The Impact of Acculturation on Depression Among Older Muslim Immigrants in the United States

Soleman H. Abu-Bader\textsuperscript{a}, M. Taqi Tirmazi\textsuperscript{b} & Fariyal Ross-Sheriff\textsuperscript{a}

\textsuperscript{a} School of Social Work, Howard University, Washington, DC, USA
\textsuperscript{b} School of Social Work, Morgan State University, Baltimore, Maryland, USA

Published online: 04 May 2011.


To link to this article: http://dx.doi.org/10.1080/01634372.2011.560928

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the “Content”) contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at http://www.tandfonline.com/page/terms-and-conditions
The Impact of Acculturation on Depression Among Older Muslim Immigrants in the United States

SOLEMAN H. ABU-BADER
School of Social Work, Howard University, Washington, DC, USA

M. TAQI TIRMAZI
School of Social Work, Morgan State University, Baltimore, Maryland, USA

FARIYAL ROSS-SHERIFF
School of Social Work, Howard University, Washington, DC, USA

Using a cross-sectional design, this study utilized a self-administered survey to examine the relationship between acculturation, physical and emotional health, health locus of control (LOC), life events and depression among a convenient sample of 70 immigrant Muslim elderly in United States of America. In addition to demographic variables, 5 standardized measures including the Vancouver Index of Acculturation, Center for Epidemiologic Studies Depression Scale (CESD), Iowa Self-Assessment Inventory, Multidimensional Health Locus of Control Scale, and the Geriatric Scale of Recent Life Events were utilized in this study. The results showed that about 50% of participants reported a score of 16 and above on the CESD scale, indicating a presence of depressive symptoms. In addition, most participants identified with their heritage culture compared to the American culture. The results of multiple regression analysis revealed 4 significant predictors of depression: cognitive status ($\beta = -0.34$, $p < .01$), heritage culture ($\beta = 0.35$, $p < .01$), physical health ($\beta = -0.27$, $p < .05$), and internal health locus of control ($\beta = -0.25$, $p < .05$). These factors explain about 37% of the total variance in levels depression ($R = 0.61$).
KEYWORDS elderly, immigrants, Muslims, acculturation, depression, health locus of control

INTRODUCTION

The immigrant population in the United States has drastically increased over the last several decades. Within the immigrant population, the number of elderly immigrants has also risen and continues to increase. Foreign-born elderly make up 11% of the elderly population in the United States (Weisman et al., 2005), which is estimated at 35 million (Hetzel & Smith, 2001). Furthermore, projections indicate that by 2030, over 20% of the population in the United States or one in five people will be 65 years of age or older (Center for Disease Control and Prevention, 2002; US Census Bureau, 2000). Within the group of elderly immigrants in the United States exists a significant number of immigrant Muslim elderly.

Muslims, like other immigrants, have migrated to the United States to improve quality of life for their families and to provide a better opportunity for their children (Ross-Sheriff & Husain, 2001). Many of the immigrant adult Muslims who migrated to the United States over the last several decades have sponsored their elderly parents (Ross-Sheriff, 1993). In addition, many immigrant Muslims who migrated after the passage of the Immigration Act of 1965 in the 1970s and 1980s were middle-aged adults and have transitioned into later adulthood. Although a few scholars (Al-Johar, 2005; Barazangi, 1996; Hodge, 2002; Mahmoud, 1996; Ross-Sheriff & Husain, 2001) have begun to address the adaptation process of immigrant Muslims in the United States, relatively little is known about the adaptation of immigrant elderly Muslims in the United States (Ahmed, Kaufman, & Naim, 1996; Ajrouch, 2007; Kulwicki, 1996; Ross-Sheriff, 1993; Salari, 2002; Sengstock, 1996). Immigrant elderly Muslims face numerous challenges that arise not only from aging and immigration, but also from being an ethnic and religious minority in a post-9/11 America. This study examines the acculturation, physical and emotional health, and depression among older Muslim immigrants.

BACKGROUND

Muslims have been part of the US population long before the country was founded and there is evidence that suggests that Muslims were present in Spanish Colonial America before 1550 (Maloof & Ross-Sheriff, 2003). Through forced migration (slavery), a significant number of African Muslims were brought to the United States as slaves (Maloof & Ross-Sheriff, 2003; Smith, 2005). Migration of Muslims after 1965 has resulted due to several
reasons: Many Muslims have migrated to the United States as refugees seeking asylum from the civil wars in Somalia and the Sudan, ethnic cleansing in Bosnia and Kosovo, and the Iranian Revolution; many other Muslim immigrants migrated for a better life and opportunities for their families (Maloof & Ross-Sheriff, 2003; Smith, 1999, 2005).

American Muslims today are a remarkably diverse group, belonging to over 75 different ethnicities and nationalities and representing many different interpretations of Islam (Maloof & Ross-Sheriff, 2003). Islam is the fastest growing religion in the United States (Haddad, 1997; Smith, 1999). Estimates of the Muslim population in the United States are extremely difficult to gather. Estimates range between 1.9 million and 10 million (Bagby, Perl, & Froehle, 2001; Ba-Yunus & Siddiqui, 1998; Council on American-Islamic Relations, 2001; Kosmin, Mayer & Keysar, 2001; Nyang, 1998; Smith, 1999). A survey commissioned by the American Muslim Council (Zogby International, 2000) showed that the vast majority of Muslims in America are immigrants (77.6%) and the remaining 22.4% are US-born. According to this report, 36% of American Muslims are Middle Eastern, 30% are South and East Asians, 24% are African Americans, and 12% are of other ethnic origins (Zogby International, 2000).

Although a number of research studies that have examined the impact of personal characteristics (e.g., gender, marital status, and education), physical and mental health, and formal and informal social support on depression of older population, especially among Caucasians (e.g., Abu-Bader, Rogers, & Barusch, 2002; Barusch, Rogers, & Abu-Bader, 1999), there is a paucity in research that examines the impact of acculturation on the mental health of elderly Muslims in the United States or elsewhere. Many experiences of elderly immigrant Muslims parallel those of other elderly in America. However, elderly Muslims experience greater levels of stress and losses compared to other nonimmigrant elderly or people of other age groups. Elderly immigrant Muslims endure unique struggles resulting from the heavy demand for new learning in adapting to a new culture. Many elderly immigrant Muslims experience language barrier, lack access to medical and social services, and loss of independence and esteem within the family (Maloof & Ross-Sheriff, 2003). Moreover, they may have lost their social network, and often find it difficult to recreate new ones due to being in a new country. It is common for immigrant elderly individuals to become isolated, which has a significant impact on their depression and overall well-being. Those who are frail and homebound are even at greater risk of injury and greater depression (Maloof & Ross-Sheriff, 2003).

Unlike the mainstream American elderly, elderly Muslims are expected to make two major adjustments: (a) a change in status, from being heads of households who are honored for their age and experience, to being dependent on their adult children and grandchildren, who may consider the elder’s
experience and knowledge to be irrelevant; and (2) a change in lifestyle, from being absorbed in a community of conationals and coreligionists to being on the edge of a community of unfamiliar people from different ethnic and religious backgrounds (Maloof & Ross-Sheriff, 2003; Ross-Sheriff, 1993; 1994). Elderly Muslim refugees have an additional burden of personal losses and traumas produced by their refugee experience, which may affect their mental health.

As immigrants, many elderly Muslims rely on their adult children, and nuclear and extended family members for coping with the everyday challenges that arise from beginning a new life in the United States (Maloof & Ross-Sheriff, 2003). In addition to the stress of adapting to a foreign culture and economic dependence, they have to manage problems arising from their changed roles, intergenerational conflicts, language barriers, social isolation, and health problems related to the aging process, which may have significant impact on their mental health (Maloof & Ross-Sheriff, 2003; Ross-Sheriff, 1993; 1994). Elderly Muslim immigrants encounter the loss and grief of leaving behind their families, friends, neighborhoods, and home. Moreover, many Muslim immigrants face additional stress of having limited opportunity to visit their home countries and their families.

Elderly Muslims also face a distinctively unique challenge of living in a post-9/11 America. The subsequent events after 9/11 have led to increased attention on the Muslim community. Although, this attention has led to some awareness and understanding about the Muslim communities in the United States, there have been signs and individualized incidents of discrimination and intolerance as well. Often times, immigrant groups stand out because of their language, race, and color, and in turn are more likely to encounter racism (Suarez-Orozco & Suarez-Orozco, 2001). Elderly Muslims may draw even more attention due to their language, race, color, religion, and age. Individualized incidents of racism and hatred, as well as the anti-immigrant sentiments, have only compounded the challenges that elderly Muslim face in their normal life.

THEORETICAL FRAMEWORK

This study utilized acculturation theory to understand the well-being of elderly Muslims in the United States. Acculturation is an expansive concept that is associated with the changes that occur as a result of intercultural contact (Berry, 1997; Gordon, 1964; Graves, 1967; Phinney, Berry, Vedder, & Liebkind, 2006). Acculturation is defined as cultural change that results from continuous, first-hand contact between two distinct cultural groups (Berry, 1986). Phinney et al. (2006) explained that acculturation derives from acculturation strategies, which are based on individual decisions on the level of
intercultural contact. Berry (1986) explained that acculturation strategies are deconstructed into four distinct types: integration, assimilation, separation, and marginalization. Berry (1986), and Phinney et al. (2006) defined the four acculturation strategies as follows: (a) Assimilation strategy is often referred to when an individual decides to relinquish practices of his or her ethnic culture but indulge in the mainstream culture by attempting to transition into the mainstream society; (b) Integration strategy is when an individual holds on to his or her cultural integrity and maintain his or her ethnic culture yet simultaneously decides to acquire cultural norms of the host culture to become an integral part of the larger society; (c) Separation strategy implies that an individual selects to maintain his or her ethnic culture although deciding not to interact with mainstream culture and have a self-imposed withdrawal from the larger society; (d) Marginalization strategy refers to an individual’s decision not to maintain his or her ethnic culture of origin and not to adapt to the mainstream culture. Integration has been viewed as a more positive strategy for immigrant communities because it implies successfully adjusting to the host culture, but understanding the past and continuing to practice cultural practices of the culture of origin. However, in a post-September 11, 2001 world, assimilation has quickly gained popularity among the dominant class as the favorable attitude to utilize.

The acculturation framework is used in this research to examine the lives of older immigrant Muslims as they adapt to life in America. It is difficult for elderly people to adapt to a new society when migration occurs during middle and later adulthood. Many immigrant Muslims who immigrated during their middle or later adulthood had strong ties to their homeland, families, and friends. They have left behind their families, friends, jobs, masjids (mosques), and entire communities. For them, uprootment or uprooting from family and friends during middle and later adulthood is very challenging, compared to children who tend to integrate quickly due to language acquisition, friends, schools, and involvement in extracurricular activities. For individuals in their middle and later adulthood, acculturation may involve participation in select aspects of the host society combined with maintenance of culture and traditions. Among many elderly Muslim immigrants, post-9/11 anti-Muslim sentiments in America have caused fear and tensions for their children and grandchildren. Negative experiences, as well as stories in mass media regarding negative attitudes toward Islam and acts of violence against Muslims cause many of them to withdraw from participation in the larger society resulting in feelings of loneliness. Thus, the acculturation strategy used by Muslim elderly involve segmented integration, which is maintenance of cultures of origin and less likelihood of assimilation. Consequently, the elderly Muslims are less likely to participate in American institutions such as health and education, be more isolated which would cause higher depression.
STUDY VARIABLES

Acculturation

Acculturation has been defined as the changes in an individual’s behavior, social activities, thinking patterns, values, and self-identity as a result of contact with another culture (Gordon, 1964). Berry (1988) defines acculturation as process of cultural change that results from continuous, first hand contact between two distinct cultural groups. Many immigrants endure acculturative stress in this process due to the conflicts that arise in their efforts to minimize the differences between the host culture and their ethnic culture (Born, 1970). Acculturative stress occurs when immigrants are exposed to and experience conflicting customs, values, and beliefs which contrast with their ethnic culture and practices (Kerendi, 1998). A myriad of factors related to the host country (e.g. lack of language proficiency and social support, difficulty with housing, unemployment or under employment and discrimination) can lead to acculturative stress; the greater the difference between the home and host culture the more likely an individual will endure acculturative stress.

Acculturation has been associated with some negative effects on an immigrant’s well-being (Aronowitz, 1985; Harker, 2001; Portes & Rumbaut, 1996; Suarez-Orozco & Suarez-Orozco, 2001). Individuals who experience acculturative stress can have low levels of mental functioning, such as confusion, frustration, anxiety, and depression (Berry, Kim, Minde, & Mok, 1987; Fuertes & Westbrook, 1996; Hovey, 2000; Kerndi, 1998; Kim, Han, Shin, & Kim, 2005; Noh & Kasper, 2003; Wilmoth & Chen, 2003). Extrapolation from the findings from the aforementioned research would suggest that elderly immigrant Muslims are just as likely if not more susceptible to acculturative stress that is caused by adapting to a new life in America. Past research on acculturation has focused on mental and physical health of elderly immigrants from diverse backgrounds, such as from Mexico, China, Japan, and Korea, as well as European countries. However, the research has neglected to explore the experience of elderly immigrants from Middle Eastern and Arab backgrounds, and from South Asia.

Depression

Depression has been recognized by the World Health Organization (2010) as a major cause of disability. It is often undiagnosed or its existence is attributed to other physical or mental health problems that the individual may be coping with (Zisook & Downs, 1998). The stress of the aging, illness, socioeconomic status, and lack of informal and formal supports are contributing factors to the elderly experiencing symptoms of depression (Kim-Goh, 2006). Depression is considered as the most prevalent mental health concern among elderly populations (Blazer & Koening, 1996).
Alarmingly, 18% (National Institute of Mental Health, 2006) to 25% (American Association of Retired Persons, 1997) of suicides among elderly are due to depression. Conwell and Duberstein (2001) explained that a large majority of elderly who committed suicide were seen by a primary care physician within a month of their suicide.

Reported rates of depressive symptomology among elderly living in the community vary from 10% (Blazer, Hughes, & George, 1987) to 29.4% (Stokes, Thompson, Murphy & Gallagher-Thomson, 2001) to 40% (Mui & Kang, 2006) to 72% (Kim-Goh, 2006). Commonly used measures to attain depressive symptoms among elderly have been the Geriatric Depression Scale, and the Center for Epidemiological Depression Scale. Lai (2000), in a study of Chinese immigrants, found that 21% of the sample had depressive symptoms on the Geriatric Depression scale, with approximately 12% falling in the moderately to severely depressed range. In a study of Soviet Jewish Immigrant elderly, Kim-Goh (2006) found that 72% had mild to severe levels of depression. In another study using the Geriatric Depression Scale, conducted with the Chinese-American elderly, Stokes, et al. (2001) found that 29% of the sample showed depressive symptoms that were at a higher rate, compared to their American counterparts.

Physical illness and emotional health are associated with higher prevalence of depressive symptoms in people of all ages. However, physical and emotional health among elderly immigrants can be exacerbated due to acculturative stress and other psychosocial factors. Acculturative stress is a strong predictor of decreased psychosocial functioning in numerous immigrant groups (Hovey, 2000; Kim et al., 2005; Noh & Kasper, 2003), with depression being a common mental health concern (Han, Kim, Lee, Pistulka, & Kim, 2007; Kim-Goh, 2006; Mui & Kang, 2006; Stokes et al., 2001). Schulberg (1992) reported that 5% to 10% of primary care patients, and 10% to 14% of medical in-patients experience major depression. Lindesay and Thompson (1993) found a prevalence of 19% for depressive disorders in a subsample of housebound elderly. This rate is consistent with a 1986 study of depressive symptoms and physical illness among the elderly reported by Berkman et al., which found depressive symptomatology among 14% of elders with major functional disabilities, and among 20% of those with one or more chronic physical conditions. Davidson, Feldman, and Crawford (1994) reported that 53% of their sample of 404 disabled and frail elderly scored at or above the cut-off point on the Center for Epidemiologic Studies Depression Scale (CESD). Barusch et al. (1999) reported that physical factors such as activities of daily living were the most important predictor of levels of depression among elderly, mainly Caucasians, 65 years old and over. Elderly people who reported greater need for help with their activities of daily living also reported significantly higher levels of depression than elderly people who reported less need for help with activities of daily living. Furthermore, Abu-Bader et al. (2002)
found that physical health was the most significant predictor of life satisfaction, accounting for 14% of the variance in life satisfaction. In turn, greater life satisfaction was significantly associated with lower levels of depression. In addition, Beatt (1996) explained that cognitive impairment is widely recognized as a feature of depression, particularly among the elderly.

Health Locus of Control

Abu-Bader et al. (2002) stated that locus of control has been a widely used construct in examining the elderly population. They further explained that research has focused on the relationship between internal, external, and chance locus of control and life satisfaction. External health locus of control has been associated with psychological distress; internal health locus of control has been associated with positive psychological functioning (Marks, 1998; Reynert, Jane, Vause, Zdanowicz, & Lejeune, 1995; Sun & Stewart, 2000; Takaura & Sakhara, 2001; Wu, Tang, & Kwok, 2004). In their study of 258 older people, Girzadas, Counte, Glandon, and Tancredi (1993) discovered that participants who scored high on chance locus of control also scored low on life satisfaction. In a study with 159 elderly Chinese women, Wu et al. (2004) found that health control beliefs did not interact with self-efficacy but that these two factors were correlated with mental health status. Low levels of general self-efficacy and high levels of external health locus control best predicted psychological distress.

Socio-cultural factors significantly impact an individual’s health control beliefs (Marks, 1998; Schulz & Heckhausen, 1999; Sun & Stewart, 2000). Studies on immigrant populations suggest that individuals from collectivistic cultures have a strong sense of family ties and prescribe to external control beliefs compared with people from individualistic cultures (Hamid, 1994; Hoemeen & Ku, 1996; Wong & Piran, 1995). Islamic beliefs and worldview emphasize collectivism verses individualism (consideration of the community, rather than self, in decision making). The aforementioned research on social and emotional health and depression illustrate the significance of including these factors in examining the acculturation and mental health of older Muslim immigrant. The following section provides the methodology of the current study.

METHODOLOGY

We utilized quantitative cross-sectional research design, with older Muslim immigrants, a population group in America that has increased significantly over the past 2 decades. The study examined the relationship between
acculturation, physical and emotional health, health locus of control, life events, and depression among older Muslims in the United States and addressed the following three research questions:

1. What are the levels of acculturation, depression, physical and emotional health, and health locus of control among older Muslim immigrants?
2. Are there statistically significant correlations between levels of acculturation, levels of depression, physical and emotional health, and health locus of control among older Muslim immigrants in the United States?
3. Which of the following factors are most likely to predict levels of depression among older Muslim immigrants in the United States: personal characteristics (gender, age, and race), acculturation, physical and emotional health, and health locus of control?

Sample

Participants in the study were recruited from four mosques and Islamic centers in the Washington DC metropolitan area (Washington, Maryland, and northern Virginia). The sample comprised 70 participants; 44 were men (70%), 56 were married (81%), 31 were Asians (44%), and 28 had graduate degrees (40%). Their ages ranged between 50 and 92 with a mean age of 63 years ($SD = 10.2$). They had been in the US between 5 and 53 years with a mean of 26 years ($SD = 10.6$). They self-identified as elderly. Table 1 describes the sample characteristics in more detail.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>%</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>70</td>
<td>100.0</td>
<td>63.00</td>
<td>10.20</td>
<td>50–92</td>
</tr>
<tr>
<td>Time in United States</td>
<td>58</td>
<td>100.0</td>
<td>26.00</td>
<td>10.60</td>
<td>05–53</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>44</td>
<td>62.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>26</td>
<td>37.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>56</td>
<td>81.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Widow</td>
<td>9</td>
<td>13.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>5</td>
<td>5.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>31</td>
<td>44.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle Eastern Arabs</td>
<td>21</td>
<td>30.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle Eastern, not Arabs</td>
<td>18</td>
<td>25.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school or less</td>
<td>13</td>
<td>20.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undergraduate</td>
<td>24</td>
<td>36.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate degrees</td>
<td>28</td>
<td>43.1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Data Collection

The research team, consisting of the lead author and two trained research assistants, conducted face-to-face structured and closed-ended interviews at local mosques and at participants’ homes. The research assistants were Muslims from the communities of the elderly in the study. Interviewers fully explained the study to participants, as well as informed them that their participation was voluntary and that the information they shared would be confidential. They were also informed that they had the right to refuse to answer any questions. The interviews lasted approximately 60 to 90 min.

Finally, because English is not the native language of many older Muslims, the instrument was translated into Arabic and Urdu and then back-translated to English by two professionals who spoke Arabic, Urdu, and English fluently. Also, an English version of the instrument was made available for participants who preferred to use English rather than Arabic or Urdu.

Measurements

DEMOGRAPHIC VARIABLES

A general demographic section recorded participants’ age, gender, race, education, marital status, length of residency in the United States, and their immigration status.

ACCU LTUR AT IO N

The Vancouver Index of Acculturation (Ryder, Alden, & Paulhus 2000) was adopted and modified to examine the levels of acculturation among immigrant elderly Muslims. This 20-item self-report scale measures how immigrants identify with the American culture compared to their heritage culture. Subjects are asked to rate each item on a 9-point Likert-type scale. The two subscales, heritage culture and American culture, have internal reliability coefficients of .91 and .87, respectively. The scale was found to be a valid and reliable measure of acculturation of Chinese, East Asians, and samples from other cultural backgrounds (Ryder et al., 2000).

DEPRESSION

The CESD was utilized to measure the level of depression. This 20-item scale is widely used as a screening tool to gauge the frequency of depressive symptoms in the preceding week. The scores range from 0 to 60, with higher scores indicating greater levels of depression. A score of 16 is generally used as a cutoff score, indicating presence of depressive symptoms (Orme, Reis, & Herz, 1986). The CESD has a reliability coefficient of .85 in the general population.
Depression Among Older Muslim Immigrants

PHYSICAL AND EMOTIONAL HEALTH

The Iowa Self-Assessment Inventory (IOWA; Morris & Buckwalter, 1988) was utilized to capture participants’ physical and emotional health. The IOWA is a 56-item scale that consists of seven subscales including economic resources, emotional balance, physical health, trusting others, mobility, cognitive status, and social support. Items are rated on a scale from 1 (usually or always true) to 4 (usually or always false). The scores for each subscale are summed to comprise a score that ranges from 8 to 32, with higher scores indicating a greater value in the particular subscale. This inventory primarily has been normed on adults 65+ years old (Morris, Buckwalter, Cleary, Gilmer, & Andrews, 1992). The internal consistency reliability coefficients for the seven subscales range from .74 to .86. Also, construct validity has been demonstrated between each subscale and similar measures (Morris, Buckwalter, Cleary, Gilmer, Hatz, & Studer, 1990).

HEALTH LOCUS OF CONTROL

Health locus of control was measured using the Multidimensional Health Locus of Control Scale (MHLC; Wallston, Wallston, & DeVellis, 1978), which is an 18-item instrument that rates respondents according to internal health locus of control (IHLC), powerful others health locus of control (PHLC), and chance health locus of control (CHLC). Only the IHLC subscale was used for this analysis. Respondents answer questions on a 4-point, Likert-type scale (1 = strongly disagree and 4 = strongly agree). Scores on each subscale are summed, and higher scores indicate more external beliefs in locus of control. The MHLC scale has Cronbach’s alpha coefficients between .62 and .76.

LIFE EVENTS

Finally, the Geriatric Scale of Recent Life Events (Kiyak, Liang, & Kahana, 1976) was used to examine the number and type of life events participants experienced in the past year. This is a 55-item scale where participants circle all events that they have experienced, and the number of events circled is summed to comprise a total score. Item examples include: Death of a Close Friend; Minor Illness; Gain a new family member; and Grandchild married. This scale was normed on 248 individuals 60+ years old and has shown good concurrent validity (.51 to .84).

Data Analysis

Data were coded and entered in the Statistical Packages for Social Sciences (SPSS) Version 18.0. All variables were evaluated to ensure that they met the assumptions for univariate and multivariate statistical procedures (e.g., normality, linearity, multicollinearity, and homoscedasticity). Frequency tables, measures of central tendency, variability, and graphs were generated for
all variables to describe the sample characteristics. The Pearson product-moment correlation coefficient was utilized to examine the relationship between the dependent variable, depression, and the independent variables, acculturation, locus of control, life events, and physical and emotional health. Finally, a stepwise multiple regression analysis was utilized to develop a regression model that best predicts the levels of depression among older Muslim immigrants.

**FINDINGS**

**Descriptive Statistics**

Table 2 displays measures of central tendency and variation for levels of depression, acculturation, health locus of control, physical and mental health, and life events variables.

**DEPRESSION**

The results of this study show that almost half of participants (49.2%) reported a score of 16 and above, indicating presence of depressive symptoms. Overall, the mean score for depression was 18.10 (SD = 10.75) on a range of 0 to 52.

**ACCULTURATION**

Participants in the study were more likely to identify with their heritage culture, compared to the American culture. When asked to respond to “I often behave in ways that are typical of my heritage culture,” 27% agreed and

<table>
<thead>
<tr>
<th>Table 2 Descriptive Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable</strong></td>
</tr>
<tr>
<td>Depression</td>
</tr>
<tr>
<td>Acculturation</td>
</tr>
<tr>
<td>Heritage culture</td>
</tr>
<tr>
<td>American culture</td>
</tr>
<tr>
<td>Iowa</td>
</tr>
<tr>
<td>Physical Health</td>
</tr>
<tr>
<td>Economic Resources</td>
</tr>
<tr>
<td>Emotional Balance</td>
</tr>
<tr>
<td>Trusting others</td>
</tr>
<tr>
<td>Mobility</td>
</tr>
<tr>
<td>Cognitive status</td>
</tr>
<tr>
<td>Social support</td>
</tr>
<tr>
<td>Health locus of control</td>
</tr>
<tr>
<td>Powerful others</td>
</tr>
<tr>
<td>Internal health</td>
</tr>
<tr>
<td>Chance health</td>
</tr>
<tr>
<td>Negative life events</td>
</tr>
</tbody>
</table>
64% strongly agreed with the statement, compared to only 16% of participants who agreed and 8% who strongly agreed with the statement “I often behave in ways that are ‘typically North American.” Fifty percent (50%) of participants reported a score of 49 to 50 and above on the heritage subscale compared to 31 to 50 on the mainstream American culture subscale with higher scores indicating more favorable of the particular culture. Overall, the mean score on the heritage subscale was 46.0 (SD = 5.2) compared to 30.4 (SD = 8.9) on the American culture subscale.

IOWA

Participants in this study completed the seven subscales of the IOWA. Overall, total scores in this study ranged between 8 and 32 (midpoint = 20) with higher scores indicating better physical health and mobility, sufficient economic resources, greater emotional balance and cognitive status, and more social support and trust on others. In this study, participants scored on average 20.5 on the physical health (SD = 7.2), 23.6 on mobility (SD = 6.0), 24.6 on economic resources (SD = 7.7), 21.6 on emotional balance (SD = 7.7), 24.6 on cognitive status (SD = 6.0), 26.1 on social support (SD = 5.2), and 25.8 on trusting others (SD = 6.8). In other words, these results show that older Muslim immigrants scored generally above average on these variables.

Health locus of control

The results of the study indicate that older Muslim immigrants attribute changes on their health equally to internal and external causes and less to causes due to chance. When participants were asked to respond to “I am in control of my health,” 48% agreed and 20% strongly agreed with the statement. When asked to respond to “Whenever I don’t feel well, I should consult a medically trained professional,” 50% agreed and 27% strongly agreed with the statement. On the other hand, when asked to respond to “Luck plays a big part in determining how soon I will recover from an illness,” only 36% agreed and 10% strongly agreed with the statement.

Overall, the mean score on the internal health was 14.0 (SD = 2.7) on a scale of 6 to 20. The mean score on external (powerful others) health locus of control was 14.0 (SD = 3.8) on a scale of 6 to 24. Finally, the mean score on the chance health locus of control was 10.5 (SD = 2.4) on a scale of 4 to 16.

Life events

Participants were presented with 55 life events they experienced within the last year. Overall, participants experienced between 1 and 28 events with a
TABLE 3 Ten Most Frequent Negative Life Events

<table>
<thead>
<tr>
<th>Event</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Minor Illness</td>
<td>49</td>
<td>70.0</td>
</tr>
<tr>
<td>2. Family member becomes ill</td>
<td>46</td>
<td>65.7</td>
</tr>
<tr>
<td>3. Death of a close friend</td>
<td>41</td>
<td>58.6</td>
</tr>
<tr>
<td>4. Death of a family member</td>
<td>35</td>
<td>50.0</td>
</tr>
<tr>
<td>5. Financial difficulty</td>
<td>32</td>
<td>45.7</td>
</tr>
<tr>
<td>6. Loss of hearing/vision</td>
<td>31</td>
<td>44.3</td>
</tr>
<tr>
<td>7. Reduce recreation</td>
<td>31</td>
<td>44.3</td>
</tr>
<tr>
<td>8. Difficulty walking</td>
<td>19</td>
<td>27.1</td>
</tr>
<tr>
<td>9. Relinquish financial responsibility</td>
<td>19</td>
<td>27.1</td>
</tr>
<tr>
<td>10. Trouble with children</td>
<td>19</td>
<td>27.1</td>
</tr>
<tr>
<td>11. Victim of a crime</td>
<td>17</td>
<td>24.3</td>
</tr>
<tr>
<td>12. Less mosque activity</td>
<td>15</td>
<td>21.4</td>
</tr>
<tr>
<td>13. Major illness</td>
<td>14</td>
<td>20.0</td>
</tr>
</tbody>
</table>

The mean of 7.4 events ($SD = 5.9$). In this study, the most frequent event was minor illness, reported by 70% of participants; followed by family member becomes ill, reported by 66%; death of a close friend, reported by 59%; and death of a family member, reported by 50%. Table 3 displays the 10 most common events participants experienced.

Correlation Between Variables

The Pearson product-moment correlation coefficient test was utilized to examine the strengths and directions between acculturation, depression, physical and emotional health, and health locus of control. The results of Pearson’s $r$ correlation are presented in Table 4.

CORRELATES OF ACCULTURATION

Table 4 shows that heritage culture was significantly correlated with levels of depression ($r = .26, p < .05$), physical health ($r = .22, p < .05$), trusting others ($r = .23, p < .05$), and chance health locus of control ($r = .37, p < .01$). In other words, participants who reported greater separation from the American culture and greater maintenance of their heritage culture tended to have higher levels of depression, better physical health, have greater trust in others, and tend to attribute changes in their health to causes beyond their control.

On the other hand, American culture was only correlated with trusting others ($r = -.25, p < .05$) and internal health locus of control ($r = .35, p < .01$). That is, participants who reported greater assimilation to the American culture tend to have less trust in others and are more likely to attribute changes in their health to internal causes.
### TABLE 4 Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Depression</td>
<td>.87</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Economic resources</td>
<td>-.31**</td>
<td>.86</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Emotional balance</td>
<td>-.39**</td>
<td>.41**</td>
<td>.81</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Physical health</td>
<td>-.28*</td>
<td>.39**</td>
<td>.47**</td>
<td>.82</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Trusting others</td>
<td>-.27*</td>
<td>.34**</td>
<td>.42**</td>
<td>.29*</td>
<td>.70</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Mobility</td>
<td>-.29*</td>
<td>.43**</td>
<td>.28*</td>
<td>.65**</td>
<td>.27*</td>
<td>.76</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Cognitive status</td>
<td>-.41**</td>
<td>.41**</td>
<td>.52**</td>
<td>.55**</td>
<td>.53**</td>
<td>.51**</td>
<td>.76</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Social support</td>
<td>-.40**</td>
<td>.46**</td>
<td>.47**</td>
<td>.39**</td>
<td>.52**</td>
<td>.25*</td>
<td>.54**</td>
<td>.76</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Life events</td>
<td>.30*</td>
<td>-.06</td>
<td>-.29*</td>
<td>-.44**</td>
<td>-.04</td>
<td>-.40**</td>
<td>-.25*</td>
<td>-.17</td>
<td>.90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Internal health</td>
<td>-.21*</td>
<td>.10</td>
<td>.05</td>
<td>-.02</td>
<td>-.03</td>
<td>.15</td>
<td>.01</td>
<td>.07</td>
<td>.20</td>
<td>.67</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. External health</td>
<td>.13</td>
<td>-.16</td>
<td>-.23*</td>
<td>-.34**</td>
<td>-.19</td>
<td>-.33**</td>
<td>-.15</td>
<td>-.29*</td>
<td>.42**</td>
<td>.41**</td>
<td>.83</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Chance health</td>
<td>.13</td>
<td>-.06</td>
<td>-.30*</td>
<td>-.24*</td>
<td>-.19</td>
<td>-.15</td>
<td>-.26*</td>
<td>-.35**</td>
<td>.40**</td>
<td>.39**</td>
<td>.56**</td>
<td>.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Heritage culture</td>
<td>.26*</td>
<td>.08</td>
<td>.01</td>
<td>.22*</td>
<td>.23*</td>
<td>.20</td>
<td>.08</td>
<td>.07</td>
<td>.09</td>
<td>.14</td>
<td>-.06</td>
<td>.37**</td>
<td>.87</td>
<td></td>
</tr>
<tr>
<td>14. American culture</td>
<td>-.07</td>
<td>.15</td>
<td>.01</td>
<td>.14</td>
<td>-.25*</td>
<td>.09</td>
<td>-.05</td>
<td>-.07</td>
<td>.19</td>
<td>.35**</td>
<td>.18</td>
<td>.06</td>
<td>-.12</td>
<td>.89</td>
</tr>
</tbody>
</table>

**Note.** Numbers in diagonals are Cronbach’s alpha reliability coefficients observed in this study.

*p < 0.05 (1–tailed). **p < 0.01 (1–tailed).
Correlates of Depression

The results of the Pearson’s $r$ correlation show that participants who reported high levels of depression also reported significantly low economic resources ($r = -0.31$, $p < .01$), low emotional balance ($r = -0.39$, $p < .01$), poorer physical health ($r = -0.28$, $p < .05$) and mobility ($r = -0.29$, $p < .05$), less trusting others ($r = -0.27$, $p < .05$), less cognitive status ($r = -0.41$, $p < .01$), fewer social support ($r = -0.40$, $p < .01$), more negative recent life events ($r = 0.30$, $p < .05$), and were less likely to attribute changes in their health to internal causes ($r = -0.21$, $p < .05$).

Regression Analysis

A stepwise multiple regression analysis was conducted to estimate a regression model that best predicts levels of depression among older Muslim immigrants based on several factors including personal characteristics (gender, age, years in the United States, race, education, and marital status), acculturation (heritage and American cultures), IOWA subscales (emotional balance, cognitive status, physical health, mobility, trusting others, economic resources), negative recent life events, and health locus of control (IHLC, CHLC, and PHLC).

Prior to the regression analysis, several inferential statistics including Pearson’s correlation coefficient, independent $t$-test, and one-way ANOVA were utilized to examine the bivariate relationship between each factor and levels of depression to eliminate factors that did not have significant correlations with depression. The results of these tests show that depression was associated with nine of these variables: IOWA subscales (six variables), heritage culture, negative recent life events, and internal health locus of control. These factors then were entered in the regression analysis. All others, including the demographic variables, were omitted from the regression analysis because they were not significantly correlated with depression.

Next, descriptive statistics and graphs (e.g., measures of skewness and kurtosis, histograms, Q-Q plots, and scatterplots) were generated and confirmed that regression assumptions (normality, linearity, and homoscedasticity) were met. In addition, Variance Inflation Factors and Tolerance values were also generated and showed no multicollinearity exists among the factors (Abu-Bader, 2010).

Predictors of Depression

The results of the stepwise multiple regression analysis are presented in Table 5. Of the 10 factors entered in the regression analysis, four emerged as significant predictors of levels of depression ($F = 8.03$, $p < .001$).

With a beta of $-0.34$ ($p < .01$), cognitive status emerged as the strongest predictor of depression accounting for 17% of the variance depression. The second strongest factor was heritage culture ($\beta = 0.35$, $p < .01$), accounting...
for an additional 9% of the variance in depression. The third strongest factor was physical health ($\beta = -0.27, p < .05$), accounting for another 5% of the variance in depression. The fourth and last strongest predictor of depression was internal health locus of control ($\beta = -0.25, p < .05$) accounting for about 6% of the variance in depression.

These results indicate that high levels of depression among older Muslim immigrants are a function of low cognitive status, greater affiliation with one’s own culture compared to the American culture, poorer physical health, and less beliefs on internal health locus of control. Overall, this predicted regression model explains about 37% of the total variance in levels of depression ($R = 0.61$). Finally, the remaining 63% of the variance could be attributed to extraneous factors.

DISCUSSION

This study examined the prevalence of acculturation and depression among a convenient sample of older Muslim immigrants ages 50 and above in the United States of America. The study also developed a regression model that best predicted levels of depression among this fast-growing population. Although this study is exploratory and descriptive in nature, its results are alarming. About 50% of participants reported a score of 16 and above on the CESD scale ($M = 18.10, SD = 10.75$), indicating a presence of depressive symptoms among half of the subjects. This rate exceeds rates of depressive symptoms reported in the literature (e.g., Blazer et al., 1987; Callahan, Hui, Nienaber, Musick, & Tierney, 1994; Madianos, Gournas, & Stefanis, 1992; Mui & Kang, 2006; Stokes et al., 2001). This rate, however, is somewhat lower than that reported by Abu-Ras and Abu-Bader (2009) and Kim-Goh (2006). Abu-Ras and Abu-Bader examined depression and posttraumatic stress disorder among a sample of 350 Arab and Muslim Americans post 9/11, and found that 62% of participants reported a score of 16 and above on the CESD scale ($M = 21.90, SD = 11.73$).

The results of this study also show that most participants reported greater levels of separation from the mainstream American culture and maintained their own heritage culture ($M = 46.0, SD = 5.2$). Past research suggests that separation can be contributed to factors such as isolation and loneliness, transportation, language, and level of income (Ahmed et al.,
1996; Kulwicki, 1996; Ross-Sheriff, 1993; Sengstock, 1996), which could lead to the presence of depressive symptoms and other mental health-related problems, as observed in this study. Furthermore, Ahmed et al. (1996) and Ross-Sheriff (1993) suggested that elderly Muslim immigrants tend to be vulnerable to feeling loneliness and isolation, perhaps due to racial and cultural differences, discrimination, and misperceptions about Islam.

The vulnerability of feeling lonely and isolated may have been exacerbated due to the tragedy of September 11, 2001 and the subsequent Iraqi and Afghan wars and individual incidents of terrorism that have led to a greater scrutiny of Muslims in the United States.

The results of the multiple regression analysis linked levels of depression to four main factors: cognitive status, heritage culture, physical health, and internal health locus of control. Previous studies on depression among older populations have also linked depression to cognitive status, physical health, and health locus of control (Beekman et al., 1997; Christensen, Turner, Slaughter, & Holman, 1989; Chunta, 2009; Vandervoort, Luis, & Hamilton, 1997).

Unlike previous studies, this study, however, found that maintaining one’s own heritage culture was the second most important predictor of levels of depression among older Muslim immigrants. Many older Muslim immigrants migrated to the United States, leaving behind their parents, extended families, friends, careers, and social systems, seeking greater opportunities in migrating to the United States. Scholars explain that older Muslim immigrants face enormous stress of adapting to a foreign culture and economic dependence; they have to manage problems arising from their new roles, intergenerational conflicts, language barriers, social isolation, and health problems related to the aging process, which may have significant impact on their mental health (Maloof & Ross-Sheriff, 2003; Ross-Sheriff, 1993, 1994). In addition, similar to other immigrant groups, older Muslim immigrants’ social networks exist within the mosques and family. Therefore, they appear to report greater levels of separation from mainstream American culture and preference of maintaining their ethnic/religious cultures. Most likely, they socialize with their own religious and cultural groups and find comfort in relating with then. Their preference to separate versus integrate can lead to intergenerational conflicts with their children and grandchildren, who often times have been reared as bicultural individuals exposed to both their ethnic culture and mainstream American culture. These conflicts often times can lead to increased stress and health related problems, which may explain the results of this study.

IMPLICATIONS, LIMITATIONS AND RECOMMENDATIONS

The results of this study indicate that the rate of depressive symptoms among older Muslim immigrants is much greater that reported in other populations.
At the same time, the results show that older Muslim immigrants tend to be greatly separated and isolated from the mainstream American culture. This isolation (heritage acculturation) was found to be the second strongest predictor of depression among this population.

Therefore, these findings have implications for community leaders, professionals, and researchers. First, the results could significantly help community leaders and religious figures (Imams) in developing intervention methods that reduce the gap between both mainstream and heritage culture, and lead to effectively integrate older Muslim immigrants in the American culture, yet while maintaining their own culture and Islamic values. Second, the results could also assist social work and mental health professionals in planning effective mental health intervention strategies tailored particularly towards older Muslim immigrants to reduce their high tendency of depressive symptoms. Finally, this study could serve as a framework for future research on this vulnerable, underserved, population.

The results of this study cannot be generalized to larger Muslim elderly population and should be interpreted with caution because of methodological limitations. First, although the study linked depression to four significant factors, causality cannot be assumed due to the nature of cross-sectional design utilized in this study. Second, the study used a convenient sample recruited from the Washington, DC metropolitan area, which may not be representative of all American Muslim immigrants. Last, this study was conducted few years after September 11, 2001, during which Muslims and Arabs have been experiencing a tremendous backlash, discrimination, and racial profiling.

To overcome this study’s limitations, future studies should utilize a larger, representative, and heterogeneous, sample of older American Muslim immigrants to provide a more accurate screening of this population’s acculturation, health and mental health prevalence and their correlations. Finally, a comparison with other older immigrant populations such as Africans or Asians would significantly strengthen future studies.

REFERENCES


Depression Among Older Muslim Immigrants


