance abuse, unemployment, marital problems and divorce, domestic violence, child abuse, and suicide (Das & Kemp, 1997; Erickson & Al-Timimi, 2001). However, when Muslim immigrants do seek treatment, they often feel misunderstood, misrepresented, and even stereotyped (Dwairy, 2006; Erickson & Al-Timini, 2001). Sayed (2003) notes that Muslims in Western countries face a *double quandary* because they are foreign to the

culture in which they are seeking treatment and are being subjected to a conceptualization of mental illness that is both foreign and a disservice to them.

Furthermore, following the events of September 11, 2001, Muslim Americans may be more hesitant to utilize healthcare services, and mental healthcare services in particular, because of the "Islamophobia" that exists in the community. Laird, Amer, Barnett and Barnes (2007) argues that "Islamophobia", a term referring to rising prejudice, exclusion and violence toward Muslims, leads to health disparities among Muslim Americans. Muslim Americans may be reluctant to seek help from American healthcare providers because of fears of being stereotyped or discriminated. Alternately, American healthcare providers are often poorly equipped to understand and deal with the cultural concerns that come with treating this population. Al-Krenawi and Graham (2003) suggest that when working with Muslim clients, it is important to keep in mind not only their religious background, but also the importance of the community's history and the individual's age, gender, acculturation and socioeconomic status. In other words, the experience of each Muslim American patient is unique and individual and should be treated in this manner.

A study exploring attitudes towards counseling and alternative support among African-American, Arab and South Asian Muslims in Toledo, Ohio found that while the majority of Muslims interviewed possessed a positive attitude towards counseling, mental health services were underutilized (Khan, 2006). In this study, 459 Muslims (44 African American, 240 Arab, 119 South Asians and 56 others) were recruited from four different mosques in or around Toledo, Ohio, with the African American sample coming primarily from the two inner city mosques, and the Arab and South Asian samples primarily

recruited from two suburban mosques. Participants were asked to complete anonymous self-report questionnaires, that included a demographic data sheet and an abbreviated form of Fischer and Turner's Attitudes Toward Seeking Professional Psychological Help Scale (Fischer & Farina, 1995). Participants in this study were primarily male (59.7%) and Arab (52.3%). Among the overall sample, it was found that Muslim Americans between the ages of 18 and 44 were 2.5 times more likely to have negative attitudes towards help-seeking for mental problem compared to those over the age of 45 (($p<0.05$). Furthermore, in the overall sample, Muslim American males were 1.8 times more likely to have negative attitudes towards mental healthcare compared to females ($p<0.05$). Among the South Asian Muslim Americans, males were 2.7 times more likely to have these negative attitudes ($p<0.05$). Khan also found that education was not significantly associated with attitudes towards help-seeking for mental illness in this sample. Not surprisingly, Muslim males were 2.1 times more likely than Muslim females to indicate no need for counseling ($p<0.01$). Among the South Asian Muslim sample, males were 3.8 times as likely to indicate no need for counseling ($p<0.05$). In addition, for the sample as a whole, those between the age of 18 to 44 were 2.8 times more likely to indicate no use of professional counseling than those over the age of 45, while within the South Asian sample, those in the 18 to 44 year age range were 6.8 times more likely to indicate no use of professional counseling. Among the overall sample, Khan found that need for counseling and positive attitudes towards counseling were the strongest predictors of use of professional counseling. When interpreting Khan's results, it is important to note that more than half of his sample was of Arab descent; therefore, his findings, which are suggested to be representative of the Muslim community as a whole,

may actually be more representative of Arab Muslim attitudes. Nevertheless, given the rates found among the South Asian Muslim Americans in his sample, there is strong indication that South Asian Muslim Americans, particularly males of this background, have more negative attitudes about mental healthcare and are more reluctant to utilize available resources.

In his study, Khan failed to explore generational and acculturative factors that may influence the attitudes of this community towards depression. Furthermore, the role of other demographic variables aside from age and gender, including country of birth, marital status, income, and educational background, on the attitudes of this community toward depression were not assessed. While this study has shed some information on the attitudes of the Muslim American community, it is apparent that many questions still remain. To date, there have been no studies looking into how these demographic variables affect attitudes towards depression among the South Asian Muslim American community.

Among Muslims in the West who do decide to utilize mental healthcare, the overwhelming majority prefer the medical model and opt to treat their mental illness with pharmacotherapy. Due to cultural constraints, namely the discouragement of expressing emotions, psychotherapy is often viewed as "just talk" and not helpful to improving a mental disorder (Sayed, 2003). Kelly and Aridi (1996) conducted a study to better understand counseling-related issues among Muslims living in the United States. Participants (43 women and 78 men from Washington, D.C. and Chicago between the ages of 12 and 62) were asked to complete surveys which included Schwartz's Universal Values Questionnaire (SUVQ), the Mental Health Value Survey (MHVS), and a

demographic and religious practice information form. Slightly more than half (n=64 or 52.9%) reported that they would prefer receiving counseling from a Muslim counselor over a non-Muslim counselor. The participants also noted that if they had to see a non-Muslim counselor, approximately 56.2% felt that it was crucial to have a counselor who had at least a basic understanding of Islamic values.

Acculturation, Mental Health, and Mental Healthcare

Historical background.

Acculturation is defined as the process by which a person experiences changes in their cultural values and behaviors as they come into firsthand, continuous contact with a dominant host culture (Graves, 1967). This concept first originated in the field of anthropology, but was later adopted by the field of cultural psychology. Redfield, Linton and Herskovits (1936) argued that due to conflicting cultural norms between the native culture and the host culture, acculturation can lead to psychological and social stress. Numerous studies have found that acculturation is significantly associated with mental illness, particularly depression and suicide (Hovey, 2000; Shen & Takeuchi, 2001; Escobar, Nervi & Gara, 2000; Yeh, 2003). However, other studies have found that lower levels of acculturation are associated with psychological distress (Sam, Vedder, Ward & Horenczyk, 2006; Gonzalez, Hann & Hinton, 2001).

Berry (2003) notes that acculturation occurs in progressive stages. As an individual acculturates into the host culture, the first tendency is to change his or her behaviors in accordance with the behaviors of the dominant culture. Most often, behaviors will change though attitudes and beliefs will remain consistent with that of the

native culture. In fact, it has been found that attitudes, beliefs and values are the most difficult and resistant to acculturation and may take years and even generations to change.

Kim and Abreu (2001) defined *enculturation* as the process of retaining the norms of the indigenous group. While at first enculturation was considered a part of the process of acculturation, recent theorists have suggested that these two processes are two orthogonal phenomena (Kim & Omizo, 2006). The combination of these two processes can be categorized into four statuses defined by different levels of acculturation and enculturation: *integration, assimilation, separation,* and *marginalization*. Integrated individuals have high levels of acculturation and enculturation and are highly proficient in both the dominant culture and their native culture. Assimilated individuals are defined as those with high levels of acculturation and low levels of enculturation, and are proficient in the dominant culture while retaining very little of their native culture. On the other hand, separated individuals are those with low levels of acculturation and high levels of enculturation, and reject the dominant culture while remaining closely attached to the native culture. Finally, marginalized individuals have low levels of both acculturation and enculturation and identify with neither the dominant nor their native culture (Berry, Kim, Power, Young & Bajaki, 1989).

While acculturation and enculturation may work together to shape attitudes towards diagnosis and treatment of depression among South Asian Muslim Americans, this study will focus exclusively on the role of acculturation in this process. Given the aforementioned research, it is quite possible that South Asian Muslim Americans may in fact have changed their behavior by utilizing mental health resources, while continuing to hold onto feelings shame and stigma with regards to the diagnosis and treatment of

depression. There is no research to date on how acculturation shapes this process, making this study particularly relevant.

The role of acculturation in the diagnosis of depression.

While there has not been a great deal of literature on the attitudes towards mental health and mental healthcare among Muslim and South Asian populations in America, there has been extensive research on the attitudes of other ethnic minority populations living in this country. In particular, the role of *acculturation* on shaping these attitudes among Hispanic Americans and East Asian Americans has been explored and may provide some indication as to how the attitudes towards the diagnosis and treatment of depression among South Asian Muslim Americans may be influenced by acculturation.

Studies have shown that acculturation plays an important role in the prevalence and treatment of depression among Hispanic-Americans. Gonzalez, Hann and Hinton (2001) found that Latino immigrants with lower levels of acculturation had higher prevalence rates of depression. A cross-sectional analysis was conducted with a sample of 1,789 Latino-American elderly subjects (mean age=71 years). Acculturation was measured using the ARSMA-II while depression symptoms were assessed using the CES-D. The overall prevalence of depression in this sample was 25.4%, with women having approximately twice the risk for depression (32%) compared to men (16%). Gonzales, Hann and Hinton found that depressive symptoms were more prevalent among subjects who were immigrants, and less acculturated, compared to subjects who were born in the United States and were more acculturated. Even after controlling for education, income, psychosocial factors, behavioral factors, and health-problem factors, subjects with the lowest levels of acculturation had a significantly higher risk of

depression compared to highly acculturated Mexican Americans. The findings of this study are in marked contrast to several other studies which found that higher levels of acculturation were associated with greater risk of depression and suicide among Hispanic Americans (Hovey, 2000; Escobar, Nervi & Gara, 2000).

A study was conducted to determine whether Mexican Americans with different levels of acculturation would differ in the way they report their experience of depression (Chiriboga, Jang, Banks & Kim, 2007). The authors hypothesized that low levels of acculturation would lead to higher levels of distress and therefore higher levels of depression symptoms reported. In this study, 3,050 Mexican Americans over the age of 65 were recruited from five different states: California, New Mexico, Texas, Colorado and Arizona. The interview included sixteen items about acculturation (13 of which focus on linguistic acculturation) and the twenty-item Center for Epidemiological Studies Depression Scale (CES-D) scale. Analyses indicated that subjects with higher levels of acculturation were less likely to report symptoms of depression on the CES-D. Those with higher levels of acculturation were more likely to report feeling depressed, which was the eighth mostly likely symptom in the low acculturation group. For the low acculturation group, the highest ranking symptoms were a general malaise and troubled interpersonal relationships. The results strongly suggest that within this immigrant population, the expression of depression varies based on level of acculturation.

The role of acculturation in the treatment of depression.

Research has shown that within the Latino population in America, Hispanic immigrants are less likely to seek treatment for psychiatric disorders when compared to Latinos born in the United States (Cabassa & Zayas, 2007). In this study, Cabassa and

Zayas explored how three cognitive processes—1) illness perceptions, 2) attitudes towards depression treatments and 3) subjective norms towards seeking professional mental healthcare—influenced the decision of Latino immigrants to seek both *informal* and *formal* treatment for depression. The authors hypothesized that each of these cognitive processes would independently be associated with the patient's intention to seek depression care, after controlling for patient characteristics, specifically demographics, health insurance, acculturation, clinical characteristics, past service use for mental health problems and perceived barriers to care. A convenience sample of 95 Latino immigrant adult patients was recruited from a primary health care clinic in St. Louis, Missouri. Patients were asked to complete a structured face-to-face interview, which included questions about patient demographics; health insurance status; acculturation (the Bidimensional Acculturation Scale, BAS); depressive symptoms (Center for Epidemiological Studies Depression Scale, CES-D); perceived barriers to care (asked to indicate if any of the 11 provided situations, including lack of transportation, lack of insurance, and inability to pay for services, prevented individuals from seeking treatment); attitudes towards depression treatments (Patients Attitudes Toward and Ratings of Care for Depression short version, PARC-D); and past service use for mental health problems. In addition, a clinical vignette of a depressed individual was included as part of the interview in order to probe about the patient's views of depression (using the Illness Perception Questionnaire, IPQ-R) and intentions to seek either informal or formal care when placed in a similar situation. In terms of intentions to seek informal and formal care, questions were asked regarding the patient's likelihood of *talking* to someone (either informal or formal) about their depression; how *comfortable* they would

feel doing so; and finally, how *helpful* they would find these sources of care. Cabassa and Zayas found that the most common perceived barrier to seeking mental healthcare in this population included lack of health insurance, inability to pay for services, language difficulties, not knowing where to seek services, and long waiting times at clinics. In terms of the clinical vignette, 55% of the patients were able to identify the case as depression, while the other 45% identified the case as an individual coping with either interpersonal, econonomic or other external problems. However, it is unclear how the patients' responses were operationalized, or whether any of the subjects responded that the case was depression caused by external factors. None of the patients attributed the vignette to internal mechanisms, such as biological or genetic factors. With regards to treatments for depression, the majority of patients (87%) believed that their doctors acted in their best interests. In addition, a large majority of the patients held positive attitudes towards depression treatments, though there was a preference for counseling over antidepressants. Patients also reported that they would first try informal sources of care, specifically family members and religious leaders, before trying formal sources. Among formal sources of care, patients appeared to prefer mental health professionals (psychologists, social workers, counselors, psychiatrists) over their general medical provider. The tendency to combine sources of care by Latino immigrants suggests that when depressed, these individuals first seek help from those within their immediate social circle. If these attempts are not successful, the Latino immigrant then goes on to seek more professional help for their depression. In order to improve healthcare for Latino immigrants, and likely for all immigrant populations in the United States, it is essential to

address both structural barriers to care while also addressing attitudes that these immigrants have towards mental illness and mental healthcare.

Acculturation also appears to affect preferences of Latino immigrants for mental health providers. Gamst et al. (2002) conducted a study on 204 Latino-American patients and parents/caregivers of patients at the Tri-City Mental Health Center (TCMHC). Patients were asked to complete questionnaires collecting information on basic demographic information; client-therapist ethnic match; the Acculturation Rating Scale for Mexican Americans-II (ARSMA-II); and the Multigroup Ethnic Identity Measure (MEIM). Patients who appeared more Mexican-oriented showed a strong desire for a therapist of the same culture as themselves. However, those who were more Anglo-oriented were ambivalent about the issue of client-therapist ethnic match.

In order to better understand mental health concerns in the Korean American community, Bernstein (2007) conducted a study with 34 Korean Americans, most of whom where female, married, educated, and had lived in the United States for over ten years. In order to avoid the stigma surrounding mental health in this community, a seminar program was developed using the theme “Are you happy with your life in America?” The terms *mental health* and *psychiatric illness* were intentionally avoided in the discussion of seminar topics in order to draw in Korean-American subjects from the community. Monthly seminars were conducted over a 4-month period that explored the impact of stress on Korean women; problems with children and adolescents of Korean immigrants; alcoholism in the Korean immigrant community; and the multiple roles of Korean immigrant women. At the end of each seminar, participants were asked to complete an anonymous questionnaire to evaluate their perception of mental illness and

help-seeking and coping behaviors. The majority of patients in this study reported that they recognized a need for mental health services, but avoided seeking professional help. Rather, they opted to cope using endurance, patience, and religion.

The role of generational status on the utilization of mental health resources has also been explored. Researchers have defined first-generation immigrants in two different ways—1) people who left their country of origin and immigrated to a new country; and 2) children born in the new country to parents who immigrated to this new country from their native country. Abe-Kim et al. (2007) conducted a study of 2,095 Asian-Americans and found that subjects underutilized mental health services compared to the general population. Asian-Americans who were born in the United States (second-generation Asian-Americans) exhibited higher rates of utilization of mental health services compared to immigrants of the same background. Finally, third-generation Asian Americans had the highest rate of mental service utilization in this sample.

In order to explore factors influencing attitudes towards seeking professional help within the Asian immigrant community in Canada, Fung and Wong (2007) conducted a study on 1000 immigrant and refugee women from China, Hong Kong, Taiwan, Korea and Vietnam living in Canada. Subjects completed questionnaires which collected socio-demographic information and a number of self-report instruments, including the Mental Distress/Illness Explanatory Model Questionnaire (MDEMQ), the Attitudes towards Seeking Professional Psychological Help Scale (ATSPPHS), and the Vancouver Index of Acculturation (VIA). For the overall sample, the strongest predictor of attitudes toward seeking help was the perceived access of resources. While subjects who held onto a more Western-focused point of view with regard to stress being a cause for depression were

more likely to seek treatment from a professional, subjects who held to a more spiritual or Eastern-focused understanding of depression tended to have more negative attitudes towards seeking professional help.

While the South Asian Muslim American population is certainly different from the Hispanic American or East Asian American communities mentioned above, our population of interest must also acculturate into the host culture. As such, this community will face many of these same difficulties. Given the aforementioned research, it would not be surprising if South Asian Muslim Americans recognized a need for mental health services and yet were reluctant to utilize these services. However, further research is required to further understand the attitudes towards the diagnosis and treatment of depression among South Asian Muslim Americans.

Other Sources of Support for Mental Health Issues among Muslims Living in the West

Loewenthal, Cinnirella, Evdoka & Murphy (2001) conducted a comparative study of the perceived efficacy of different kinds of religious activity in coping with depression among followers of different religions in the United Kingdom. In this study, 282 participants completed a 114-item questionnaire inquiring about the *perceived efficacy* of different forms of help for depression and *intention of seeking* different forms of help if ever suffering from depression. Six forms of religious coping were incorporated in the questionnaire and included 1) faith in God; 2) praying for yourself; 3) others praying for you; 4) maintaining one's religious practices; 5) going to see a religious leader; and 6) attending a place of religious worship. The participants identified themselves as being Christian (n=130); Jewish (n=35); Muslim (n=33); Hindu (n=18); other (Sikh, Buddhist

and New Age, n=15); and Atheist or no religion (n=56). The authors found that compared to the other religious groups, Muslims most strongly believed in the efficacy of religious coping methods for depression. Of the six coping skills, they believed that prayer and faith were the most effective, but also believed strongly that religious practice, attending a place of worship, going to see a religious leader and having others pray for you were also effective tools for fighting depression. Muslims were also most likely to say they would use religious coping tools against depression when compared to other groups, and were also least likely to say that they would seek social support or professional help for depression compared to the other groups.

Hypotheses and Research Questions

The following research questions and hypotheses were developed with regard to the attitudes of South Asian Muslim Americans towards the diagnosis and treatment of major depression:

Research Question 1.

Which demographic variables (age; gender; being born in the United States; marital status, income or education) affect attitudes of South Asian Muslim Americans towards the diagnosis and treatment of depression?

- *Hypothesis 1A:* It is predicted that South Asian Muslim Americans who are—
    - younger (≤ 30 years old)
    - female
    - born in the United States
    - single

- making an income greater than $75,000
- college graduates or higher

will be more accepting of a clinical diagnosis of depression compared to their counterparts who are older (>30 years old); male; not born in the United States; married; making an income less than $75,000; and not college graduates.

· *Hypothesis 1B:* It is predicted that South Asian Muslim Americans who are—

- younger (≤ 30 years old)
- female
- born in the United States
- single
- making an income greater than $75,000
- college graduates or higher

will feel more comfortable talking to people outside of their family about a diagnosis of depression, whereas their counterparts who are older (> 30 years old); male; not born in the United States; making an income of less than $75,000; and not college graduates will rely almost exclusively on family members to discuss the diagnosis.

· *Hypothesis 1C:* It is predicted that South Asian Muslim Americans who are—

- younger (≤ 30 years old)
- female
- born in the United States

- single
- making an income greater than $75,000
- college graduates or higher

will be more likely to seek professional care for depression, including psychotherapy and psychiatric care, when compared to their counterparts who are older (> 30 years old); male; not born in the United States; making an income of less than $75,000; and not college graduates.

· *Hypothesis 1D:* It is predicted that South Asian Muslim Americans who are—

- younger (≤ 30 years old)
- female
- born in the United States
- single
- making an income greater than $75,000
- college graduates or higher

will seek professional treatment for lower severity depressive symptoms, whereas their counterparts who are older (>30 years old); male; not born in the United States; married; making an income of less than $75,000; and not college graduates will seek professional treatment for more severe depressive symptoms.

· *Hypothesis 1E:* It is predicted that South Asian Muslim Americans who are—

- older (> 30 years old)
- male

- not born in the United States
- married
- making an income less than $75,000
- not college graduates

will feel that an ethnic match with their therapist or psychiatrist is more important than their counterparts who are younger (≤ 30 years old); female; born in the United States; single; making an income greater than $75,000; and college graduates.

Research Question 2.

Controlling for the aforementioned demographic variables (age; gender; being born in the United States; marital status, income or education), how will overall acculturation scores affect attitudes of South Asian Muslim Americans towards the diagnosis and treatment of depression?

· *Hypothesis 2:* It is predicted that South Asian Muslim Americans with higher overall acculturation scores—

- will be more accepting of a clinical diagnosis of depression.
- will feel more comfortable talking to people outside of their family about a diagnosis of depression.
- will be more likely to seek professional care for depression, including psychotherapy and psychiatric care.
- will seek professional treatment for lower severity depressive symptoms.

- will feel that an ethnic match with their therapist or psychiatrist is not as important

compared to their counterparts with lower overall acculturation scores.

Chapter III

Method

Participants

The sample consisted of 427 Muslim-American participants of South Asian (Bangladeshi, Indian, or Pakistani) ancestry. Table 1 shows descriptive statistics for the demographic and background characteristics of the sample. There were more females in the sample (73.8%) than males (26.2%). Nearly half of the participants were single (48.7%), with 44.5% married, 4.0% divorced, 2.3% separated, and .5% widowed. The most common country of birth was the USA (42.9%), followed by Bangladesh (19.9%), Pakistan (18.7%), and India (7.5%), with 11.0% of the sample indicating some other nation. A total of 37.9% of the sample stated that their ancestors were from Bangladesh, while 23.2% stated that their ancestors were from India; 38.9% of the sample stated that their ancestors were from Pakistan.

Nearly one-third of the sample (32.8%) stated that they were currently students, and nearly half of the sample (48.7%) stated that they had obtained a bachelor's degree. Only 9.8% of the sample stated that their highest level of education was high school, with an additional 41.5% stating that they had obtained an undergraduate degree. Most of the participants (65.8%) stated that they were currently employed, with over half (55.3%) stating that they had an annual household income in excess of $75,000 per year. The average age of the participants was 30.67 years old (*SD* = 9.18). A total of 244 participants stated that they had not been born in the USA, and for these participants the average number of years living in the USA was 17.26 (*SD* = 8.92).

Table 1

*Demographic and Background Characteristics of the Sample (*N = *427)*

	Frequency (M)	Percentage (S.D.)
Age	(30.67)	(9.18)
Gender		
Male	112	26.2
Female	315	73.8
Marital status		
Single (never married)	208	48.7
Married	190	44.5
Separated	10	2.3
Divorced	17	4.0
Widowed	2	.5
Country of birth		
USA	183	42.9
Bangladesh	85	19.9
India	32	7.5
Pakistan	80	18.7
Other	47	11.0
Years living in the U.S. (*n* = 244)	(17.26)	(8.92)
Where ancestors were from		
Bangladesh	162	37.9
India	99	23.2
Pakistan	166	38.9
Currently a student		
No	287	67.2
Yes	140	32.8
Highest degree received		
High school	42	9.8
Undergraduate degree	177	41.5
Graduate degree	208	48.7
Currently employed		
No	146	34.2
Yes	281	65.8
Annual household income		
Less than $75,000	191	44.7
More than $75,000	236	55.3

Subjects were asked a series of questions to better understand the role of Islam in their daily lives. Nearly three-quarters of the sample (74.9%) identified as being moderately religious. Over half of participants reported praying five times per day (n=245, 57.4%) and fasting daily during Ramadan (n=203, 47.5%). In addition, approximately a quarter of all participants in this study (n=104, 24.4%) reported reading the Qur'an at least weekly. Finally, 87 participants (20.4%) reported consulting with an imam at least monthly about personal issues. This suggests that this sample self-identifies as a fairly religious group with approximately half of the subjects routinely following the basic tenets of Islam. However, there was a fairly broad range of practices with some subjects following the basic tenets more strictly and others being less routine in their practice. This should be taken into consideration when considering the results and generalizing to the greater South Asian Muslim American population.

Procedure

The primary method of recruitment in this study was through electronic mailing lists of various secular South Asian Muslim networking organizations. Specifically, e-mails were sent to graduate school chapters of Muslim Students Associations, various chapters of Council for the Advancement of Muslim Professionals (CAMP), and the Muslim Public Affairs Council. Also, an event page was created on Facebook inviting individuals who self-identified as South Asian Muslim Americans to participate in the study. Furthermore, awareness of this study was further spread by word-of-mouth, as interested individuals forwarded information about the study to others. Subjects were recruited for this study were between the ages of 18 and 65 years old; self-identified Sunni Muslims; of South Asian origin; first generation (immigrated to the U.S.) or

second generation (have parents who immigrated to the U.S.) immigrants; and were fluent in English. Given the fact that participants completed the study over the internet and were not asked where in the U.S. they currently lived, it is not possible to ascertain where most participants cam from (e.g., large metropolitan cities, suburbs, or rural locations). This, unfortunately, is a limitation of the study and limits the generalizability of the results.

Subjects were asked to complete an online survey on beliefs and attitudes towards mental health issues and were told that they would be answering questions pertaining to attitudes, social behavior, cultural beliefs and practices that may influence their feelings towards emotional problems. The questionnaire was posted online on www.SurveyMonkey.com and took approximately 30 minutes to complete. Subjects provided informed consent before completing the questionnaire (see Appendix A, page 112) and were given the option to discontinue participation at any time without any negative impact.

Information collected in this study was kept strictly confidential. No identifying information was collected from subjects, and all subjects were assigned a numerical ID number after signing consent. All electronic questionnaire data was stored on a password protected computer.

Measures

Subjects were asked to complete a questionnaire regarding attitudes towards the diagnosis and treatment of depression. The questionnaire (see Appendix B, page 115) consisted of six distinct sections.

Section I—Clinical vignettes.

In the first section of the questionnaire, the subject was instructed to read vignettes about two people with depression (one moderate and one severe) and answer several questions regarding each vignette. On the online version, the two vignettes were alternated between subjects in order to control for order and gender effects. The subject was asked to identify how strongly they agreed with the diagnosis given based on the vignette, how strongly they agreed with several different interventions for the depression, and how effective they felt that the interventions would be. The purpose of the vignettes was to allow subjects to express their understanding and beliefs about depression, its diagnosis, and treatment even if the subject did not have any personal experience with the subject matter. It was also believed that subjects may have felt more comfortable answering questions about depression when the questions are of a hypothetical nature.

Section II— Emotional history.

In this section, the subject was asked about his or her emotional history, including whether the subject felt he or she was ever depressed, or if family members ever suggested that the subject may have been depressed. Furthermore, the subject was asked how they dealt with the depression. If the subject had previously sought professional treatment, the subject was also asked if he or she felt that an ethnic or religious match between the subject and the provider was important.

Section III—Attitudes towards seeking professional psychological help scale (abbreviated form).

In the third section, the subject was asked to complete the abbreviated form of the Attitudes towards Seeking Professional Psychological Help Scale (Fischer and Farina,

1995). This unidimensional scale is a 10-item version of the original 29-item Attitudes towards Seeking Professional Psychological Help (Fischer and Turner, 1970). Subjects were asked to rate each of the ten statements on a 4-point Likert scale (0- disagree; 1- partly disagree; 2- partly agree; 3- agree). Five of the items are scored as "straight" pro-help-seeking items, while the other five are scored as "reverse" anti-help-seeking items, totaling to a potential score range of 0 to 30. The abbreviated scale, like the original scale, was able to reliably differentiate those who have sought professional psychological treatment from those who have not ($p<.0001$). In addition, the scores from the abbreviated form of the scale correlated 0.87 ($N=62$) with the original version of the scale. Finally, the test-retest correlation for the abbreviated form with a 1-month interval administrations was 0.80, while the test-retest reliability of the original form with a 1-month interval was 0.82. Given the fact that the psychometric properties of the abbreviated scale are similar to those of the original scale, while reducing the burden of time on subjects having to complete the measure, it was decided that the abbreviated form of the Attitudes towards Seeking Professional Psychological Help was appropriate for this study.

Section IV—Religious identity.

The fourth section asked questions about the subject's religious practices and religious identity. Subjects were asked how religious they consider themselves, how often they read the Quran or other religious texts, as well as how often they pray, fast, and consult a religious leader for advice.

Section V—Acculturation rating scale for Mexican Americans-II (ARSMA-II)—shortened version.

The fifth section of the questionnaire is a modified version of the short version of the revised Acculturation Rating Scale for Mexican Americans-II (ARSMA-II), a multidimensional instrument that measures the subject's orientation toward his native and American culture independently (Cuéllar, Arnold, and Maldonado, 1995). The ASRMA-II-SV scale consists of 12 statements with which the subject is asked to indicate his or her agreement (1= Not at all; 2= Very little or not very often; 3= Moderately; 4= Much or very often; 5= Extremely often or almost always). It has been found to be reliable (α = 0.87), and consists of two subscales, measuring Mexican orientation (6 items) and Anglo orientation (6 items). Past research on Mexican culture has shown that there were two primary factors: Mexican Acculturation, composed of Items 1, 3, 6, 7, 8, and 11, and Anglo (Caucasian) Acculturation, composed of Items 2, 4, 5, 9, 10, and 12 (Campos et al., 2007). An overall acculturation score is calculated by subtracting the mean score for Mexican orientation from the mean score for Anglo orientation. Higher overall acculturation scores indicate greater English preference, whereas lower scores indicate greater Spanish preference.

In this study, the ARSMA-II-SV was modified so that the term "Mexican" was replaced with "South Asian". This is similar to techniques used in other studies of Asian populations (Farver, Narang & Badha, 2002; Lee, Choe, Kim & Ngo, 2000). While there are several acculturation scales available, the ARSMA-II-SV was chosen because it has been validated in an Asian-American population (Lee, Yoon, Liu-Tom, 2006). In this study, a confirmatory factor analysis was done to determine if the two aforementioned factors (Mexican orientation and Anglo orientation) translated into a South Asian Acculturation factor and a Caucasian Acculturation factor (See Appendix C, Figure C1,

page 125 for model). Following the method described in the previous paragraph, an overall acculturation score was calculated by subtracting the mean score for South Asian orientation from the mean score for Anglo orientation.

Section VI—Demographic information.

The final section collected basic demographic information, including gender, age, marital

status, country of birth, number of years living in the United States, educational status, employment status, and household income.

Chapter IV

Results

This chapter focuses on the results of the analyses performed to address the research questions of this study. In the first section, the composite scores for acculturation and attitudes regarding seeking help from professional psychologists are described. Next, the results of the confirmatory factor analysis and exploratory principal component analysis of the ARSMA-II-SV are discussed. Next, each of the two research question is addressed and the results of additional exploratory analyses are presented. Finally, a summary of findings is provided.

Descriptive Statistics

In this section of the results, descriptive statistics for the composite scores utilized in this analysis are provided. Table 2 contains descriptive statistics for the Attitudes toward Professional Psychological Help and Acculturation composite scores. Scores for the Attitudes toward Professional Psychological Help scale have a possible range from 0 (indicating an entirely negative attitude toward professional psychological help) to 30 (indicating an entirely positive attitude toward professional psychological help). Therefore the mean of 21.20 (SD = 3.74) indicates a substantially positive attitude toward psychological help in this sample.

With regard to the acculturation scores, a higher score on the South Asian Orientation scale or the Caucasian Orientation scale indicate a stronger orientation toward the named culture. Therefore, the fact that the Caucasian Orientation scores had a higher mean (M = 4.25, SD = .75) than the South Asian Orientation scores (M = 2.52, SD = 75) indicates that the sample exhibited higher level of orientation towards Caucasian culture than to South Asian culture. In other words, the sample is positively acculturated towards the Caucasian culture. This is also reflected in the positive Total Acculturation score (M = 1.73, SD = .94), which was computed as the difference between Caucasian Orientation score and the South Asian Orientation score.

Table 2

*Descriptive Statistics for Composite Scores (*N = *427)*

	M	*SD*
Attitudes toward Professional Psychological Help	21.20	3.74
Acculturation		
South Asian Orientation	2.52	.75
Caucasian Orientation	4.25	.57
Total Acculturation	1.73	.94

Table 3 shows the correlations between the demographic variables and the Caucasian Orientation, South Asian Orientation, and Total Acculturation scores. For age, the correlations are Pearson correlation coefficients, while for the dichotomous variables the correlations are point biserial coefficients. Gender was negatively correlated with Caucasian Orientation scores (r_{pb} = -.11, p = .029). Given that gender was coded as 0 = female and 1 = male, the negative correlation indicated that females had higher Caucasian Orientation scores than males. Being born in the U.S. had a negative correlation with South Asian Orientation (r_{pb} = -.14, p = .003) and a positive correlation with Total Acculturation (r_{pb} = .15, p = .002). This indicated that those who were born in the U.S. had lower South Asian Orientation scores and higher Total Acculturation scores. Income was positively correlated with Caucasian Orientation (r_{pb} = .14, p = .005), indicating that those with incomes above $75,000 tended to have higher Caucasian Orientation scores. Finally, having an undergraduate degree was positively correlated with Caucasian Orientation (r_{pb} = .11, p = .025) and negatively correlated with Total Acculturation scores (r_{pb} = -.11, p = .027), indicating that those with an undergraduate degree tended to have higher Caucasian Orientation scores and lower Total Acculturation scores. In summary, higher Caucasian Orientation scores were found for female participants, those with higher incomes, and those with undergraduate degrees, while higher South Asian Orientation scores were found for those who were not born in the U.S. Age, marital status, and having a graduate degree were not correlated with either Caucasian Orientation or South Asian Orientation. Higher Total Acculturation scores were found for those who were born in the U.S. and did not have an undergraduate degree.

Table 3

*Correlations Between Demographic Variables and Acculturation Scores (*N = *427)*

Item	Caucasian Orientation	South Asian Orientation	Total Acculturation
Age	.01	.02	.00
Gender	-.11*	.00	-.07
Born in the U.S.	.06	-.14**	.15**
Marital status	.02	.03	-.01
Income	.14**	.02	.06
Undergraduate degree	.11*	-.05	-.11*
Graduate degree	-.07	.02	-.06

*$p < .05$. **$p < .01$.

Table 4 shows the correlations among the eight composite scores used in this study. Acceptance of a Clinical Diagnosis of Depression scores were positively correlated with scores on the Comfort Level Talking to People Outside the Family scale ($r = .15$, $p = .002$), the Likelihood of Seeking Professional Help for Depression scale ($r = .22$, $p < .001$), Attitudes toward Seeking Professional Psychological Help for Depression scale ($r = .17$, $p = .001$), and Importance of the Ethnic Match scale ($r = .10$, $p = .038$). Scores on the Comfort Level Talking to People Outside the Family scale were positively correlated with scores on the Likelihood of Seeking Professional Help for Depression scale ($r = .28$, $p < .001$) and scores on the Importance of the Ethnic Match scale ($r = .26$, $p < .001$). In addition, scores on the Likelihood of Seeking Professional Help for Depression scale were positively correlated with Attitudes toward Seeking Professional Psychological Help for Depression scale ($r = .26$, $p < .001$) and scores on the Importance of the Ethnic Match scale ($r = .39$, $p < .001$).

Scores on the Attitudes toward Seeking Professional Psychological Help for Depression scale were positively correlated with scores on the Importance of the Ethnic Match scale (r = .13, p = .006), Caucasian Orientation scores (r = .19, p < .001), and Total Acculturation scores (r = .22, p < .001), and negatively correlated with South Asian Orientation scores (r = -.13, p = .006). Caucasian Orientation scores were not correlated with South Asian Orientation scores (r = -.01, p = .794), but were positively correlated with Total Acculturation scores (r = .61, p < .001). South Asian Orientation scores were negatively correlated with Total Acculturation scores (r = .80, p < .001).

Table 4

*Correlations Among Composite Scores (*N = *427)*

Score	1.	2.	3.	4.	5.	6.	7.	8.
1. Acceptance of a Clinical Diagnosis of Depress	1.00							
2. Comfort Level Talking to People Outside the Family	.15**	1.00						
3. Likelihood of Seeking Professional Help for Depression	.22**	.28**	1.00					
4. Attitudes toward Seeking Professional Psychological Help for Depression	.17**	.04	.26**	1.00				
5. Importance of Ethnic Match	.10*	.26**	.39**	.13**	1.00			
6. Caucasian Acculturation	.08	-.03	-.02	.19**	-.06	1.00		
7. South Asian Acculturation	.01	.01	.06	-.13**	.06	-.01	1.00	
8. Total Acculturation	.04	-.03	-.06	.22**	-.09	.61**	-.80**	1.00

*p < .05. **p < .01.

In summary, among the five composite variables related to diagnosis and treatment of depression, all correlations were positive and statistically significant with the exception of the correlation between Comfort Level Talking to People Outside the Family and Attitudes toward Seeking Professional Psychological Help for Depression. The strongest correlation among these variables was between the Importance of the Ethnic Match and the Likelihood of Seeking Professional Help for Depression scales. Among these five scales, the only scale with statistically significant correlations with the acculturation scales was the Attitudes toward Seeking Professional Psychological Help for Depression scale, which was positively correlated with both Caucasian Orientation and Total Acculturation, and negatively correlated with South Asian Orientation. Finally, the three scores were correlated in the expected directions, with Caucasian Orientation having a positive correlation with Total Acculturation scores while South Asian Orientation had a negative correlation with Total Acculturation.

Factor Analysis

Confirmatory factor analysis.

A confirmatory factor analysis was conducted to examine the factor structure of the ARSMA-II-SV items. The results from the confirmatory factor analysis indicated that the hypothesized factor structure did not fit well. Specifically, the model was rejected via the χ^2 test, $\chi^2(53) = 543.44$, $p < .001$. Similarly, the fit indices indicated poor fit for the model: GFI = .80, AGFI = .71, PGFI = .55, NFI = .55, TLI = .47.

Exploratory principal component analysis.

An exploratory principal component analysis (with varimax rotation) was performed to examine the factor structure of the ARSMA-II-SV items, with results shown in Table 5. There were three eigenvalues greater than one in the initial analysis: 2.74, 2.31, and 1.36. Therefore, three components were extracted and rotated via varimax. Table 5 shows that the first component (20.8% of the variance explained) consisted of high loadings for the six Caucasian Orientation items. The second component consisted of four of the six South Asian Orientation items: Items 6, 7, 8, and 11 (18.0% of the variance explained). The third component consisted of the remaining two South Asian Orientation items: Items 1 and 3 (14.7% of the variance explained). Both of these items relate to South Asian language, which may explain why a third component was found in this analysis.

Table 5

Results of Exploratory Principal Component Analysis of ASRMA-II-SV Items with Three Components
*(*N = *427)*

Item	Component 1 (Caucasian Orientation)	Component 2 (South Asian Orientation)	Component 3 (South Asian Language)
1. I speak a South Asian Language	.00	.17	**.87**
3. I enjoy speaking a South Asian Language	.19	.05	**.86**
6. I enjoy South Asian TV	-.04	**.81**	.05
7. I enjoy South Asian movies	.14	**.72**	-.01
8. I enjoy reading South Asian books	-.19	**.56**	.13
11. I think in a South Asian language	-.36	**.57**	.35
2. I speak English	**.64**	-.23	.03
4. I associate with Caucasians	**.67**	.13	.16
5. I enjoy listening to English music	**.58**	-.05	.02
9. I write letters in English	**.43**	-.07	.23
10. I think in English	**.73**	-.30	-.12
12. My friends are Caucasian	**.61**	.38	-.10
Sum of Squared Loadings	2.50	2.16	1.76
Percentage of Variance Explained	20.8%	18.0%	14.7%

Comparisons were made for the three component scores resulting from the exploratory principal component analysis based on the participants' demographic characteristics of age, gender, whether or not the participant was born in the United States, marital status, income group, and education. The correlations between participant age and the three component scores are shown in Table 6. Age was not significantly

correlated with the principal scores for Caucasian Orientation (r = .00, p = .935), South Asian Orientation (r = .00, p = .928), or South Asian Language (r = .07, p = .170).

Table 6

Correlations between Age and Exploratory Principal Component Scores

Variable	Component 1 (Caucasian Orientation)	Component 2 (South Asian Orientation)	Component 3 (South Asian Language)
Age	r = .00 (p = .935)	r = .00 (p = .928)	r =.07 (p = .170)

Table 7 shows the mean scores for the three component scores based on gender, whether or not the participant was born in the United States, marital status, income group, and education. The independent samples t test comparing Caucasian Orientation scores between males and females was statistically significant, t(425) = 2.31, p = .021, with males (M = -.19, SD = 1.04) having lower scores than females (M = .07, SD = .98). There was no difference between males and females in terms of South Asian Orientation scores, t(425) = -.78, p = .437, or South Asian Language scores, t(425) = .63, p = .526.

There were no differences on the principal component scores on the basis of whether or not the participant was born in the United States for Caucasian Orientation scores, t(425) = -1.88, p = .061, or South Asian Orientation scores, t(425) = 1.94, p = .053, but the difference was statistically significant for South Asian Language scores, t(425) = 2.85, p = .005. Participants who were born in the U.S. had lower scores (M = -.16, SD = 1.00) than those who were not born in the U.S. (M = .12, SD = .99).

Table 7

Principal Component Scores as a Function of Gender, Whether or Not the Participant was Born in the United States, Marital Status, Income Group, and Education

	Component 1 (Caucasian Orientation)		Component 2 (South Asian Orientation)		Component 3 (South Asian Language)	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*
Gender						
Female (*n* = 315)	.07	.98	-.02	.98	.02	1.01
Male (*n* = 112)	-.19	1.04	.06	1.06	-.05	.98
Born in the U.S.						
No (*n* = 244)	-.08	1.16	.08	1.05	.12	.99
Yes (*n* = 183)	.10	.72	-.11	.92	-.16	1.00
Marital Status						
Unmarried (*n* = 237)	-.01	.98	.01	.94	-.07	1.02
Married (*n* = 190)	.02	1.02	-.01	1.07	.09	.97
Income						
Less than 75K (*n* = 191)	-.16	1.16	.03	1.04	-.07	1.05
More than 75K (*n* = 236)	.13	.82	-.02	.97	.06	.96
Education						
High school (*n* = 42)	-.07	.87	.35	.96	-.33	1.09
Undergraduate (*n* = 177)	.14	.85	-.08	.95	.00	.95
Graduate (*n* = 208)	-.11	1.12	.00	1.04	.07	1.02

The comparisons between married and unmarried participants were not statistically significant for Caucasian Orientation scores, t(425) = -.30, p = .767, South Asian Orientation scores, t(425) = .27, p = .790, or South Asian Language scores, t(425) = -1.64, p = .102. When individuals with low (less than $75,000) and high (more than $75,000) incomes were compared, the difference was not statistically significant for South Asian Orientation scores, t(425) = .51, p = .610, or South Asian Language scores, t(425) = -1.28, p = .200. However, the difference was statistically significant for Caucasian Orientation scores, t(425) = -3.06, p = .002, with participants with lower

incomes having lower Caucasian Acculturation scores (M = -.16, SD = 1.16) than those with higher incomes (M = .13, SD = .82).

In the comparisons based on education, the differences were not statistically significant for South Asian Language scores, $F(2, 424) = 2.82$, $p = .061$. The difference between the three education groups was statistically significant, however, for Caucasian Orientation scores, $F(2, 424) = 3.21$, $p = .041$. Follow up Tukey HSD tests indicated that participants with undergraduate degrees had higher scores (M = .14, SD = .85) than those with graduate degrees (M = -.11, SD = 1.12), $p = .035$, but no other group pairs differed significantly. In addition, the difference between the three education groups was statistically significant for South Asian Orientation scores, $F(2, 424) = 3.20$, $p = .042$. Follow up Tukey HSD tests showed that participants with a high school education had lower scores (M = -.33, SD = 1.09) than those with graduate degrees (M = .07, SD = 1.02), $p = .047$, but no other pairs of groups differed significantly.

In summary, males and participants with lower incomes had lower Caucasian Orientation scores than their counterparts. Participants with undergraduate degrees also had higher Caucasian Orientation scores than their counterparts with graduate degrees. Furthermore, participants with a high school education had lower South Asian Orientation scores than participants with graduate degrees. Finally, participants born in the United States had lower South Asian language scores than their counterparts who were not born in the United States.

A second exploratory principal component analysis was conducted specifying two components (rather than using the eigenvalues-greater-than-one rule). The results of this analysis are shown in Table 8. There is a clear distinction between the Caucasian

Orientation items (Component 1) and the South Asian Orientation items (Component 2). Item 3, "I enjoy speaking a South Asian language" had moderate loadings on both components (0.396) , while Item 10, "I think in English" had a secondary negative loading on the South Asian Orientation component (-0.38). While these two potential cross-loadings emerged, both of these values were below the conventional criterion of 0.40. Therefore, a two-component model was decided to be appropriate for this study and was used for subsequent analyses.

Table 8

*Results of Exploratory Principal Component Analysis of ASRMA-II-SV Items with Two Components (*N = *427)*

Item	Component 1 (Caucasian Acculturation)	Component 2 (South Asian Acculturation)
1. I speak a South Asian Language	.20	**.64**
3. I enjoy speaking a South Asian Language	0.40	**.52**
6. I enjoy South Asian TV	-.08	**.69**
7. I enjoy South Asian movies	.08	**.56**
8. I enjoy reading South Asian books	-.19	**.55**
11. I think in a South Asian language	-.29	**.70**
2. I speak English	**.64**	-.23
4. I associate with Caucasians	**.68**	.14
5. I enjoy listening to English music	**.57**	-.08
9. I write letters in English	**.47**	.04
10. I think in English	**.70**	-.38
12. My friends are Caucasian	**.54**	.20
Sum of Squared Loadings	2.53	2.53
Percentage of Variance Explained	21.1%	21.0%

Summary of factor analysis results.

In conclusion, while the confirmatory factor analysis, which allows for no cross-loadings between components, suggested that the hypothesized two-factor solution did not provide a good fit to the data, subsequent exploratory principal component analyses, which allow for minimal cross-loadings between components, suggested that a two-factor model could still be used. Exploratory results using the eigenvalue greater than one method indicated that a separate component may be required distinguishing South Asian language orientation to other forms of South Asian orientation. In a secondary exploratory principal component analysis, the factors were forced into two components and there were no significant cross-loadings for the items. Furthermore, a reliability analysis was also conducted (using Cronbach's α) for the two scores, resulting in coefficients of .67 for South Asian Orientation and .64 for Caucasian Orientation. While these values are slightly below the conventional criterion of .70, they demonstrate that there is some reliability to the two scores. Therefore, while there are some psychometric weaknesses to the two orientation scores, there is enough evidence to use these scores, along with the Total Acculturation scores, in answering the two research questions of this study.

Inferential Statistics

Results for Research Question 1.

The first research question of this study was: Which demographic variables (age; gender; being born in the United States; marital status, income or education) affect attitudes of South Asian Muslim Americans towards the diagnosis and treatment of

depression? To answer this research question, a series of ANCOVA analyses were performed with the following dependent variables:

1. Acceptance of a clinical diagnosis of depression (4 items)
2. Comfort level talking to people outside of their family about depression (6 items)
3. Likelihood of seeking professional care for depression (4 items)
4. Attitudes toward Professional Psychological Help scale (10 items)
5. Importance of an ethnic match with their mental health provider (4 items)

The items composing each of these dependent variables are reviewed in Appendix D (page 126). In each analysis, the independent variables were:

1. Age (continuous)
2. Gender (0 = female, 1 = male)
3. Whether or not the participant was born in the U.S. (0 = no, 1 = yes)
4. Marital status (0 = unmarried, 1 = married)
5. Income (0 = less than $75,000, 1 = more than $75,000)
6. Educational status (coded into two dummy variables representing undergraduate degrees (0 = not undergraduate degree, 1 = undergraduate degree) and graduate degrees (0 = not graduate degree, 1 = graduate degree).

The results of the ANCOVA with scores on the Acceptance of a Clinical Diagnosis of Depression scale as the dependent variable are shown in Table 9. Two of the independent variables were statistically significant as predictors of scores on the Acceptance of a Clinical Diagnosis of Depression composite score. First, having an undergraduate degree was statistically significant, $F(1, 419) = 8.71$, $p = .003$. An examination of the estimated marginal means indicated that those who had an

undergraduate degree tended to have higher scores on this scale (*M* = 3.83, *SE* = .07) than those who did not (*M* = 3.54, *SE* = .05). Second, having a graduate degree was statistically significant, F(1, 419) = 5.23, p = .023. The marginal means indicated that those with a graduate degree (*M* = 3.80, *SE* = .07) had higher scores on this dependent variable than those who did not (*M* = 3.57, *SE* = .05). Therefore, based on the results of the ANCOVA analysis, more educated participants were more accepting of a clinical diagnosis of clinical depression.

Table 9

*Results of ANCOVA with Acceptance of a Clinical Diagnosis of Depression as the Dependent Variable (*N = *427)*

	Sum of Squares	*df*	Mean Squares	*F*	*P*	η^2
Age	.34	1	.34	1.13	.288	.00
Gender	.47	1	.47	1.58	.210	.00
Born in the U.S.	.06	1	.06	.21	.647	.00
Marital status	.08	1	.08	.26	.610	.00
Income	.08	1	.08	.27	.601	.00
Undergraduate degree	2.61	1	2.61	8.71	.003	.02
Graduate degree	1.57	1	1.57	5.23	.023	.01
Error	125.71	419	.30			
Total	129.88	426				

Table 10 shows the results of the ANCOVA with the composite score for Comfort Level Talking to People Outside the Family serving as the dependent variable. In this analysis, none of the independent variables were statistically significant. Therefore, it can be concluded that age, gender, being born in the U.S., martial status, income, and education were not related to the how likely the participants were to speak with someone outside their family about depression.

Table 10

*Results of ANCOVA with Comfort Level Talking to People Outside the Family as the Dependent Variable (*N = *427)*

	Sum of Squares	*df*	Mean Squares	*F*	*P*	η^2
Age	.44	1	.44	3.13	.077	.01
Gender	.20	1	.20	1.43	.232	.00
Born in the U.S.	.00	1	.00	.00	.983	.00
Marital status	.23	1	.23	1.68	.196	.00
Income	.03	1	.03	.18	.670	.00
Undergraduate degree	.03	1	.03	.20	.656	.00
Graduate degree	.01	1	.01	.07	.796	.00
Error	58.67	419	.14			
Total	59.49	426				

The next analysis included the Likelihood of Seeking Professional Help for Depression scores as the dependent variable, with results shown in Table 11. Again, none of the independent variables had a statistically significant effect in this analysis. This

indicated that age, gender, being born in the U.S., marital status, income, and education did not have an effect on how likely the participants were to seek professional help for depression.

Table 11

*Results of ANCOVA with Likelihood of Seeking Professional Help for Depression as the Dependent Variable (*N *= 427)*

	Sum of Squares	*df*	Mean Squares	*F*	*P*	η^2
Age	.13	1	.13	.69	.407	.00
Gender	.25	1	.25	1.31	.253	.00
Born in the U.S.	.00	1	.00	.00	.986	.00
Marital status	.01	1	.01	.05	.829	.00
Income	.02	1	.02	.11	.737	.00
Undergraduate degree	.02	1	.02	.11	.746	.00
Graduate degree	.12	1	.12	.66	.417	.00
Error	79.17	419	.19			
Total	80.01	426				

Table 12 shows the results of the ANCOVA with composite scores for Attitudes toward Seeking Professional Psychological Help for Depression as the dependent variable. Here, there were three statistically significant effects. Gender had a statistically significant effect, F(1, 419) = 9.63, p = .002, with males (*M* = 20.49, *SE* = .36) having lower scores than females (*M* = 21.75, *SE* = .22). Second, those with an undergraduate degree had higher scores (*M* = 22.20, SED=.44) than those who did not (*M* = 20.04, *SE*

= .34), F(1, 419) = 10.51, p = .001. Third, those who had a graduate degree had higher scores (*M* = 22.20, *SE* = .44) than those who did not (*M* = 20.04, *SE* = .36), F(1, 419) = 10.46, p = .001. Therefore, the individuals with the most positive attitudes about seeking professional psychological help for depression were females and those with higher education degrees.

Table 12

*Results of ANCOVA with Attitudes toward Seeking Professional Psychological Help for Depression as the Dependent Variable (*N = *427)*

	Sum of Squares	*df*	Mean Squares	*F*	*P*	η^2
Age	16.15	1	16.15	1.20	.274	.00
Gender	129.44	1	129.44	9.63	.002	.02
Born in the U.S.	2.12	1	2.12	.16	.692	.00
Marital status	2.10	1	2.10	.16	.693	.00
Income	.02	1	.02	.00	.968	.00
Undergraduate degree	141.30	1	141.30	10.51	.001	.02
Graduate degree	140.62	1	140.62	10.46	.001	.02
Error	5633.93	419	13.45			
Total	5967.27	426				

The final ANCOVA included the composite score for the Importance of the Ethnic Match as the dependent variable, with results shown in Table 13. None of the independent variables were statistically significant. This indicated that age, gender, being

born in the U.S., marital status, income, and education did not have an effect on the perceived importance of an ethnic match with the psychological service provider.

Table 13

Results of ANCOVA with Importance of Ethnic Match as the Dependent Variable (N = 427)

	Sum of Squares	*df*	Mean Squares	*F*	*p*	H^2
Age	.13	1	.13	.60	.439	.00
Gender	.03	1	.03	.15	.696	.00
Born in the U.S.	.02	1	.02	.08	.780	.00
Marital status	.04	1	.04	.20	.656	.00
Income	.07	1	.07	.33	.567	.00
Undergraduate degree	.02	1	.02	.09	.761	.00
Graduate degree	.68	1	.68	3.11	.079	.01
Error	92.26	419	.22			
Total	94.60	426				

Results for Research Question 2.

The second research question was: Controlling for the aforementioned demographic variables (age; gender; being born in the United States; marital status, income or education), how will overall acculturation scores affect attitudes of South Asian Muslim Americans towards the diagnosis and treatment of depression? To answer this question, five multiple regression analyses were performed, one for each of the five dependent variables listed above. The control variables were the demographic variables,

and the independent variable was the overall Acculturation score. The demographic variables were entered in a stepwise fashion, then the independent variable (Acculturation) was entered into the model.

Table 14 shows the results of the regression analysis with Acceptance of a Clinical Diagnosis of Depression scores as the dependent variable. In the stepwise entry of the control variable, there were no statistically significant effects, and therefore none of the control variables were entered into the model. When Acculturation scores were entered, the model was not statistically significant, R^2 <.01, $F(1, 425) = .73$, $p = .393$. The results indicated that neither the control variables nor scores on the Acculturation scale were related to scores on the Acceptance of a Clinical Diagnosis of Depression scale.

Table 14

*Results of Regression Analysis with Acceptance of a Clinical Diagnosis of Depression as the Dependent Variable (*N = *427)*

	B	SE_B	β	*t*	*p*
Block 1					
*No control variables were statistically significant					
Block 2					
Constant	3.59	.06		64.34	.000
Acculturation	.02	.03	.04	.86	.393

Note. Block 2 R^2 <.01, $F(1, 425) = .73$, $p = .393$.

The next regression analysis employed scores on the measure of Comfort Level Talking to People Outside the Family as the dependent variable. Table 15 shows that, again, none of the control variables was statistically significant in the initial stepwise model, and therefore none of the control variables were entered into the model. Acculturation scores, entered next, were also not statistically significant, $R^2 < .01$, $F(1, 425) = .28$, $p = .594$. Thus, the control variables and Acculturation scores were not related to scores on the Comfort Level Talking to People Outside the Family scale.

Table 15

*Results of Regression Analysis with Comfort Level Talking to People Outside the Family as the Dependent Variable (*N *= 427)*

	B	SE_B	β	*t*	*p*
Block 1					
*No control variables were statistically significant					
Block 2					
Constant	3.35	.04		88.73	.000
Acculturation	-.01	.02	-.03	-.53	.594

Note. Block 2 $R^2 < .01$, $F(1, 425) = .28$, $p = .594$.

Table 16 shows the results of regression analysis with Likelihood of Seeking Professional Help for Depression as the dependent variable. None of the control variables was statistically significant in the initial stepwise model. When Acculturation scores were then entered, the result was not statistically significant, $R^2 < .01$, $F(1, 425) = 1.55$, $p = .214$. Therefore, it can be concluded that none of the control variables were related to scores on the Likelihood of Seeking Professional Help for Depression scale, and Acculturation scores were similarly not statistically significant.

Table 16

*Results of Regression Analysis with Likelihood of Seeking Professional Help for Depression as the Dependent Variable (*N *= 427)*

	B	SE_B	β	*t*	*p*
Block 1					
*No control variables were statistically significant					
Block 2					
Constant	3.61	.04		82.41	.000
Acculturation	-.03	.02	-.06	-1.25	.214

Note. Block 2 $R^2 < .01$, $F(1, 425) = 1.55$, $p = .214$.

Table 17 shows the results of the regression analysis with scores on the Attitudes toward Seeking Professional Psychological Help for Depression scale as the dependent variable. In this analysis, two of the control variables were statistically significant. The first variable entered into the regression equation was gender, and this regression model was statistically significant, R^2 = .02, F(1, 425) = 8.07, p = .005. The negative regression coefficient for gender (β = -.14) indicated that females had more positive scores on this scale than males. The second control variable entered into the regression model was age, which resulted in a statistically significant increase in the prediction of scores on the Attitudes toward Seeking Professional Psychological Help for Depression scale, Change R^2 = .01, Change F(1, 424) = 4.45, p = .035. The positive regression coefficient for age (β = .10) indicated that older participants tended to have more positive attitudes toward seeking professional psychological help for depression. None of the other control variables was statistically significant, and therefore the final control variable model contained only gender and age. When Acculturation scores were added in the third block of this model the increase in the prediction of Attitudes toward Seeking Professional Psychological Help for Depression scores was statistically significant, Change R^2 = .05, Change F(1, 423) = 20.42, p < .001. The positive regression coefficient for Acculturation scores (β= .21) indicated that participants with higher Acculturation scores also tended to have higher scores on the Attitudes toward Seeking Professional Psychological Help for Depression scale. Therefore, the results showed that Acculturation scores were able to predict Attitudes toward Seeking Professional Psychological Help for Depression scores, even when controlling for the demographic variables.

Table 17

*Results of Regression Analysis with Attitudes toward Seeking Professional Psychological Help for Depression as the Dependent Variable (*N *= 427)*

	B	SE_B	β	*t*	*p*
Block 1					
Constant	21.51	.21		102.84	.000
Gender	-1.16	.41	-.14	-2.84	.005
Block 2					
Constant	20.26	.63		32.26	.000
Gender	-1.22	.41	-.14	-2.99	.003
Age	.04	.02	.10	2.11	.035
Block 3					
Constant	18.78	.70		26.97	.000
Gender	-1.10	.40	-.13	-2.75	.006
Age	.04	.02	.10	2.15	.032
Acculturation	.84	.19	.21	4.52	.000

Note. Block 1 R^2 = .02, F(1, 425) = 8.07, p = .005; Block 2 Change R^2 = .01, Change F(1, 424) = 4.45, p = .035; Block 3 Change R^2 = .05, Change F(1, 423) = 20.42, p < .001.

The results of the final regression analysis are shown in Table 18, for which Importance of Ethnic Match scores served as the dependent variable. In the stepwise analysis of the control variables, having a graduate degree was statistically significant. The regression model was statistically significant, R^2 = .02, F(1, 425) = 9.38, p = .002. The positive regression coefficient for having a graduate degree (β= .15) indicated that participants with a graduate degree tended to place greater importance on ethnic match with a mental health provider. No other control variables were statistically significant. When Acculturation scores were added in the second block, the additional variance

explained was not statistically significant, Change F (1, 424) = 2.59, p = .108. Thus, Acculturation scores were not predictive of scores on the Importance of Ethnic Match scale when controlling for having a graduate degree.

Table 18

*Results of Regression Analysis with Importance of Ethnic Match as the Dependent Variable (*N = *427)*

	B	SE_B	β	t	p
Block 1					
Constant	3.28	.03		103.86	.000
Graduate degree	.14	.05	.15	3.06	.002
Block 2					
Constant	3.34	.05		63.01	.000
Graduate degree	.13	.05	.14	2.97	.003
Acculturation	-.04	.02	-.08	-1.61	.108

Note. Block 1 R^2 = .02, F(1, 425) = 9.38, p = .002; Block 2 Change R^2 = .01, Change F (1, 424) = 2.59, p = .108.

Exploratory Analyses Examing the Role of Personal History of Depression.

Given that the main findings of this study were for gender and education, it was posited that perhaps females and more educated participants had more positive attitudes towards the diagnosis and treatment of depression because they had personal experience with depression. Subsequent exploratory analyses were conducted to examine the role of personal history of depression on attitudes towards the diagnosis and treatment of depression in this sample. In this study, “personal history of depression” was a computed

variable coded “yes” if the subject responded positively to any of the following questions: 1) have you ever suspected that you may have been depressed; 2) have family members suggested that you may have been depressed; and 3) has a professional ever diagnosed you with depression? In total, 270 participants (63.2% of sample) reported having a personal history of depression. The analyses for Research Questions 1 and 2 were rerun adding “personal history of depression” as a variable with the following results.

Results of Research Question 1 with Personal History of Depression as an Additional Independent Variable.

The results of the ANCOVA with scores on the Acceptance of a Clinical Diagnosis of Depression scale as the dependent variable are shown in Table 19. The same two independent variables that were statistically significant in the initial analysis were found to be statistically significant predictors of scores on the Acceptance of a Clinical Diagnosis of Depression composite score in this analysis. First, having an undergraduate degree was statistically significant, $F(1, 419) = 8.64$, $p = .003$. An examination of the estimated marginal means indicated that those who had an undergraduate degree tended to have higher scores on this scale ($M = 3.83$, $SE = .07$) than those who did not ($M = 3.53$, $SE = .05$). Second, having a graduate degree was statistically significant, $F(1, 419) = 5.10$, $p = .024$. The marginal means indicated that those with a graduate degree ($M = 3.80$, $SE = .07$) had higher scores on this dependent variable than those who did not ($M = 3.57$, $SE = .05$). Therefore, based on the results of this ANCOVA analysis, more educated participants were still more accepting of a clinical diagnosis of clinical depression.

Table 19
*Results of ANCOVA with Acceptance of a Clinical Diagnosis of Depression as the Dependent Variable and Personal History of Depression as an Independent Variable (*N *= 427)*

	Sum of Squares	*df*	Mean Squares	*F*	*p*	η^2
Age	0.35	1	0.35	1.15	0.285	.00
Gender	0.48	1	0.48	1.60	0.206	.00
Born in the U.S.	0.06	1	.06	.21	0.650	.00
Marital status	0.07	1	0.07	0.24	0.624	.00
Income	0.09	1	0.09	0.29	0.593	.00
Undergraduate degree	2.60	1	2.60	8.64	0.003	.02
Graduate degree	1.53	1	1.53	5.10	0.024	.01
Personal History of Depression	0.037	1	0.04	0.12	0.725	0.00
Error	125.67	418	.30			
Total	129.88	426				

Table 20 shows the results of the ANCOVA with the composite score for Comfort Level Talking to People Outside the Family serving as the dependent variable. In this analysis, none of the independent variables were statistically significant. In other words, age, gender, being born in the U.S., marital status, income, education and personal history of depression did not have an effect on the participant's responses on the Comfort Level Talking to People Outside the Family scale.

Table 20

*Results of ANCOVA with Comfort Level Talking to People Outside the Family as the Dependent Variable and Personal History of Depression as an Independent Variable (*N *= 427)*

	Sum of Squares	*df*	Mean Squares	*F*	*p*	η^2
Age	0.44	1	.44	3.10	0.08	.01
Gender	0.20	1	.20	1.40	0.237	.00
Born in the U.S.	.00	1	.00	.00	0.985	.00
Marital status	0.24	1	0.24	1.71	0.192	.00
Income	0.02	1	0.02	0.17	0.678	.00
Undergraduate degree	0.03	1	.03	0.19	0.661	.00
Graduate degree	.01	1	.01	0.06	0.811	.00
Personal History of Depression	0.01	1	0.01	0.08	0.773	0.00
Error	58.66	418	.14			
Total	59.49	426				

In the next analysis, Likelihood of Seeking Professional Help for Depression scores were used as the dependent variable. As seen in Table 21, none of the independent variables had a statistically significant effect in this analysis. This indicated that age, gender, being born in the U.S., marital status, income, education, and personal history of depression did not have an effect on how likely the participants were to seek professional help for depression.

Table 21

*Results of ANCOVA with Likelihood of Seeking Professional Help for Depression as the Dependent Variable and Personal History of Depression as an Independent Variable (*N *= 427)*

	Sum of Squares	*df*	Mean Squares	*F*	*p*	η^2
Age	0.12	1	0.12	0.65	0.420	.00
Gender	0.23	1	0.23	1.24	0.267	.00
Born in the U.S.	.00	1	.00	.00	0.979	.00
Marital status	.01	1	.01	0.07	0.794	.00
Income	.02	1	.02	0.10	0.760	.00
Undergraduate degree	.02	1	.02	0.12	0.731	.00
Graduate degree	0.14	1	0.14	0.75	0.386	.00
Personal History of Depression	0.14	1	0.14	0.76	0.383	0.00
Error	79.03	418	.19			
Total	80.01	426				

Table 22 shows the results of the ANCOVA with composite scores for Attitudes toward Seeking Professional Psychological Help for Depression as the dependent variable. Four statistically significant effects were found. Gender had a statistically significant effect, F(1, 419) = 10.14, p = .002, with males (*M* = 20.56, *SE* = .36) having lower scores than females (*M* = 21.86, *SE* = .23). Those with undergraduate degrees had higher scores (*M* = 22.30, *SE* = .45) than those who did not (*M* = 20.12, *SE* = .34), F(1, 419) = 10.88, p = .001. Third, those who had a graduate degree had higher scores (*M* = 22.34, *SE* = .44) than those who did not (*M* = 20.08, *SE* = .36), F(1, 419) = 11.34, p =

.001. Finally, those with a personal history of depression had lower scores (*M* = 20.84, *SE* = .26) than those without a personal history (*M* = 21.58, *SE* = .32), F(1, 419) = 4.01, p = .046. Therefore, the individuals with the most positive attitudes about seeking professional psychological help for depression were females, those with undergraduate and graduate degrees, and those without a personal history of depression.

Table 22

*Results of ANCOVA with Attitudes toward Seeking Professional Psychological Help for Depression as the Dependent Variable and Personal History of Depression as an Independent Variable (*N = *427)*

	Sum of Squares	*df*	Mean Squares	*F*	*p*	η^2
Age	14.64	1	14.64	1.10	0.296	.00
Gender	135.42	1	135.42	10.14	.002	.02
Born in the U.S.	2.35	1	2.35	0.18	0.675	.00
Marital status	3.33	1	3.33	0.25	0.618	.00
Income	0.01	1	0.01	.00	0.977	.00
Undergraduate degree	145.24	1	145.24	10.88	.001	0.03
Graduate degree	151.43	1	151.43	11.34	.001	0.03
Personal History of Depression	53.52	1	53.52	4.01	0.046	0.01
Error	5580.42	418	13.35			
Total	5967.27	426				

Finally, the results of the ANCOVA with composite score for the Importance of the Ethnic Match as the dependent variable are shown in Table 23. None of the independent variables were statistically significant. Therefore, age, gender, being born in

the U.S., marital status, income, education, and personal history of depression did not affect the perceived importance of an ethnic match with the psychological service provider.

Table 23

Results of ANCOVA with Importance of Ethnic Match as the Dependent Variable and Personal History of Depression as an Independent Variable (N = 427)

	Sum of Squares	*df*	Mean Squares	*F*	*p*	η^2
Age	.13	1	.13	0.59	0.444	.00
Gender	.03	1	.03	.15	0.703	.00
Born in the U.S.	.02	1	.02	.08	0.778	.00
Marital status	0.05	1	0.05	0.21	0.647	.00
Income	.07	1	.07	0.32	0.574	.00
Undergraduate degree	.02	1	.02	0.10	0.757	.00
Graduate degree	0.70	1	0.70	3.15	0.077	.01
Personal History of Depression	0.02	1	0.02	0.07	0.796	0.00
Error	92.25	418	.22			
Total	94.60	426				

Results of Research Question 2 with Personal History of Depression as an Additional Control Variable.

Next, the statistical analyses for Research Question 2 were rerun adding personal history of depression as a control variable. When Acceptance of a Clinical Diagnosis of Depression was used as the dependent variable and the control variables were entered in a stepwise fashion, there were no statistically significant effects, and therefore none of the control variables were entered into the model. When Acculturation scores were entered, the model was not statistically significant, R^2 <.01, $F(1, 425) = .73$, $p = .393$. The results indicated that neither the control variables nor scores on the Acculturation scale were related to scores on the Acceptance of a Clinical Diagnosis of Depression scale.

In the next regression analysis, Comfort Level Talking to People Outside the Family was the dependent variable. Once again, none of the control variables were statistically significant, and were not entered into the model. When Acculturation scores were entered, the model was not statistically significant, R^2 <.01, $F(1, 425) = .28$, $p = .594$. Therefore, the control variables and acculturation scores were not predictive of scores on the Comfort Level Talking to People Outside the Family scale.

When the regression analysis with Likelihood of Seeking Professional Help for Depression was conducted, once again, none of the control variables were found to be statistically significant and were not entered into the model. When Acculturation scores were entered, the model was not statistically significant, R^2 <.01, $F(1, 425) = 1.55$, $p = .214$. The results indicated that neither the control variables nor scores on the Acculturation scale were related to scores on the Likelihood of Seeking Professional Help for Depression scale.

Table 24 shows the results of the regression analysis with scores on the Attitudes toward Seeking Professional Psychological Help for Depression scale as the dependent variable. Two of the control variables were found to be statistically significant. The first variable entered into the regression equation was gender, and this regression model was statistically significant, R^2 = .02, F(1, 425) = 8.07, p = .005. The negative regression coefficient for gender (β = -1.16) indicated that females had higher scores on this scale than males. The second control variable entered into the regression model was age, which resulted in a statistically significant increase in the prediction of scores on the Attitudes toward Seeking Professional Psychological Help for Depression scale, Change R^2 = .01, Change F(1, 424) = 4.45, p = .035. The positive regression coefficient for age (β = .04) indicated that older participants tended to have higher scores on the Attitudes toward Seeking Professional Psychological Help for Depression scale. None of the other control variables was statistically significant; therefore, the final control variable model contained only gender and age. When Acculturation scores were added in the third block of this model the increase in the prediction of Attitudes toward Seeking Professional Psychological Help for Depression scores was statistically significant, Change R^2 = .05, Change F(1, 423) = 20.42, p < .001. The positive regression coefficient for Acculturation scores (β= .84) indicated that participants with higher Acculturation scores had higher scores on the Attitudes toward Seeking Professional Psychological Help for Depression scale. In summary, the results showed that, as in the original analyses, Acculturation scores were able to predict Attitudes toward Seeking Professional Psychological Help for Depression scores, when controlling gender and age.

Table 24

*Results of Regression Analysis with Attitudes toward Seeking Professional Psychological Help for Depression as the Dependent Variable and Personal History of Depression as a Control Variable (*N = *427)*

	B	SE_B	β	*t*	*p*
Block 1					
Constant	21.51	.21		102.84	.000
Gender	-1.16	.41	-.14	-2.84	.005
Block 2					
Constant	20.26	.63		32.27	.000
Gender	-1.22	.41	-.14	-2.99	.003
Age	.04	.02	.10	2.11	.035
Block 3					
Constant	18.78	.70		26.97	.000
Gender	-1.10	.40	-.13	-2.75	.006
Age	.04	.02	.10	2.15	.032
Acculturation	.84	.19	.21	4.52	.000

Note. Block 1 R^2 = .02, $F(1, 425) = 8.07$, p = .005; Block 2 Change R^2 = .01, Change $F(1, 424) = 4.45$, p = .035; Block 3 Change R^2 = .05, Change $F(1, 423) = 20.42$, $p < .001$.

The results of the regression analysis with importance of ethnic match as the dependent variable are shown in Table 25. In the stepwise analysis of the control variables, having a graduate degree was statistically significant, R^2 = .02, $F(1, 425)$ = 9.38, p = .002. The positive regression coefficient for having a graduate degree (β= .14) indicated that participants with a graduate degree tended to have higher scores on the Importance of Ethnic Match scale. No other control variables were statistically significant. When Acculturation scores were added in the second block, the additional variance explained was not statistically significant, Change F (1, 424) = 2.59, p = .108.

Thus, as in the original analyses, Acculturation scores were not predictive of scores on the Importance of Ethnic Match scale when controlling for having a graduate degree.

Table 25

*Results of Regression Analysis with Importance of Ethnic Match as the Dependent Variable and Personal History of Depression as a Control Variable (*N = *427)*

	B	SE_B	β	*t*	*p*
Block 1					
Constant	3.28	.03		103.86	.000
Graduate degree	.14	.05	.15	3.06	.002
Block 2					
Constant	3.34	.05		63.01	.000
Graduate degree	.13	.05	.14	2.97	.003
Acculturation	-.04	.02	-.08	-1.61	.108

Note. Block 1 R^2 = .02, $F(1, 425) = 9.38$, p = .002; Block 2 Change R^2 = .01, Change F (1, 424) = 2.59, p = .108.

Summary of Findings

Preliminary analyses in this study consisted of a confirmatory factor analytic examination of the ARSMA-II-SV Acculturation scale items. The results indicated that the data did not fit the a priori two-factor model. Exploratory principal component analyses were then conducted and indicated that a third factor related to South Asian language orientation may be required. However, when two components were extracted and rotated, the items separated into the two expected components with minimal, but no significant cross-loadings.

The first research question of this study was: Which demographic variables (age; gender; being born in the United States; marital status, income or education) affect attitudes of South Asian Muslim Americans towards the diagnosis and treatment of depression? Five dependent variables were examined for this research question: (a) acceptance of a clinical diagnosis of depression, (b) feeling comfortable talking to people outside of their family about depression, (c) likelihood of seeking professional care for depression, (d) overall attitudes toward professional psychological help, and (e) the perceived importance of an ethnic match with the professional. The primary results were:

1. More educated participants were more accepting of a clinical diagnosis of clinical depression than less educated participants.
2. Females and more educated participants tended to have the most positive attitudes about seeking professional psychological help for depression.
3. None of the demographic variables were related to feeling comfortable talking to people outside the family about depression, the likelihood of seeking professional help for depression, or the perceived importance of an ethnic match.

The second research question was: Controlling for the aforementioned demographic variables (age; gender; being born in the United States; marital status, income or education), how will overall acculturation scores affect attitudes of South Asian Muslim Americans towards the diagnosis and treatment of depression? The same five dependent variables were used for this research question.

1. Neither the control variables nor Acculturation scores were predictive of acceptance of a clinical diagnosis of depression, the level of comfort talking to

people outside the family about depression, or the likelihood of seeking professional help for depression.

2. Females and older participants had more positive attitudes toward seeking professional psychological help for depression. In addition, those with a higher level of acculturation tended to have more positive attitudes toward seeking professional psychological help for depression even when controlling for gender and age.
3. For the importance of the ethnic match, more educated participants tended to feel that this was more important than less educated participants. However, level of acculturation was not related to the perceived importance of the ethnic match.

Finally, exploratory analyses were conducted to determine the role of personal history of depression on attitudes towards the diagnosis and treatment of depression. Both research questions were rerun adding personal history of depression as an independent variable. The findings were:

1. More educated participants continued to have more acceptance of a clinical diagnosis of depression.

2. In addition to females and participants with undergraduate and graduate degrees,

participants without a personal history of depression also had more positive attitudes

about seeking professional psychological help.

3. When the regression analyses for Research Question 2 were rerun with personal history of depression as an additional control variable, the same

statistically significant results were found as listed on page 89. In other words, females and older participants had more positive attitudes toward seeking professional psychological help for depression. Those with higher levels of acculturation also had more positive attitudes toward seeking professional psychological help for depression, after controlling for gender and age. More educated participants found ethnic match to be less important. Level of acculturation was not related to the perceived importance of the ethnic match.

Chapter V

Discussion

The primary aim of this study is to explore attitudes towards the diagnosis and treatment of depression among South Asian Muslim Americans. In particular, the role of acculturation in shaping these attitudes was explored. In this study "attitudes towards the diagnosis and treatment of depression" was defined as 1) a person's acceptance of the clinical diagnosis of depression in self and/or others; and 2) a person's willingness to talk to others, both within and outside of the community, about the diagnosis of depression in self and/or others. Similarly, "attitudes towards the treatment of depression" was defined as 1) a person's willingness to undergo psychotherapy or psychiatric care or recommend these treatments to others and for what presentation/degree of severity of depression; and 2) a person's willingness work with mental health providers who are of similar and/or different backgrounds to treat depression. Based on the literature, two research questions were developed. First, which demographic variables (age, gender, being born in the United States, marital status, income or education) affect attitudes of South Asian Muslim Americans towards the diagnosis and treatment of major depression. Second, controlling for the aforementioned demographic variables, how do overall acculturation scores affect attitudes towards the diagnosis and treatment of depression in this population?

For the first research question, five hypotheses were developed and tested. First, it was predicted that South Asian Muslim Americans who were younger (less than 30 years old), female, born in the United States, single, earning higher incomes (greater than $75,000), and possessing at least an undergraduate degree would be more accepting of a

clinical diagnosis of depression compared to their counterparts who were older, male, immigrants to the United States, married, earning lower incomes, and not possessing undergraduate degrees. This hypothesis was partially confirmed. More educated participants, specifically those with undergraduate and graduate degrees, were more accepting of a clinical diagnosis of depression than their less educated counterparts. Age, gender, being born in the United States, marital status and income were not found to be significantly associated with acceptance of a clinical diagnosis of depression.

Second, it was predicted that South Asian Muslim Americans who were younger, female, born in the United States, single, earning higher incomes, and possessing college degrees or higher would feel more comfortable talking to people outside of their family about a diagnosis of depression compared to their counterparts who were older; male; immigrants to the United States; earning lower incomes, and not possessing an undergraduate degree. Third, it was predicted that South Asian Muslim Americans who were younger, female, born in the United States, single, earning higher incomes, and possessing at least an undergraduate degree would be more likely to seek professional care for depression, including psychotherapy and psychiatric care, when compared to their counterparts. Neither of these hypotheses were confirmed.

Fourth, it was predicted that South Asian Muslim Americans who were younger, female, born in the United States, single, earning higher incomes, and possessing at least an undergraduate degree would seek professional treatment for lower severity depressive symptoms compared to their counterparts. This hypothesis was partially confirmed; females and those who were more educated had the most positive attitudes about seeking professional psychological help for depression.

Finally it was predicted that South Asian Muslim Americans who were older, male, immigrants to the United States, married, earning lower incomes, and not possessing an undergraduate degree would feel that an ethnic match with their therapist or psychiatrist was more important than their counterparts who were younger, female, born in the United States, single, earning higher incomes, and possessing at least an undergraduate degree. This hypothesis was also not confirmed.

The second research question examined the role acculturation plays in shaping attitudes of South Asian Muslim Americans towards the diagnosis and treatment of depression. It was hypothesized that South Asian Muslim Americans with higher overall acculturation scores as measured by the ARSMA-II would be more accepting of a clinical diagnosis of depression than their counterparts with lower overall acculturation scores. It was also hypothesized that participants with higher overall acculturation scores would feel more comfortable talking to people outside of their family about a diagnosis of depression. Next, it was hypothesized that South Asian Muslim Americans with higher overall acculturation scores would be more likely to seek professional care for depression, including psychotherapy and psychiatric care. The aforementioned three hypotheses were not confirmed. It was also hypothesized that South Asian Muslim Americans with higher overall acculturation scores would seek professional treatment for lower severity depressive symptoms. This hypothesis was confirmed. The results found that those with higher acculturation scores had more positive attitudes toward seeking professional psychological help for depression even when controlling for gender and age. Finally, South Asian Muslim Americans with higher overall acculturation scores would feel that an ethnic match with their therapist or psychiatrist was not as important as their

counterparts with lower overall acculturation scores. This hypothesis was not confirmed. While more educated participants felt that ethnic match with a mental health professional was more important than their less educated counterparts, level of acculturation was not significantly associated with perceived importance of ethnic match.

In summary, acculturation did not appear to as strongly shape attitudes towards the diagnosis and treatment of depression as initially predicted. These findings are in marked contrast to studies in other immigrant populations, including Mexican-Americans and Korean-Americans, where higher levels of acculturation (Gamst et al., 2002), generational status (Abe-Kim et al, 2007), and possessing a Western view regarding stress and depression (Fung and Wong, 2007), were found to be significantly associated with positive attitudes towards mental healthcare and increased utilization of mental health resources. However, it is important to keep in mind that the sample recruited for this study was skewed in part due to the manner in which it was recruited. This sample was very highly acculturated and came from a higher socioeconomic background than the overall South Asian Muslim American population in America. Portes and Zhou (1993) posit that assimilation into a mainstream culture is not the same for all immigrants. Rather, socioeconomic obstacles, such as poor urban school and limited employment opportunities, prevent certain classes of immigrants to assimilate into the mainstream culture in the manner of other immigrants who do not face similar socioeconomic obstacles. A large portion of the participants in this study lived in the U.S. for many years, obtained graduate degrees, and had at least an upper middle class family income. Therefore, it can be suggested that these participants may not have faced the same socioeconomic obstacles of their South Asian Muslim American counterparts living in

poorer circumstances. Perhaps, the attitudes towards the diagnosis and treatment of depression among these lower class Muslim Americans would be different than what was seen in this study. Given what is known about segmented assimilation, further research is required to better understand the attitudes towards mental health and mental healthcare among all facets of the Sotuh Asian Muslim American community.

On the other hand, the primary findings indicated that females and educated participants generally had the most positive attitudes towards the diagnosis and treatment of depression. Studies have shown that females are more prone to depression than males (Weissman and Klerman, 1985; Piccinelli and Wilkinson, 2000). This has been attributed to numerous causes, including it being more culturally and socially acceptable for women to endorse symptoms of depression and diagnostic instruments being more sensitive to depressive symptoms endorsed by women (Piccinelli and Wilkinson, 2000). Previous studies have shown that education is a protective factor against depression, with more educated individuals being less likely to develop depression (Ross and Mirowsky, 2006). While education can reduce the stressors that may lead to depression, it can also be argued that more educated individuals are more knowledgeable about mental health resources and thus more likely to seek treatment for lower levels of depressive symptoms. Therefore, it is possible that the main findings for females and education level in this study is actually an artifact for another variable, personal history of depression. In other words, are women and more educated participants more likely to have positive attitudes towards the diagnosis and treatment of depression because they have personal experience with depression?

To answer this question, the analyses in Research Questions 1 and 2 were rerun adding “personal history of depression” as an independent variable. It is interesting to note that in this sample, there was a relatively high rate of individuals who reported having a personal history of depression (n=270, 63.2% of sample). Because the prevalence rate is significantly higher than what is expected in the general population, there appears to be a sampling bias in this study. Females, particularly those, with a personal history of depression, were more likely to complete this study than other South Asian Muslim Americans. Therefore, results should be interpreted with caution as the sample in this study is not representative of the South Asian Muslim American population as a whole.

When the analyses were rerun with “personal history of depression” as an additional independent variable, it was found that more educated participants continued to have greater acceptance of a clinical diagnosis of depression and females, educated participants and those without a personal history of depression had the most positive attitudes towards seeking professional psychological help. The main findings for Research Question 2 remained the same after adding “personal history of depression” as a control variable. Thus, personal experience with depression did not appear to shape attitudes towards the diagnosis and treatment of depression in this sample, nor could the findings for females and more educated participants be explained by having more personal experience with depression. Most striking is the fact that those without a personal history of depression appeared to have more positive attitudes towards seeking professional psychological help. Perhaps, this is due to potentially negative experiences of South Asian Muslim Americans who sought treatment for depression in the past. Prior

research has shown that when Muslim Americans seek treatment for mental illness, they often feel misunderstood, misrepresented and stereotyped (Dwairy, 2006; Erickson & Al-Timini, 2001; Sayed, 2003; Laird, 2007).

Limitations

While the results of this study may suggest that acculturation does not play as significant a role in shaping attitudes towards the diagnosis and treatment of depression as initially anticipated, there are several limitations that must be kept in mind when considering the results of this study. Most significantly, the tool used to measure acculturation in this study, the ARSMA-II, has not been validated for use with the South Asian Muslim American population. Perhaps, a more refined instrument that touches more specifically on their cultural norms and practices is required to better measure levels of acculturation in this community. The ARSMA-II items focuses primarily on individual activities, such as music, movies and writing. Perhaps, having more items of an interpersonal nature would be more relevant in a community that places strong emphasis on family and community ties (Al-Mateen and Afzal, 2004; Dwairy, 2006). In the future, a scale that is validated to measure both acculturation and enculturation in this population would be ideal in terms of accurately measuring how these constructs affect attitudes towards the diagnosis and treatment of depression.

When considering these results, the manner in which subjects were recruited must be taken into consideration. Since the study was conducted via the internet, it is possible that the sample recruited is not representative of the South Asian Muslim American community as a whole, as the internet is primarily used by younger and more educated individuals. This sample appears to be a fairly acculturated sample, with a mean overall

acculturation score of 1.73, with a distribution range of -2.33 to 4. This suggests that despite the potential ascertation bias, a fairly broad range of subjects with regard to acculturation status were recruited. The distribution of acculturation scores in this sample are similar to what has been found in studies with other immigrant groups (Cuellar, Arnold and Maldonado, 1995).

Thus, the results cannot be generalized to the community at large; rather, they should be used to develop a preliminary understanding of what attitudes towards the diagnosis and treatment of depression in this community may be. Furthermore, the results are based on responses provided by self-report. As with any self-report data, it is quite possible that there is a discrepancy between what the subjects are stating and what they are actually doing. Berry (2003) noted that acculturation occurs in progressive phases, and oftentimes behaviors change to be in accordance with the main culture while beliefs take longer to change. Therefore, while the South Asian Muslim Americans in this sample may be reporting a certain set of attitudes towards the diagnosis and treatment of depression, their real-life behaviors may be very different.

Future Research

This study is the first of its kind to explore the attitudes towards the diagnosis and treatment of depression among South Asian Muslim Americans. However, as discussed above, there are several limitations to this study. Most significantly, due to the recruitment method used in this study, the findings cannot be generalized to the overall South Asian Muslim American population. Future research should look to recreate this study and use a more varied recruitment method in order to obtain a more varied and representative sample of the South Asian Muslim American community. Special

consideration should be made to ensure that both genders and varying socioeconomic backgrounds are recruited.

Furthermore, the method used to measure acculturation in this study may not have been appropriate for this population, as discussed above. In addition, However, recent theorists have suggested that the processes of acculturation and enculturation are two orthogonal phenomena (Kim & Omizo, 2006). The combination of these two processes is categorized into four statuses defined by different levels of acculturation and enculturation: *integration* (high levels of acculturation and enculturation), *assimilation* (high level of acculturation and low level of enculturation), *separation* (low level of acculturation and high level of enculturation), and *marginalization* (low levels of acculturation and enculturation) (Berry, Kim, Power, Young & Bajaki, 1989). While the original research questions for this study focused on acculturation exclusively, further research should be conducted to determine if enculturation played a role in attitudes towards the diagnosis and treatment of depression among South Asian Muslim Americans.

In addition, in order to develop an in-depth understanding, more specific instruments that are validated to measure acculturation and enculturation in this community are required. Collecting information from in-person interviews and supplementing with qualitative data on personal experiences with mental health professionals could further elaborate our understanding of how the South Asian Muslim American community feels about mental illness and mental healthcare. While this study has begun to explore attitudes towards the diagnosis and treatment of depression in the South Asian Muslim American community, much is left to be understood.

References

Abe-Kim, J., Takeuchi, D.T., Hong, S., Zane, N., Sue, S., Spencer, M.S. et al. (2007). Use of mental health-related services among immigrant and US-Born Asian Americans: Results from the National Latino and Asian American study. *American Journal of Mental Health, 97*(1), 91-98.

Al-Krenawi, A & Graham, J.R. (2003). *Multicultural social work in Canada.* Canada: Oxford University Press Canada.

Al-Mateen, C.S. & Afzal, A. (2004). The Muslim child, adolescent, and family. *Child Adolescent Psychiatric Clinics of North America, 13,* 183-200.

Ali, O.M., Milstein, G., & Marzuk, P.M. (2005). The Imam's role in meeting the counseling needs of Muslim communities in the United States. *Psychiatric Services, 56,* 202-205.

Bacon, J. (1996). *Lifelines; Community, family and assimilation among Asian Indian immigrants.* Oxford: Oxford University Press.

Baron, A.E., Manson, S.M., & Ackerson, L.M. (1990). Depressive symptomatology in older American Indians with chronic disease: Some psychometric considerations. In C. Attkinsson & J. Zich (Eds.) *Screening for depression in primary care* (pp. 217-231). New York: Routledge.

Bernstein, K.S. (2007). Mental health issues among urban Korean American immigrants. *Journal of Transcultural Nursing, 18*(2), 175-180.

Berry, J.W. (2003). Conceptual approaches to acculturation. In K.M. Chun, P.B. Organista, G. Marín (Eds.), *Acculturation: Advances in Theory, Measurement and Applied Research* (pp. 17-37). Washington, DC: American Psychological Association.

Berry, J.W., Kim, U., Power, S., Young, M., & Bajaki, M. (1989). Acculturation attitudes in plural societies. *Applied Psychology: An International Review, 38,* 185-206.

Bhugra, D. & Mastrogianni, A. (2004). Globalisation and mental disorders—Overview with relation to depression. *British Journal of Psychiatry, 184,* 10-20.

Cabassa, L.J. & Zayas, L.H. (2007). Latino immigrants' intention to seek depression care. *American Journal of Orthopsychiatry, 77*(2), 231-242.

Campos, B., Schetter, C.D., Walsh, J.A., & Schenker, M. (2007). Sharpening the focus on acculturative change: ARSMA-II, stress, pregnancy anxiety, and infant birthweight in recently immigrated Latinas. *Hispanic Journal of Behavioral Sciences, 29,* 209-224.

Chiriboga, D.A., Jang, Y., Banks, S., & Kim, G. (2007) Acculturation and its effects on depressive symptom structure in a sample of Mexican American elders. *Hispanic Journal of Behavioral Sciences, 29*(1), 83-100.

Cuéllar, I., Arnold, B., & Maldonado, R. (1995). Acculturation rating scale for Mexican Americans-II: A revision of the original ARSMA scale. *Hispanic Journal of Behavioral Sciences, 17*(3), 275-304.

Das, A., & Kemp, S. (1997). Between two worlds: Counseling South Asian Americans. *Journal of Multicultural Counseling and Development, 25*(1), 23-34.

Douki, S., Zineb, S.B., Nacef, F., & Halbreich, U. (2007). Women's mental health in the Muslim world: Cultural, religious, and social issues. *Journal of Affective Disorders, 102,* 177-189.

Dubovsky, S. (1983). Psychiatry in Saudi Arabia. *American Journal of Psychiatry, 140,* 1455-1459.

Dwairy, M.A. (2006). *Counseling and psychotherapy with Arabs and Muslims: A culturally sensitive approach.* New York: Teachers College Press.

Dyson (2004). Is the individualism-collectivism dichotomy a credible measure of cultural beliefs? In B.L. Hall & M. del Carmen Rodriguez de France (Eds.), *Learning and the world we want—Intersecting conversations on education, culture and community* (pp. 61-67). Victoria, Canada: University of Victoria Press.

Erickson, C., & Al-Timimi, N. (2001). Providing mental health services to Arab Americans: Recommendations and considerations. *Cultural Diversity and Ethnic Minority Psychology, 72*(24), 308-327.

Escobar, J.I., Nervi, C.H., & Gara, M.A. (2000). Immigration and mental health: Mexican Americans in the United States. *Harvard Review of Psychiatry, 8*(2), 64-72.

Farooqi, Y.N. (2006). Understanding Islamic perspective of mental health and psychotherapy. *Journal of Psychology in Africa, 1,* 101-111.

Farver, J.M., Narang, S.K., & Bhadha, B.R. (2002). East meets west: Ethnic identity, acculturation, and conflict in Asian Indian families. *Journal of Family Psychology, 16,* 338-350.

Fischer, E.H., & Farina, A. (1995). Attitudes toward seeking professional psychological help—A shortened form and considerations for research. *Journal of College Student Development, 36*(4), 368-373.

Fischer, E.H., & Turner, J.L. (1970). Orientations to seeking professional help: Development and research utility of an attitude scale. *Jorunal of Consulting and Clinical Psychology, 35*(1), 79-90.

Fisher, M. (1980). *The Indians of New York City*. Delhi: Heritage Publishers.

Fung, K. & Wong, Y.R. (2007). Factors influencing attitudes towards seeking professional help among East and Southeast Asian immigrant and refugee women. *International Journal of Social Psychiatry, 53*(3), 216-231.

Gamst, G., Dana, R.H., Der-Karabetian, A., Aragon, M., Arellano, L.M., & Kramer, T. (2002) Effects of Latino acculturation and ethnic identity on mental health outcomes. *Hispanic Journal of Behavioral Sciences, 24*(4), 479-504.

Ganatra, H.A., Zafar, S.N., Qidwai, W., & Rozi, S. (2008). Prevalence and predictors of depression among an elderly population of Pakistan. *Aging Mental Health, 12*(3), 349-356.

Garcia, M. & Marks, G. (1989). Depressed symptomatology among Mexican-American adults: An examination of the CES-D scale. *Psychiatry Research, 27,* 137-148.

Gonzales, H., Haan, M.N., & Hinton, L. (2001). Acculturation and the prevalence of depression in older Mexican Americans: Baseline results of the Sacramento area Latino study on aging. *Journal of American Geriatric Society, 49,* 948-953.

Graves, T.D. (1967). Psychological acculturation in a tri-ethnic community. *Southwestern Journal of Anthropology, 23,* 337-350.

Greenfield, P.M. & Cocking, R.R. (1994). *Cross-cultural roots of minority child development*. Hillsdale, NJ: Erlbaum.

Guarnaccia, P.J.; Good, B.J.; & Kleinman, A. (1990). A critical review of epidemiological studies of Puerto Rican mental health. *American Journal of Psychiatry, 147,* 1449-1456.

Halbreich U., Alarcon, R.D., Calil, H., Douki, S., Gaszner, P., Jadresic, E., et al. (2007). Culturally-sensitive complaints of depressions and anxieties in women. *Journal of Affective Disorders, 102,* 159-176.

Haniff, G.M. (2003). The Muslim community in America: A brief profile. *Jorunal of Muslim Minority Affairs, 23*(2), 303-311.

Haque, A. (2004). Religion and mental health: The case of American Muslims. *Journal of Religion and Health, 43*(1), 45-58.

Helweg, A. & Helweg, U. (1990). *An immigrant success story: East Insians in America.* Philadelphia: University of Pennsylvania Press.

Hovey, J.D. (2000). Acculturative stress, depression and suicidal ideation among Central American immigrants. *Suicide and life-threatening behavior, 30*(2), 125-139.

Institute of Islamic Information and Education (2005). Muslim population statistics. Retrieved April 6, 2008, from http://www.iiie.net/node/65.

Jensen, J.M. (1988). *Passage from India: Asian Indian immigrants in North America*. New Haven: Yale University Press.

Johnson, S.A. (1991). Political activity of Muslims in America. In Y. Haddad (Ed.), *The Muslims of America*. Oxford, UK: Oxford University Press.

Kelly, Jr., E.W. & Aridi, A. Muslims in the United States: An exploratory study of universal and mental health values. *Counseling and Values, 40*(3), 206-214.

Khan, Z. (2006). Attitudes towards counseling and alternative support among Muslims in Toledo, Ohio. *Journal of Muslim Mental Health, 1,* 21-42.

Kim, B.S.K. & Abreu, J.M. (2001). Acculturation measurement: Theory, current instruments, and future directions. In J.G. Ponterotto, J.M. Casas, L.A. Suzuki, & C.M. Alexander (Eds.), *Handbook of multicultural counseling* (2nd ed., pp. 394-424). Thousand Oaks, CA: Sage.

Kim, B.S. & Omizo, M.M. (2006). Behavioral acculturation and enculturation and psychological functioning among Asian American college students. *Cultural Diversity and Ethnic Minority Psychology, 12*(2), 245-258.

Kuo, W. (1984). Prevalence of depression among Asian Americans. *Journal of Nervous and Mental Disease, 172,* 449-457.

Laird, L.D., Amer, M.M., Barnett, E.D., & Barnes, L.L. (2007). Muslim patients and health disparities in the UK and the US. *Archives of Disease in Childhood,* 92, 922-926.

Lee, R.M., Choe, J., Kim, G., & Ngo, V. (2000). Construction of the Asian American family conflicts scale. *Journal of Counseling Psychology, 47*(2), 211-222.

Lee, R.M., Yoon, E., & Liu-Tom, H.T. (2006). Structure and measurement of acculturation/enculturation for Asian Americans using the ARSMA-II. *Measurement and Evaluation in Counseling and Development, 39,* 42-54.

Loewenthal, K.M., Cinnirella, M., Evdoka, G. & Murphy, P. Faith conquers all? Beliefs about the role of religious factors in coping with depression among different cultural-religious groups in the UK. *British Journal of Medical Psychology, 74,* 293-303.

Manson, S.M.; Ackerson, L.M.; & Dick, R.W. (1990). Depressive symptoms among American Indian adolescents: Psychometric characteristics of the Center for Epidemiologic Studies Depression Scale (CES-D). *Psychological Assessment, 2,* 231-237.

Maselko, J. & Patel, V. (2008). Why women attempt suicide: the role of mental illness and social disadvantage in a community cohort study in India. *Journal of Epidemiological Community Health, 62*(9), 817-822.

Messent, P. (1992). Working with Bangladeshi families in the East End of London. *Journtal of Family Therapy, 14,* 287-304.

Mirza, I., & Jenkins, R. (2004). Risk factors, prevalence and treatment of anxiety and depressive disorders in Pakistan: a systematic review. *British Medical Journal, 328,* 794.

Mohammad-Arif, A. (2002). *Salaam America—South Asian Muslims in New York.* New York: Anthem Press.

Numan, F. (1992, December). A brief statement: The Muslim population in the United States. American Muslim Council. www.islam101.com/history/population2_usa.html.

Parkar, S.R., Dawani, V., & Weiss, M.G. (2008). Gender, suicide and the sociocultural context of deliberate self-harm in an urban general hospital in Mumbia, India. *Cult Med Psychiatry,* Sep. 19, E-pub ahead of print.

Patel, V., Kirkwood, B.R., Pednekar, S., Pereira, B., Barros P., Fernandes J., et al. (2006). Gender disadvantage and reproductive health risk factors for common mental disorders in women. *Archives of General Psychiatry, 63,* 404-413.

Patel, V., Rodrigues, M., DeSouza, N. (2002). Gender, poverty and postnatal depression: A study of mothers in Goa, India. *American Journal of Psychiatry, 159,* 43-47.

Pereira, B., Andrew, G., Pednekar, S., Pai, R., Pelto, P. & Patel, V. (2007). The explanatory models of depression in low income countries: Listening to women in India. *Journal of Affective Disorders, 102,* 209-218.

Phinney, J.S. (1996). The multigroup ethnic identity measure: A new scale for use with diverse groups. *Journal of Adolescent Research* 7(2): 156-176.

Piccinelli, M. & Wilkinson, G. (2000). Gender differences in depression. *British Journal of Psychiatry, 177,* 486-492.

Pillai, A., Andrews, T. & Patel, V. (2008). Violence, psychological distress and the risk of suicidal behavior in young people in India. *International Journal of Epidemiology,* Aug. 28, E-pub ahead of print.

Pillai, A., Patel, V., Cardozo, P., Goodman R, Weiss, H.A., & Andrew, G. (2008). Non-traditional lifestyles and prevalence of mental disorders in adolescents in Goa, India. *British Journal of Psychiatry, 192*(1), 45-51.

Portes, A., & Zhou, M. (1993). The new second generation: segmented assimilation and its variants. *The Annals of the American Academy of Political and Social Science, 530,* 74-96.

Randhawa, G. & Stein, S. (2007). An exploratory study examining attitudes towards mental health and mental health services among young South Asians in the United Kingdom. *Journal of Muslim Mental Health, 2,* 21-37.

Redfield R., Linton R., Herskovits M.J. (1936). Memorandum for the study of acculturation. *American Anthropologist, 38*(1), 149-152.

Ross, C.E. & Murowsky, J. (2006). Sex differences in the effect of education on depression: Resource multiplication or resource substitution? *Social Science & Medicine, 63,* 1400-1413.

Sam, D. L., Vedder, P., Ward, C., & Hoarenczyk, G. (2006). Psychological and sociocultural adaptation of immigrant youth. In J. W. Berry, J. S. Phinney, D. L. Sam, & P. Vedder (Eds.), *Immigrant youth in cultural transition: Acculturation, identity and adaptation across national contexts* (pp. 117-141). London: Lawrence Erlbaum.

Sayed, M.A. (2003). Psychotherapy of Arab patients in the West: Uniqueness, empathy and "otherness". *American Journal of Psychotherapy, 57*(4), 445-459.

Shen, B-J & Takeuchi, D.T. (2001). A structural model of acculturation and mental health status among Chinese Americans. *American Journal of Community Psychology, 29*(3), 387-418.

Stone, C.L. (1991). Estimate of Muslims living in American. In Y. Haddad (Ed.), *The Muslims of America*. Oxford, UK: Oxford University Press.

Syed, E.U. & Khan, M.M. (2008). Pattern of deliberate self-harm in young people in Karachi, Pakistan. *Crisis, 29*(3), 159-163.

Thakker, J. & Ward, T. (1998). Culture and classification: the cross-cultural application of the DSM-IV. *Clinical Psychology Review, 18*(5), 501-529.

Trivedi, J.K., Mishra, M., & Kendurkan, A. (2007). Depression among women in the South-Asian region: The underlying issues. *Journal of Affective Disorders, 102,* 219-255.

Uba, L. (1994) *Asian Americans: Personality patterns, identity, and mental health*. New York: Guilford Press.

Ustun, T.B., Ayuso-Mateos, J.L., Chatterji, S., Mathers, C., & Murray, J.L. (2004). Global burden of depressive disorders in the year 2000. *The British Journal of Psychiatry, 184,* 386-392.

Weissman, M.M. & Klerman, G.L. (1985). Gender and depression. *Trends in Neurosciences, 8,* 416-420.

Wilgoren, J. (2001, October 22). Islam attracts converts by the thousands, drawn before and after attacks. *New York Times*. Retrieved April 24, 2005, from http://www.nytimes.com.

Wittchen, H. (1994). Reliability and validity studies of the WHO—Composite International Diagnostic Interview (CIDI): a critical review. *Journal of Psychiatric Research, 28*(1), 57-84.

Yeh, C.J. (2003). Age, acculturation, cultural adjustment, and mental health symptoms of Chinese, Korean and Japanese immigrant youths. *Cultural Diversity and Ethnic Minority Psychology, 9*(1), 34-48.

Ying, Y. (1988). Depressive symptomatology among Chinese-Americans as measured by the CES-D. *Journal of Clinical Psychology, 44,* 739-746.

Appendix A

Informed Consent

Description of Research:

You are invited to participate in a research study on your beliefs and attitudes towards mental health issues. The types of questions that you will be asked pertain to attitudes, social behavior, cultural beliefs and practices that may influence your feelings towards emotional problems. You will be asked to complete a web-based survey for this study.

Risks and Benefits:

Risks associated with participation in this study include potential emotional discomfort when thinking about emotional problems that you or someone you know may have faced. You may regard a question as personal or difficult to answer. If this is the case, feel free to skip over that question and try to continue. If you feel too uncomfortable, you do not have to continue and the survey will come to an end. You are free to skip over any questions and end the survey process at any time without any negative consequences. You may also contact the principal investigator directly for appropriate referrals if you continue to feel upset. The principal investigator, Sadia Chaudhury, may be reached by phone at 347-233-2364 or via e-mail at sadiac80@gmail.com. There are no direct benefits for research subjects. However, the findings of this study may eventually lead to greater understanding about how different communities cope with emotional problems.

Data Storage to Protect Confidentiality:

Information collected in this study will be kept strictly confidential. All participants will be assigned a coded ID number and no identifying information will be collected.

Electronic data will be stored on a password-protected computer, identified by the coded ID number only. No personal data will be recorded. Only the Principal Investigator and Faculty Sponsor will have access to the research material.

Time Involvement:

The web-based survey will take approximately 20-30 minutes to complete.

How Will Results Be Used:

This study is being completed for the Principal Investigator's dissertation research. It is the Principal Investigator's hope that results may one day be published in an academic journal, or be presented at research meetings and national conferences. No confidential information will be used in these publications. The results of the study will be used to inform healthcare providers about potential barriers that may prevent certain communities from seeking help for emotional problems.

PARTICIPANT'S RIGHTS

Principal Investigator: Sadia R. Chaudhury, M.S.

Research Title: The Muslim Health Care Project

I have read and discussed the Research Description with the researcher. I have had the opportunity to ask questions about the purposes and procedures regarding this study.

- My participation in research is voluntary. I may refuse to participate or withdraw from participation at any time without jeopardy to future medical care, employment, student status or other entitlements.

- The researcher may withdraw me from the research at his/her professional discretion.
- If, during the course of the study, significant new information that has been developed becomes available which may relate to my willingness to continue to participate, the investigator will provide this information to me.
- Any information derived from the research project that personally identifies me will not be voluntarily released or disclosed without my separate consent, except as specifically required by law.
- If at any time I have any questions regarding the research or my participation, I can contact the investigator, who will answer my questions. The investigator's phone number is (347)233-2364 and e-mail address is muslimhealthproject@gmail.com.
- If at any time I have comments, or concerns regarding the conduct of the research or questions about my rights as a research subject, I should contact the Teachers College, Columbia University Institutional Review Board.

Please choose one of the following:

◊ I have read this page, and I would like to take the web-based survey. (Please proceed to the next page).

◊ I have read this page, and I would NOT like to take the web-based survey. (Please exit survey).

Appendix B—

Questionnaire for the South Asian Muslim American Depression Study

I. Clinical Vignettes

a. Please read the following vignette and answer the questions that follow.

Fatima is a female who is in your circle of peers (of the same age, ethnic and religious background). Since completing her undergraduate degree, she has been working at a large corporate firm. Her grandmother, with whom she was very close, passed away a year ago. Since then, Fatima has been unable to complete her chores or do anything around the house when she is not at work. When she comes home from work, she goes straight to bed complaining that she does not have the energy to do anything. She has frequent crying spells and is noticeably more emotional than usual. She also stays in bed all weekend, complaining that though she sleeps more than usual she feels tired, does not have any energy, and does not want to do anything. She finds herself blaming herself for things both big and small. While Fatima used to be a very social girl, for the past several months, she has spent all of her spare time at home either watching television or eating junk food. She feels insecure and worthless, and often feels that there is no point to her life. Her appetite has increased significantly during the past year, and she has gained at least 25 pounds in the past six months. While she continues to go to work and complete her assignments on time, she has isolated herself from her family and peers for the past year.

1. What do you think is wrong with Fatima?

_____

_____

_____

1= Strongly Disagree; 2=Somewhat Disagree; 3=Somewhat Agree; 4=Strongly Agree

2. Fatima's general practitioner diagnosed her with depression. How strongly do you agree with this diagnosis?	1	2	3	4
3. Fatima obtained a second opinion from a mental health professional, who also diagnosed her with depression. How strongly do you agree with this diagnosis?	1	2	3	4
4. Fatima decided that she would like to get help for her depression. How strongly would you recommend the following interventions?				
a. Fatima should consult with her physician (general practitioner).	1	2	3	4
b. Fatima should talk to her family.	1	2	3	4
c. Fatima should reconnect with her friends.	1	2	3	4
d. Fatima should consult with her imam or another local religious elder.	1	2	3	4
e. Fatima should pray to Allah.	1	2	3	4
f. Fatima should seek the help of a counselor or a psychotherapist.	1	2	3	4
g. Fatima should consult with a psychiatrist.	1	2	3	4
h. Fatima should take antidepressants.	1	2	3	4
i. Fatima should use holistic treatments.	1	2	3	4
j. Fatima should be admitted to a psychiatric hospital.	1	2	3	4

1= Highly Ineffective; 2=Somewhat Ineffective; 3=Somewhat Effective; 4=Highly Effective

1. How effective do you think the following interventions would be in alleviating her depression?				
a. Consulting with her physician (general practitioner).	1	2	3	4
b. Talking with her family.	1	2	3	4
c. Reconnecting with her friends.	1	2	3	4
d. Consulting with her imam or another local religious elder.	1	2	3	4
e. Praying to Allah.	1	2	3	4
f. Seeing a counselor or a therapist for talk therapy.	1	2	3	4
g. Seeing a counselor/therapist of the same ethnic/religious background.	1	2	3	4
h. Seeing a psychiatrist for medication.	1	2	3	4
i. Seeing a psychiatrist of the same ethnic/religious background.	1	2	3	4
j. Taking antidepressants.	1	2	3	4
k. Using holistic treatments.	1	2	3	4
l. Being admitted to a psychiatric hospital.	1	2	3	4

b. Please read the following vignette and answer the questions that follow.

Mohammed is a male who is in your circle of peers (of the same age, ethnic and religious background). For the past several years, Mohammed has been running a family-owned grocery store. Because of poor sales, the store shut down six months ago and Mohammed has not been able to find a new source of income to provide for wife and three children. He feels hopeless about his job prospects and feels that he is not living up to his responsibilities as the man of the household. He has been extremely irritable with those around him, and has been getting into repeated arguments with his wife. He has also been yelling at his children much more frequently. He feels no motivation to look for a job and has lost interest in his favorite activities, including walking in the park and reading the Qur'an. He also finds that he does not have the energy to pray, and has been skipping his daily prayers. He goes to bed earlier than usual, and also takes frequent naps throughout the day. Though he does not enjoy his food, he finds himself eating a lot more than usual. He begins to feel very hopeless when thinking of the future and feels guilty about his inability to provide for his family. Mohammed feels that his situation will not change and that things will not get better for him or his family. More recently, he been thinking a lot about death and considering whether things would be better if he were not alive. He has had thoughts of taking his own life, but has not acted on these thoughts. He feels, however, that if things do not improve, he may seriously consider killing himself.

1. What do you think is wrong with Mohammed?

_____

_____

1= Strongly Disagree; 2=Somewhat Disagree; 3=Somewhat Agree; 4=Strongly Agree

2. Mohammed's general practitioner diagnosed him with depression.	1	2	3	4
How strongly do you agree with this diagnosis?				
3. Mohammed obtained a second opinion from a mental health professional, who also diagnosed him with depression. How strongly do you agree with this diagnosis?	1	2	3	4
4. Mohammed decided that he would like to get help for his depression. How strongly would you recommend the following interventions?				
a. Mohammed should consult with his physician (general practitioner).	1	2	3	4
b. Mohammed should talk to his family.	1	2	3	4
c. Mohammed should reconnect with his friends.	1	2	3	4
d. Mohammed should consult with his imam/local religious elder.	1	2	3	4
e. Mohammed should pray to Allah.	1	2	3	4
f. Mohammed should seek the help of a counselor or a psychotherapist.	1	2	3	4
g. Mohammed should consult with a psychiatrist.	1	2	3	4
h. Mohammed should take antidepressants.	1	2	3	4
i. Mohammed should use holistic treatments.	1	2	3	4
j. Mohammed should be admitted to a psychiatric hospital.	1	2	3	4

1= Highly Ineffective; 2=Somewhat Ineffective; 3=Somewhat Effective; 4=Highly Effective

1. How effective do you think the following interventions would be in alleviating his depression?				
a. Consulting with his physician (general practitioner).	1	2	3	4
b. Talking with his family.	1	2	3	4
c. Reconnecting with his friends.	1	2	3	4
d. Consulting with his imam/local religious elder.	1	2	3	4
e. Praying to Allah.	1	2	3	4
f. Seeing a counselor or a therapist for talk therapy.	1	2	3	4
g. Seeing a counselor/therapist of the same ethnic/religious background.	1	2	3	4
h. Seeing a psychiatrist for medication.	1	2	3	4
i. Seeing a psychiatrist of the same ethnic/religious background.	1	2	3	4
j. Taking antidepressants.	1	2	3	4
k. Using holistic treatments.	1	2	3	4
l. Being admitted to a psychiatric hospital.	1	2	3	4

II. Emotional History

1. Have you ever suspected that you may have been depressed? ____ Yes_____No

2. Have your family members ever suggested that you may have been depressed?

__ Yes __No

3. Has a professional ever diagnosed you with depression? ___ Yes ___ No

4. If you have a history of depression, what did you do to help you feel better?

_____

_____

_____

5. Have you ever sought therapy with a counselor or therapist for depression?

___ Yes ___ No

5a. If yes, did you feel that it was important for the therapist to be of the same ethnic background as yourself? ___ Yes ___ No

5b. If yes, did you feel that it was important for the therapist to be of the same religious background as yourself? ___ Yes ___ No

6. Have you ever seen a psychiatrist for depression? ___ Yes ___ No

6a. If yes, did you feel that it was important for the psychiatrist to be of the same ethnic background as yourself? ___ Yes ___ No

6b. If yes, did you feel that it was important for the psychiatrist to be of the same religious background as yourself? ___ Yes ___ No

Attitudes Towards Seeking Professional Psychological Help Scale

Please identify how strongly you identify with the following statements.

0= Disagree; 1=Partly Disagree; 2=Partly Agree; 3= Agree

1. If I believed I was having a mental breakdown, my first inclination would be to get professional attention. 0 1 2 3
2. The idea of talking about problems with a psychologist strikes me as a poor way to get rid of emotional conflicts. 0 1 2 3
3. If I were experiencing a serious emotional crisis at this point in my life, I would be confident that I could find relief in psychotherapy. 0 1 2 3
4. There is something admirable in the attitude of a person who is willing to cope with his or her conflicts *without* resorting to professional help. 0 1 2 3
5. I would want to get psychological help if I were worried or upset for a long period of time. 0 1 2 3
6. I might want to have psychological counseling in the future. 0 1 2 3
7. A person with an emotional problem is not likely to solve it alone; he or she *is* likely to solve it with professional help. 0 1 2 3
8. Considering the time and expense involved in psychotherapy, it would have doubtful value for a person like me. 0 1 2 3
9. A person should work out his or her own problems; getting psychological counseling would be a last resort. 0 1 2 3
10. Personal and emotional troubles, like many things, tend to work out by themselves. 0 1 2 3

Note: Adapted from Fischer, E.H., & Farina, A. (1995). Attitudes toward seeking professional psychological help—A shortened form and considerations for research. Journal of College Student Development, 36(4), 368-373.

Religious Identity

1. How religious do you consider yourself to be?
   a. Very religious
   b. Moderately religious
   c. Slightly religious
   d. Not religious at all

2. How often do you read the Quran or other religious literature?
   a. Daily or almost daily
   b. Several times per week
   c. A couple of times per week
   d. Several times per month
   e. A couple of times per month
   f. Several times per year
   g. A couple of times per year
   h. Hardly ever or never

3. On average, how often do you pray daily?
   a. Five times a day
   b. 3-4 times a day
   c. 1-2 times a day
   d. Almost never
   e. Never

4. During Ramadan, I fast:
   a. The entire month
   b. More than half the month
   c. Approximately half the month
   d. Less than half the month
   e. A few days at most
   f. Not at all

5. I consult a religious leader (*imam*) for advice
   a. More than once a day
   b. Once a day
   c. A few times a week
   d. Once a week
   e. A few times a month
   f. Once a month
   g. Less than once a month
   h. Never

Revised Acculturation Scale for Mexican Americans—Short Version (ARSMA-II-SV)

In the following statements, "South Asian" refers to people whose ancestry is from India, Pakistan, or Bangladesh.

[***Circle a number between 1-5 next to each item that best applies.***]

1= Not at all; 2= Not very often; 3= Moderately; 4= Very often; 5= Almost always

1. I speak a South Asian language.	1	2	3	4	5
2. I speak English.	1	2	3	4	5
3. I enjoy speaking a South Asian language.	1	2	3	4	5
4. I associate with Caucasians.	1	2	3	4	5
5. I enjoy listening to English music.	1	2	3	4	5
6. I enjoy South Asian TV.	1	2	3	4	5
7. I enjoy South Asian movies.	1	2	3	4	5
8. I enjoy reading South Asian books.	1	2	3	4	5
9. I write letters in English.	1	2	3	4	5
10. I think in English.	1	2	3	4	5
11. I think in a South Asian language.	1	2	3	4	5
12. My friends are Caucasian.	1	2	3	4	5

Note: Adapted from Campos, B., Schetter, C.D., Walsh, J.A., & Schenker, M. (2007). Sharpening the focus on acculturative change: ARSMA-II, stress, pregnancy anxiety, and infant birthweight in recently immigrated Latinas. Hispanic Journal of Behavioral Sciences, 29, 209-224.

VI. Demographic Information

1. What is your gender? ____ Male ____ Female

2. What is your age? _____

3. What is your marital status?

___ Single (Never Married) ___ Married __ Separated __ Divorced ___ Widowed

4. In what country were you born? _____

5. Where are your ancestors from? _____

6. If you were not born in the U.S., how many years have you lived in the U.S.? _____

7. Are you currently a student? _____ Yes _____No

8. What is the highest level of education you have completed?

_____ High-school ____ Undergraduate Degree _____ Graduate Degree

9. Are you currently employed? _____ Yes _____No

10. What is your annual household income?

_____ Less than $75,000 _____ Greater than or equal to $75,000

Appendix C

Model for ARSMA-II-SV Confirmatory Factor Analysis

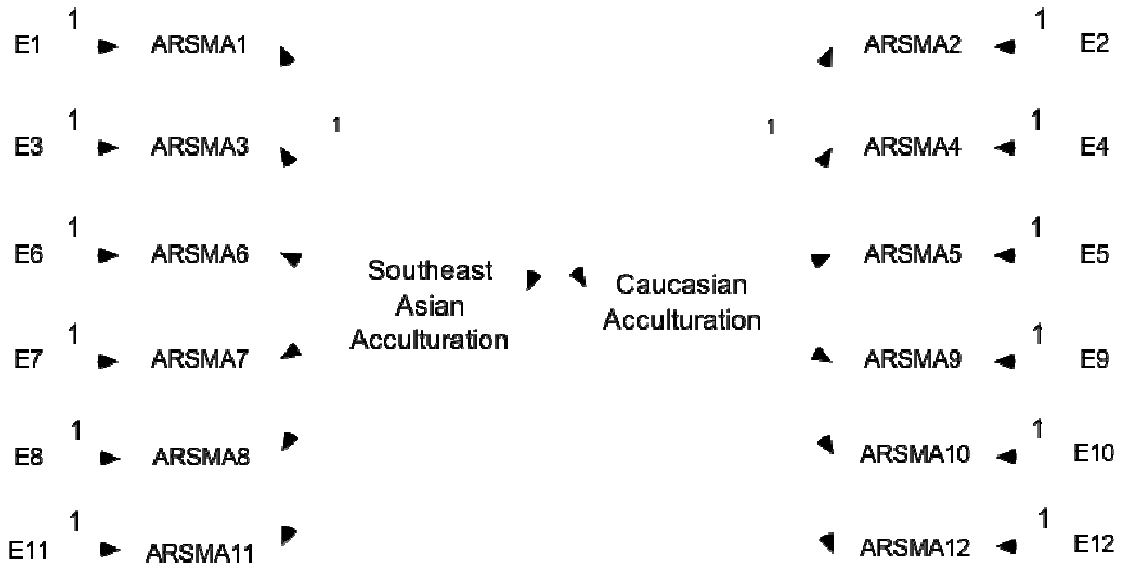

Figure C1. Confirmatory factor model for ARSMA-II-SV items.

Appendix D

Items for Each Dependent Variable Composite Score

A. Acceptance of a clinical diagnosis of depression (4 items)

1. Fatima- General Practitioner diagnosed her with depression
2. Fatima- Mental health professional diagnosed her with depression
3. Mohammed- General Practitioner diagnosed her with depression
4. Mohammed- Mental health professional diagnosed her with depression

B. Comfort level talking to people outside of their family about depression (6 items)

1. Fatima should go to her physician
2. Fatima should get help from her friends
3. Fatima should consult with an imam
4. Mohammed should go to his physician
5. Mohammed should get help from his friends
6. Mohammed should consult with an imam

C. Likelihood of seeking professional care for depression (4 items)

1. Fatima should seek the help of a counselor/therapist
2. Fatima should see a psychiatrist
3. Mohammed should seek the help of a counselor/therapist
4. Mohammed should see a psychiatrist

D. Attitudes toward Professional Psychological Help scale (10 items)

1. If I believed I was having a mental breakdown, my first inclination would be to get professional attention.

2. The idea of talking about problems with a psychologist strikes me as a poor way to get rid of emotional conflicts.
3. If I were experiencing a serious emotional crisis at this point in my life, I would be confident that I could find relief in psychotherapy.
4. There is something admirable in the attitude of a person who is willing to cope with his or her conflicts without resorting to professional help.
5. I would want to get psychological help if I were worried or upset for a long period of time.
6. I might want to have psychological counseling in the future.
7. A person with an emotional problem is not likely to solve it alone; he or she is likely to solve it with professional help.
8. Considering the time and expense involved in psychotherapy, it would have doubtful value for a person like me.
9. A person should work out his or her own problems; getting psychological counseling would be a last resort.
10. Personal and emotional troubles, like many things, tend to work out by themselves.

E. Importance of ethnic match with mental health provider (4 items)

1. Fatima- How effective is seeing a therapist of the same ethnicity?
2. Fatima-How effective is seeing a psychiatrist of the same ethnicity?
3. Mohammed- How effective is seeing a therapist of the same ethnicity?
4. Mohammed- How effective is seeing a psychiatrist of the same ethnicity?