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ORIGINAL PAPER

Socio-demographic Differences in Acculturation and Mental Health for a Sample of 2nd Generation/Early Immigrant Arab Americans

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Abstract This study examined socio-demographic differences in acculturation patterns among early immigrant and second-generation Arab Americans, using data from 120 participants who completed a Web-based study. Although sex, age, education, and income did not significantly relate to the acculturation process, respondents who were female and those who were married reported greater Arab ethnic identity and religiosity. Striking differences were found based on religious affiliation. Christian patterns of acculturation and mental health were consistent with acculturation theory. For Muslims, however, integration was not associated with better mental health, and religiosity was predictive of better family functioning and less depression. The results of this study suggest unique acculturation patterns for Christian and Muslim subgroups that can better inform future research and mental health service.

Keywords Arab American · Muslim · Acculturation · Religiosity · Mental health

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Introduction

Acculturation, or the process of adapting to a majority or new host culture, can have positive and/or negative mental health outcomes. When positive psychological adaptation occurs, the acculturating individual develops a clear identity, strong self-esteem, and positive mental health. Negative adaptation refers to the anomie, identity confusion, and anxiety experienced by some acculturating individuals [1, 2]. Factors influencing successful adaptation include the acculturative phase (e.g., later generational status) and the person's resources both prior to and during the acculturation process. Resources may include a problem-solving coping style, higher education, and social support. Additionally, if a person's acculturation strategy is similar to the acculturation strategy desired of them (or forced upon them) by the host culture, then positive psychological outcomes can be predicted [1, 3, 4].

Perhaps one of the most well-known models of acculturation is the model proposed by John Berry [5, 6], who theorized that acculturating individuals select one of four acculturation strategies when in contact with the host culture. Assimilation takes place when individuals choose to abandon their traditional culture and adopt the culture of the host society. If a person decides to retain his or her culture of origin and refrain from adopting mainstream culture, that person is selecting the separation strategy. Other individuals may find value in both adopting the new culture and retaining the old, which is called integration. Finally, some individuals may choose marginalization (deculturalization or disengagement) from both the traditional and host cultures. A person's acculturation strategy can also be influenced by

the reaction of the host community to the person's acculturating group.

Despite its widespread popularity, several criticisms have been associated with Berry's model. Some theorists have argued that the model does not distinguish between attitudes and behaviors, and that retention of traditional culture is related more to attitudes regarding the ethnic culture whereas adoption of the host culture is related to acquiring mainstream behavioral practices. Another criticism has been that the model does not adequately address the nature of the marginalization category, which can represent either a distressful condition of anomie or a positive individualistic stance [4]. In later works Berry himself agreed that marginalization may in some cases be a failed attempt at assimilation rather than a personal choice [7]. Although Berry does not discount the influences of the host culture on impacting the person's acculturation strategy (e.g., [3]), these influences have been underemphasized while the person's choice of retaining traditional culture and adopting host culture is overemphasized. Thus, researchers have criticized Berry's model for not addressing the significant impact of inter group relations on acculturation strategy [1].

Acculturation level or strategy has been hypothesized to have a direct relationship with psychological adaptation. Supporters of Berry's model have argued that integration is predictive of best mental health, perhaps because it is associated with social support and resources from both the ethnic and mainstream cultures. On the other hand, marginalization has been underscored as the strategy most linked to negative mental health, weak personal identity, poor social support, dysfunctional family relationships, and substance abuse. Assimilation and separation have been found to be associated with intermediate levels of psychological adaptation [1, 7–9]. On the other hand, other researchers have argued that there are mixed results with respect to the benefits of integration, with some research studies demonstrating maladaptive outcomes such as acculturative stress [10].

Acculturation stress refers to the distress experienced by individuals when the demands imposed on them during the acculturation process are too challenging to overcome. Researchers have suggested that acculturation stress is directly related to a person's acculturation strategy: integration is associated with lower levels of acculturative stress, marginalization is related to the highest levels of acculturation stress, and separation and assimilation fall in between. Separation has also been found to be associated with greater stress than assimilation [4, 7]. Factors that can intensify acculturation stress include learning new languages, norms, customs, and laws; as well as prejudice and discrimination [1, 11, 12]. Persons with high acculturation stress tend to present with mental health symptoms such as identity confusion, feelings of alienation, somatic complaints, anxiety, depression, and suicidal ideation [1, 13].

Researchers examining acculturation stress and mental health of immigrant and minority groups in the United States have focused primarily on larger minority groups such as Hispanics/Latinos and Asians. In contrast, research with Arab American samples has been scant and exploratory in nature. As a result, the acculturation and mental health patterns of the Arab American population are not well understood.

Arab Immigration to the United States

The definition of what constitutes the "Arab identity" is a topic of controversy. Today the "Arab world" often refers to the 22 member states of the Arab League, which are located in the Middle East and North Africa. Writers often mention the Arabic language as the main factor that unites Arabs, and Arabs may share cultural traditions including particular foods, music, art, literature, festive occasions, and political histories [14–17]. Islam is also widely considered to be a marker of the Arab world as it is the majority religion in all of the Arab countries except Lebanon, in which half of the population is Christian [15, 18, 19]. Yet because of their different religions, ethnicities, countries of origins, and histories, the Arab population remains a very heterogeneous and diverse group [15, 18].

Arab immigration to the United States occurred in three waves, the first beginning in 1875. The majority were Syrian and Lebanese Christians who worked as farmers and peddlers. The flow of immigrants was interrupted during and after World War I: Public concern regarding immigrants led to the Quota Act and Johnson–Reed Act of 1924, which reduced the influx of Middle Eastern immigrants. After World War II American immigration policies changed and the second wave of immigration took place. The majority of these immigrants were Palestinian refugees following the establishment of the Israeli state in 1948, Egyptians whose land was confiscated by the Nasser regime, Syrians escaping revolutionary leadership, and Iraqi royalty fleeing the establishment of a republic government. A large portion of these Arabs was well-educated; they spoke fluent English and worked in professional occupations. The third wave of immigration began in the 1960's after the Immigration Act of 1965, which ended the quota system favoring European

immigrants. These Arab immigrants were mostly Muslims with even higher educational backgrounds than the previous immigrants, although included were also large groups of Muslims of lower socio-economic and educational levels. The 1990's saw a rapid and unprecedented growth of immigrants from North African and Arabian Gulf countries [14, 20–23].

The 2000 Census estimated 1.2 million Americans of Arab descent living in the USA [24]. However, combining community samples, academic research, and information from the Zogby International polling firm, the Arab American Institute estimates the Arab American count to be higher than 3.5 million [25]. Compared to the rest of the American population, Arab Americans tend to be younger, richer, and better educated. They are more likely to be entrepreneurs or to own businesses, and most are USA citizens. Approximately half to two-thirds identify themselves as Christians. Arab Americans live in all 50 states, and the majority claim familial origin in Syria, Lebanon, Palestine, Iraq, and Egypt [21, 26, 27].

Arab American Acculturation and Mental Health

Studies with Arab American samples have explored socio-demographic and environmental factors that may influence acculturation. These include age, sex, religious affiliation, length of time in the USA, and stressors such as discrimination. A few of the studies have also explored the mental health outcomes of the acculturation process. Although the generalizability of many of these studies is questionable because they were based on interviews and small-sample surveys, they have generated some preliminary findings and theories about the Arab American acculturation process.

Regarding sex differences, Meleis [28] argued that Arab American women are at-risk for physical and mental health problems as a result of the need to negotiate critical differences between American and Arab cultures in addition to an increase in their role responsibilities. An interview study with 30 female Jordanian immigrants [29] found that the women experienced unique loneliness, sadness, emotional distress, anxiety, and social isolation related to acculturation stressors such as societal prejudice, financial instability, household management, protection of children from perceived unacceptable Western behaviors, and maintenance of ethnic identity. The authors suggested that because Arab American mothers are entrusted with the role of transmitting the cultural heritage and protecting their children's shame and honor, they may experience significant amounts of distress during the childrearing years.

As discussed by one writer [30], Arab American women may moreover face unique stressors when they attempt to participate in American society. They often do not have the education or skills needed to obtain a job, and in contrast to family-run businesses in their homeland, they may feel uncomfortable working in a factory or industry setting that places them in close proximity to male workers. These findings from Arab American researchers are consistent with previous acculturation literature that argues that immigrant women, compared to their male counterparts, experience a ‘‘double burden’’ or ‘‘role overload’’ that can lead to significantly higher levels of depression. For example, as women become employed, stressors from employment are compounded by pressures to continue their primary role in homemaking and parenting [31].

With respect to religious affiliation, some authors have argued that Christian Arabs are more successful in adapting to American society compared to Muslim Arabs. This may be due to severed ties with their homeland as a result of having experienced religious persecution or war, and because Christians share the same religious beliefs as the majority American culture. For example, a nonrandom survey of 35 Arab immigrants to the USA [32] found that compared to Muslims, Christians in the sample were more likely to support their children's service in the USA military, and that this support significantly correlated with indicators of acculturation such as identification with American culture and participation in American cultural practices. Another study surveying 39 immigrant Arabs [33], most of whom were married fathers, argued that compared to Christians, Muslims face more discrimination within American society, experience less satisfaction with life in the USA, and continue to retain their cultural traditions which are highly intertwined with religious values.

Other factors additionally have been proposed to be associated with acculturation and mental health for Arab Americans. In their sample of 39 Arab immigrants to the USA, Faragallah and colleagues [33] reported that acculturation increased with age of immigration, length of residence, and time since previous visit to homeland. These three factors were associated with fewer adherences to traditional cultural norms such as gender role orientation. The authors also reported that for study participants, longer duration from homeland and immigration at an older age were related to higher levels of family dissatisfaction, and also parental satisfaction declined with longer duration of residence.

In a larger study using structured interviews with 88 Middle Eastern immigrants [34], time since

immigration was positively correlated with perceived ethnic identity as well as adoption of American cultural, social, and family values. Adoption of American values was associated with psychological well-being and morale. Similarly, Soliman and McAndrew [35] found that in comparison to 25 students in Egypt, 50 Arab American students who lived in an Arab ethnic community in Dearborn, Michigan scored significantly higher on 7 of the 10 subscales of the Tennessee Self-Concept Scale. The authors suggested that the students' ability to develop competence and positive attitudes in both Arab and American cultures may explain their increased self-esteem, self-confidence, and satisfaction with their behavioral, physical, moral, and academic selves.

Arab American Mental Health Research and Service Utilization

As reviewed above, only a handful of studies on Arab American acculturation and mental health have been published, the majority conducted by nurses, anthropologists, and sociologists. This paucity of research is problematic, especially as stressors in the post September 11 era such as ethnic discrimination may lead to increased mental health symptoms. Although previous studies provide preliminary conjectures of the socio-demographic correlates of Arab American acculturation and mental health, the generalizability of the findings are limited because they were based on interviews and small-sample surveys of Arab immigrants.

Accurate acculturation and mental health research with Arab Americans has become imperative in order to inform treatment providers who are working with this group, particularly in light of increased psychological distress and need for counseling since the September 11 attacks [36, 37]. In a 2003 community study conducted in Ohio, 10.4% of 240 Muslims of Arab ethnic background admitted to receiving professional psychological services during the 2 years prior to the study [38]. Similarly, in a 2004 community-based study of 285 Arab Muslims in Ohio, primarily immigrants, 9.6% admitted to seeking formal mental health services during the previous 3 years [39]. These results are surprising considering that persons of Arab descent are typically unwilling to admit to psychological distress, particularly since visiting a mental health provider is viewed as disloyalty to group honor or a sign of shame and weakness. These help-seeking barriers are compounded by mistrust towards both mainstream and Arab professionals [18, 40, 41].

Unfortunately, misinformation in the mainstream media and culture regarding Arab Americans can led to stereotyping, biases, hostility, misdiagnosis, and treatment inadequacies among mental health service providers [42, 43]. A richer understanding of the psychosocial and mental health characteristics of Arab Americans may help reduce biases among therapists and increase empathy and understanding of the client [15, 42, 44]. Additionally, knowledge of socio-demographic and acculturative factors that are associated with better mental health indices can help guide therapeutic goals.

The present study aimed to explore the socio-demographic factors that have previously been suggested to influence acculturation and mental health patterns for Arab Americans, using a comparatively larger sample size than those used in previous studies. Also, in contrast with the published literature that has focused on Arab immigrants, the present study utilized a sample of Arabs who were USA-born second-generation or who immigrated to the USA before the age of six and thus were raised in the USA during their formative years. Although this study was exploratory in nature, it was expected that results would be consistent with acculturation theory and previous research on Arab immigrants. For example, it was anticipated that female and Muslim respondents would report greater ethnic identity and acculturation stress compared to males and Christians, respectively. Integration was expected to be associated with better family functioning and less depression.

Methods

Participants

Data in this study was taken from an existing data set. Participants were 120 Arab Americans who completed a series of Internet-based instruments. The majority (83.3%) were second-generation (i.e., born in the USA to Arab immigrants) while 16.7% immigrated to the USA at the age of five or below. A total of 33.3% were male and 66.7% were female. The age range was 18–46, with a mean age of 25.0. Most respondents (75.8%) were single; 24.2% were married. For the most part respondents were well-educated: A total of 67.5% had completed or were working towards post-secondary degrees (e.g., Bachelors, Associates), while 30.9% had completed or were working towards graduate degrees (e.g., Masters, Doctorates). The annual family income of respondents was high, with 74.3% of respondents citing their income to be above $50,000 and 32.5% reporting their income to be above $100,000.

The majority of participants reported affiliation to two main religions: Islam (54.2%) and Christianity

(35.8%). The largest group of participants was of Egyptian origin; 25% of respondents' fathers and 21.7% of respondents' mothers were from Egypt. The second largest group was Lebanese (Lebanese fathers = 22.5%, Lebanese mothers = 18.3%), followed by participants of Palestinian background (Palestinian fathers = 20.8%, Palestinian mothers = 18.3%). Other respondents had origins in Iraq, Libya, Jordan, Saudi Arabia, Sudan, Syria, Tunisia, and Yemen. Thirty-four respondents had one parent who was not Arab.

Participants resided in 19 states and the District of Columbia. One participant was temporarily living in Cyprus. The largest groups of respondents were from California (21.7%), Texas (21.7%), Michigan (15.8%), and Massachusetts (9.2%).

Measures

Socio-demographic Characteristics

Respondents were asked to indicate their age, sex, marital status, religious affiliation, educational level, and income level. Country of origin, generational status, current location of residence, as well as frequency of visiting Arab homeland were also asked.

Arab Ethnic Identity

Two subscales from the Arab Ethnic Identity Measure [45] were used. The AEIM is a 33-item questionnaire assessing Arab ethnic identity that is divided into four subscales: Religious-Family Values (RFV; 14 items), Sense of Belonging/Ethnic Pride (EP; 7 items), Friendship (F; 7 items), and Ethnic Arab Practices (EAP; 5 items). Only the RFV and EAP subscales were used in this study due to less than adequate reliability and validity of the other two subscales. The RFV subscale assessed Arab family and religious values (e.g., respect for elders, patriarchy, family honor, faithfulness to religion, belief in God). The EAP subscale assessed cultural practices such as eating Arabic foods, listening to Arabic music, and speaking and writing Arabic.

Because the AEIM was originally developed for male respondents, the wording of three items was revised to be inclusive of female participants. Based on Rasch category functioning analysis and procedures suggested by Bond and Fox [46], the 7-point response scale was collapsed to four points to increase reliability and to develop a more uniform response distribution. Two items were dropped from the RFV subscale due to poor fit to the construct based on Rasch statistics. The possible score range for the revised RFV was 12–48, and the possible score range for the revised EAP was 5–20, with higher numbers indicating greater Arab ethnic identity. The current sample yielded a Cronbach's alpha of 0.86 for RFV and 0.64 for EAP.

Acculturation Strategy

Two instruments were used to assess acculturation. The Arab Acculturation Scale (AAS) was developed by Barry [47] with an Arab American sample to capture the four acculturation styles described by John Berry [6]. It consists of eight items scored on a 7-point Likert-type scale that are divided into two 4-item subscales: Marginalization versus Integration (higher scores indicate integration) and Separation versus Assimilation (higher scores indicate assimilation). The majority of items relate to social interactions and relationships with Americans and/or Arabs. Internal consistency reliability was 0.74 for the Marginalization–Integration subscale, and 0.72 for the Separation–Assimilation subscale.

A 2-item Arab Acculturative Strategy Scale (AASS, [48]), also premised on Berry's theory, was administered as a second measure of acculturation strategy. For the first item, respondents selected one of four categories representing the extent to which they would like to adopt American cultural practices in combination with the maintenance of their Arab ethnic identity. The choices reflected the strategies of assimilation, integration, separation, and marginalization. The second item consisted of the same four choices; however, it asked to what extent the respondent has already adopted the strategy. This 2-item measure was a modified version of the "Identification with USA Culture" questions used previously with Arab Americans [32, 33]. Only three respondents selected a current or desired strategy of assimilation. Their responses were dropped from analyses and the acculturative strategies were conceptualized as a continuum of engagement from both to neither cultures, coded as 1 = integration, 2 = separation, and 3 = marginalization.

Family Functioning

The McMaster Family Assessment Device [49] evaluates family functioning; the General Functioning subscale (FAD-GF) assesses overall familial health and pathology and can be used as a general indicator of family functioning. It consists of 12 items rated on a 4-point Likert-type scale. The score range is 12–48, with higher scores indicating greater dysfunction. Rasch rating scale analysis revealed strong reliability and validity; moreover, all items fit to the construct and

rating scale functioning was ideal [48]. Cronbach's alpha for the present study was 0.90.

Religiosity

The Age Universal Intrinsic–Extrinsic Scale [50] is an adaptation of Allport and Ross's I–E Religious Orientation Scale. The questionnaire is divided into a 9-item Intrinsic subscale (Age-I) which assesses the individual's religious commitment based on internal motivations and traditional religious beliefs, and an 11-item Extrinsic subscale (Age-E) which assesses the individual's religious behaviors in return for external rewards such as social approval and feeling comforted [51]. Due to poor reliability and validity of the Age-E subscale as assessed by Rasch rating scale analysis [48], only the Age-I subscale was used for this study. Items were reworded to accommodate Muslim participants; for example, ''church'' was substituted with ''church/mosque.'' One item was removed due to poor fit to the construct per Rasch statistics. Additionally, to improve rating scale functioning, the 5-point scale was reduced to three options using Bond and Fox's [46] guidelines for scale reduction. The final score range was 8–24, with higher scores indicating higher intrinsic religiosity. Cronbach's alpha for the present study was 0.88.

Acculturation Stress

A revised version of the 24-item SAFE Acculturation Stress Scale [52] was used as a measure of acculturation stress. The scale used in this study included two items that were added by Hovey and Magaña [53]. The questionnaire consists of list of statements or scenarios. For each statement that applies to them, respondents rate how stressful they perceive the scenario to be in their lives. Rasch rating scale analysis was used to assess reliability and validity of this scale [48]. Due to poor fit to the construct, three items were removed. The original 6-point rating scale (ranging from 0–5) was collapsed to four choices (0–3) to improve category functioning using Bond and Fox's [46] guidelines. The possible score range was 0–78. Cronbach's alpha for the present study was 0.88.

Depression

The Center for Epidemiologic Studies Depression Scale [54] was used to assess current frequency of depressive symptoms. Respondents were asked to rate the frequency they experienced the 20 listed symptoms during the past week on a 4-point scale ranging from 0 (rarely or none of the time) to 3 (most or all of the time). Possible score totals range from zero to 60. Principal component factor analysis was conducted on this sample to explore dimensionality of the scale [48]. Results yielded a 3-factor solution (affective/physiological symptoms; positive mood; and external/interpersonal difficulties) that was consistent with previous studies with ethnic minorities (e.g., [55–57]) and Arabs in the Middle East [58]. Cronbach's alpha for the present study was 0.90.

Procedures

Data for this study were taken from an existing data set. The data were originally collected through an Internet survey of Arab acculturation and mental health measures conducted from December 2001 to January 2002. Second generation and early immigrant adult Americans from Arab backgrounds were eligible for the study. Nonrandom convenience sampling was used to obtain participants: e-mail invitations regarding the study were sent to individuals, Arab community leaders, Arab American organizations and religious groups, and Arab Internet discussion groups. Interested persons completed the questionnaires at a Web-based form.

Compared to community-based approaches, Internet studies allow for greater anonymity and confidentiality for Arab Americans who may be wary of researchers' motives or may find it stigmatizing to complete a research study [59]. Internet research is also a convenient and useful method because it can produce a diverse data set of Arab Americans residing in different geographical regions with little or no financial costs. This is particularly important for the Arab American population as this population is classified as ''White'' or ''Caucasian'' and therefore random sampling is generally not feasible. Furthermore, research has found that Internet samples produce results that are similar to university-based or community-based samples on variables such as personality and psychological adjustment [60, 61]. A previous study of Arab Americans found no significant differences in acculturation scores between community-based and Internet-based samples [59].

Data Analyses

Bivariate and multivariate statistics were used to explore the relationships among the socio-demographic, acculturation, and mental health variables. Independent sample *t*-tests were used to identify acculturative and mental health differences based on sex, marital status, and religious affiliation. Pearson

correlations were used to examine the relationships among the continuous factors (e.g., age, acculturation stress, depression). Spearman correlations were used to assess the relationships between ordinal variables (e.g., education, income, frequency of visiting homeland) and acculturation factors. Finally, multiple regression was used to determine the best predictors of depression for the Muslim and Christian subsamples.

Results

Respondents' age yielded a weak negative correlation with Arab ethnic practices ($r = -0.19$, $P < 0.05$); no other variables correlated significantly with age. Compared to females, male respondents reported significantly less ethnic Arab practices (t [118] = –2.1, $P < 0.05$) and intrinsic religiosity (t [117] = –2.1, $P < 0.05$). Single respondents reported significantly lower scores for intrinsic religiosity than married respondents (t [114] = –2.8, $P < 0.01$), as well as significantly lower Arab religious and family values (t [115] = –2.3, $P < 0.05$). Married respondents reported significantly better family functioning compared to single respondents (t [114] = 2.0, $P < 0.05$).

Educational status yielded a negative correlation with ethnic Arab practices ($r = -0.20$, $P < 0.05$). Annual family income was not related to any of the acculturation and mental health variables. Greater frequency of visiting the Arab world correlated with higher current AASS acculturative strategy scores (i.e., more separation; $r = 0.21$, $P < 0.05$), lower AAS separation–assimilation scores (i.e., more separation; $r = -0.29$, $P < 0.01$), and greater Arab ethnic practices ($r = 0.32$, $P < 0.001$).

Christian–Muslim Group Differences

Table 1 lists the means and standard deviations for the Christian and the Muslim subsamples for the acculturation and mental health measures used in this study. Compared to Muslims, Christians reported significantly lower scores on ethnic Arab practices (t [106] = –2.7, $P < 0.01$), Arab religious and family values (t [106] = –3.0, $P < 0.005$), and intrinsic religiosity (t [105] = –2.9, $P = 0.005$).

Christians reported significantly higher scores (t [106] = 2.8, $P < 0.01$) than Muslims on the separation–assimilation subscale of the AAS, indicating that Christians were more highly assimilated than Muslims. There were no significant group differences on the marginalization–integration subscale of the AAS.

As noted earlier, current and desired Arab acculturative strategies (AASS) were coded as 1 = integration, 2 = separation, and 3 = marginalization. Christians reported significantly lower scores than Muslims on current Arab acculturative strategy (t [103] = –2.3, $P < 0.05$), indicating greater participation in both Arab and American cultures. There was no significant group difference in desired Arab acculturative strategy, with more than 50% of each group desiring integration.

There were no significant group differences between Christian and Muslim respondents in family functioning, acculturative stress, or depression.

Because of the acculturation differences between Christians and Muslims, each subgroup was examined further. Table 2 lists the correlations among variables for the Christian portion of the sample. Less integration and more marginalization (as indicated by the AAS marginalization–integration subscale) was associated with less family dysfunction. Greater ethnic

Table 1 Comparison of mean scores for Christian and Muslim subsamples

	Christian		Muslim	
	Mean	SD	Mean	SD
Ethnic Arab practices (AEIM EAP)*	11.91	3.02	13.34	2.44
Arab religious and family values (AEIM RFV)*	32.70	7.15	36.42	5.78
Intrinsic religiosity (Age-I)*	16.43	4.54	18.69	3.58
Marginalization–integration (AAS)	22.23	5.01	22.28	4.48
Separation–assimilation (AAS)*	18.37	4.83	15.68	4.84
Arab acculturative strategy—current (AASS)**	1.38	0.63	1.69	0.73
Arab acculturative strategy—desired (AASS)	1.43	0.74	1.63	0.72
Family functioning (FAD-GF)	23.57	6.41	24.37	7.14
Acculturative stress (SAFE revised)	22.67	11.44	22.71	9.11
Depression (CES-D)	14.81	10.92	15.31	9.76

Note: Significance levels are based on 2-tailed t-tests

* $P < 0.01$

** $P < 0.05$

Table 2 Correlations among variables for Christian subsample

	Family functioning	Acculturative stress	Depression
Ethnic Arab practices (AEIM EAP)	0.08	0.43****	0.13
Arab religious and family values (AEIM RFV)	0.03	0.29**	–0.17
Intrinsic religiosity (Age-I)	–0.06	0.17	–0.09
Marginalization–integration (AAS)	–0.48****	–0.15	–0.38***
Separation–assimilation (AAS)	–0.04	–0.54****	–0.19*
Arab acculturative strategy—current (AASS)	–0.02	0.24*	0.25*
Arab acculturative strategy—desired (AASS)	0.03	–0.09	0.22*
Family functioning (FAD-GF)	–	0.23*	0.50****
Acculturative Stress (SAFE revised)	–	–	0.45****

Notes: Significance levels are based on one-tailed tests. For family functioning, higher scores indicate greater dysfunction

* $P < 0.10$

** $P < 0.05$

*** $P < 0.01$

**** $P < 0.005$

Arab practices, greater Arab religious and family values, less assimilation and greater separation (as indicated by the AAS separation–assimilation subscale), less integration on current Arab acculturation strategy scores (AASS), and greater family dysfunction, were each associated with higher acculturation stress scores. Greater marginalization (AAS), greater separation (AAS), less integrated current Arab acculturation strategy (AASS), less integrated desired Arab acculturation strategy (AASS), greater family dysfunction, and greater acculturative stress were each related to higher depression scores.

For the Christian subsample, ethnic Arab practices, Arab religious and family values, intrinsic religiosity, marginalization–integration (AAS), separation–assimilation (AAS), family functioning, and acculturative stress were entered together as predictors in a multiple regression analysis of depression. Significant independent predictors were Arab religious and family values ($\beta = -0.43$, $t = -2.3$, $P < 0.03$), family functioning ($\beta = 0.36$, $t = 2.4$, $P < 0.03$), and acculturative stress ($\beta = 0.38$, $t = 2.4$, $P < 0.03$). The overall model ($F[7, 34] = 4.6$, $P = 0.001$) accounted for 49% of the variance in depression.

Table 3 lists the correlations among variables for the Muslim portion of the sample. Less Arab religious and family values, less intrinsic religiosity, and greater marginalization (AAS) were associated with greater family dysfunction. Greater Arab ethnic practices and greater family dysfunction were related to higher acculturative stress scores. Lower intrinsic religiosity, greater family dysfunction, and higher acculturative stress were related to higher depression scores.

For the Muslim subsample, Arab ethnic practices, Arab religious and family values, intrinsic religiosity, marginalization–integration (AAS), separation–assimilation (AAS), family functioning, and acculturative stress were entered together as predictors in a multiple regression analysis of depression. Significant independent predictors were intrinsic religiosity

Table 3 Correlations among variables for Muslim subsample

	Family functioning	Acculturative stress	Depression
Ethnic Arab practices (AEIM EAP)	–0.05	0.20*	0.08
Arab religious and family values (AEIM RFV)	–0.30***	0.09	–0.06
Intrinsic religiosity (Age-I)	–0.35****	0.15	–0.23**
Marginalization–integration (AAS)	–0.36****	0.04	–0.10
Separation–assimilation (AAS)	0.07	–0.05	0.03
Arab acculturative strategy—current (AASS)	0.04	–0.16	0.02
Arab acculturative strategy—desired (AASS)	–0.04	–0.03	–0.06
Family functioning (FAD-GF)	–	0.24**	0.36****
Acculturative stress (SAFE revised)	–	–	0.17*

Notes: Significance levels are based on one-tailed tests. For family functioning, higher scores indicate greater dysfunction

*$P < 0.10$

** $P < 0.05$

*** $P < 0.01$

**** $P < 0.005$

($\beta = -0.28$, $t = -1.7$, $P < 0.10$) and family functioning ($\beta = 0.32$, $t = 2.3$, $P < 0.03$). The overall model (F [7, 56] = 2.0, $P = 0.07$) accounted for 20% of the variance in depression.

Discussion

Older respondents reported greater participation in Arab ethnic practices; however, age was generally not found to be a significant factor in respondents' acculturation and mental health patterns. This may be due to the relatively young and narrow age range of the sample.

Female respondents reported greater Arab ethnic practices and intrinsic religiosity compared to males. This may be related to the role Arab women play in preserving and transmitting cultural and religious traditions. However, contrary to expectations based on previous studies [28, 29], female respondents did not differ from male respondents on measures of acculturative stress, family dysfunction, or depression. It is possible that second-generation females do not experience the same levels of acculturation stress that their mothers experienced upon immigrating; rather, both male and female second-generation individuals may experience similar acculturative experiences.

Married respondents reported greater Arab religious and family values as well as higher levels of intrinsic religiosity. Considering the young mean age of the sample, it is possible that individuals who had greater levels of religious and family values were more likely to have been married, particularly since marriage and family values are central to the Arab culture [17].

Education and income did not interact significantly with the acculturation and mental health variables. This may be reflective of the predominantly well-educated and high-income characteristics of the sample. On the other hand, consistent with previous literature [33, 34], persons who visited the Arab world more frequently engaged in greater ethnic practices and were more likely to be separated from mainstream American society.

Salient acculturative and mental health differences were found between Muslim and Christian respondents. Consistent with previous literature [32, 33], Muslim respondents endorsed higher levels of ethnic identity including both Arab religious and family values as well as Arab ethnic practices (e.g., Arabic foods, music, and speech). Related to these findings was a higher level of intrinsic religiosity among Muslims.

Also consistent with expectations, Christian respondents reported greater assimilation and integration into American culture, whereas Muslims were more separated. However, no significant differences were found with respect to desired acculturative strategy; the desired strategy for both Christian and Muslim respondents was integration. This suggests that Muslims' separation may not be intentional; instead, Muslims may face more challenges when attempting to integrate in mainstream society. This may be due to distinct differences between the Muslim faith and the American culture, and perhaps forced separation and discrimination by mainstream society, particularly in light of the anti-Muslim public sentiment after the World Trade Center attacks. Interestingly, and contrary to expectations, Muslims did not report greater acculturative stress compared to Christians.

With respect to the relationship between acculturation strategy and mental health, results from Christian respondents were consistent with expectations based on proponents of Berry's model and previous research [1, 7–9]. Those who retained their Arab family and religious values and engaged in Arab cultural practices reported greater acculturation stress such as discrimination and alienation from society. This may be because some Arab values and practices conflict with those of the mainstream culture and thus increase chances for a person to be misunderstood or discriminated against. Acculturation strategy was significantly related to mental health: Christian respondents who were more integrated reported better family functioning and less depression. Additionally, the strongest predictors for depression for the Christian subsample were Arab religious and family values, acculturation stress, and family dysfunction.

Acculturation and mental health patterns for Muslim respondents differed substantially from the Christian subsample. While the integration strategy was the only factor that correlated with family functioning among Christians, for Muslims Arab family values and intrinsic religiosity also related to better family functioning. This highlights the important role that Islamic principles and traditional Arab family values may play in enhancing family cohesion or buffering against family conflicts for the Muslim Arab Americans. Moreover, while intrinsic religiosity was not a significant variable in Christians' acculturative and mental health process, among Muslims it was related to lower levels of family dysfunction and depression.

While participation in Arab ethnic practices was significantly related to acculturation stress for Christians, the relationship was only marginal ($P < 0.10$) for Muslims. Acculturation stress and depression were higher for Christians who were separated or marginalized from mainstream society, whereas Muslims did

not demonstrate this finding. On the contrary; for Muslims, acculturation strategy on both measures used in this study (AAS and AASS) was not related to acculturation stress or depression. These results question the assumption that integration is the most psychologically adaptive strategy for all groups. It is possible that following the World Trade Center attacks Muslim Arab Americans had a greater chance of being identified as Arab or Muslim (e.g., due to Muslim-sounding names, clothes such as the headscarf), and therefore integration in the dominant culture provided greater opportunities for them to be presented with stressors such as targeted discrimination, thereby canceling out the positive impact of integration.

Implications for Research

With a population increasingly under the spotlight of national scrutiny, it is surprising that such little attention has been afforded to Arab American acculturation research. The present study takes an important step in attempting to examine the Arab American acculturation process with a comparatively larger sample size of second-generation/early immigrant individuals. It is important that further research be conducted with youth and adult second-generation/early immigrant Arab Americans to identify the stressors and mental health problems they face that may differ from those faced by Arab immigrants and refugees. To develop a richer understanding of this group, future research assessing the impact of additional socio-demographic variables (e.g., country of origin, residence in an Arabic ethnic community) and mental health factors (e.g., anxiety, parent–child conflicts, substance abuse) is also encouraged.

The findings of this study pose challenges to traditional acculturation research based on Berry's paradigm in that the acculturation process for Muslim Arab Americans was unique. For example, compared to Christians, integration for Muslims was not related to better mental health, while religiosity was significantly related to better family functioning and less depression. Because the study was conducted soon after the World Trade Center attacks, future research will be important to determine if these singular findings will be retained over time, or whether they reflect the immediate impact of the anti-Muslim backlash. Further research is moreover needed to examine acculturative risk factors for mental health problems for both Muslim and Christian Arab Americans. In addition to comparative studies, more in-depth studies should be conducted with each religious subgroup to develop an acculturation model for each group. It is suggested that similar research be conducted with Muslim immigrants from other ethnic backgrounds (e.g., South Asian, Iranian, European) to ascertain if the current results reflect an acculturation phenomenon that is shared by all Muslims in America, or whether the results are particular to Arab American Muslims.

Because the majority of previous Arab American mental health research has used interview, case study, and small-sample survey methods, systematic hypothesis-testing research will be essential to provide more accurate and generalizable information regarding Arab American acculturation and mental health patterns. Because it is currently not feasible to obtain a random sample of Arabs in America, studies with larger and more diverse sample will also be important.

Implications for Clinical Practice

As socio-political pressures and other stressors such as discrimination continue in the post September 11 era, health professionals may see an increase in Arab American clients seeking mental health services to cope with distress. Consistent with previous writers' suggestions [43, 44], treatment providers are encouraged to thoroughly assess their Arab American clients' levels of acculturation, ethnic identity, acculturation strategy, acculturation stress, and religiosity. Although historically many clinicians have had a bias towards encouraging their clients to assimilate into American culture with the assumption that assimilation is associated with positive mental health [62], clinicians are advised to avoid this bias. Instead, results from this study demonstrate that the most psychologically healthy acculturation strategies may differ for different subgroups of an ethnic population.

For second-generation/early immigrant Christian Arab Americans, the findings in the present study suggest that retaining one's cultural values and practices in addition to participating in mainstream culture is the optimum acculturation strategy. Therapists can therefore help their Christian clients explore and negotiate the demands and benefits of both cultures in an effort to shape a healthy bicultural identity. On the other hand, for Muslim Arab Americans raised in the USA, the present study suggests that religiosity may be a stronger predictor of better mental health rather than any particular acculturation strategy, and that identifying additional sources of support and stress reduction may be important for Muslims who desire integration of ethnic and mainstream cultures.

Limitations of the Study

There were several limitations of this study. Although the Arab American population tends to be younger, more affluent, and better educated than the overall American population, participants in this study were even more so. This may be related to the Internet data collection procedures. Although such procedures may be suitable for the present sample as young adults who were raised in the USA would be expected to be computer literate, Internet methods may nevertheless limit the sample to those with higher education and higher economic status. Moreover, although Internet methods allowed for a comparatively larger and more diverse sample than previous studies with Arab Americans—which is important for offsetting the infeasibility of obtaining random samples—the present sample size is still considered small and therefore the results should be replicated in order to increase confidence in their validity.

Another limitation is that data were analyzed from a pre-existing data set, and therefore variables were restricted to the measures that were initially distributed. For example, it would have been beneficial to assess additional mental health variables such as anxiety, post-traumatic stress, or substance abuse. Psychometric properties of the measures posed additional challenges: several measures were not used due to poor validity and reliability, some items were removed from the measures used, and the rating scales were altered. These modifications are representative of the challenges researchers face when attempting to conduct research with Arab Americans using measures that were developed for other ethnic groups. Although the current sample size was larger than previous studies of Arab American acculturation, even larger sample sizes may provide more accurate or generalizable results.

Finally, the timing of the study (3–4 months after the World Trade Center attacks) may have influenced the results. For example, because Muslims in particular were blamed for the attacks, Muslim Arab Americans may have faced greater discrimination and backlash compared to their Christian counterparts. This may explain why Muslims who were integrated in American society—and therefore had greater day-to-day opportunity for interpersonal friction with members of the host community—did not demonstrate better mental health.

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