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Article

Mental Health Attitudes and Perspectives of an Arab American Community: Beliefs Associated with Stigma, Treatment, and the Origins of Pathology

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Abstract: Purpose: Arab Americans are one of the largest ethnic groups in the United States. The mental health of Arab Americans and opinions on mental health, however, remain understudied despite higher rates of mental illness and lower rates of treatment. Unique cultural conceptualizations of mental illness may generate stigma, contributing to disparities in treatment. This study aimed to assess the attitudes and perspectives of Arab Americans regarding mental illness in order to address barriers to treatment. **Methods:** Using an anonymous bilingual Qualtrics survey, we assessed Arab and non-Arab participants (n = 294; ages 18+) on their conceptualizations of the causes of mental illness and on their stigma towards mental illness and mental health treatments. Comparisons were performed between Arabs and non-Arabs, as well as among Arabs. **Results:** Compared to non-Arabs, Arabs reported higher average mental illness stigma and were more likely to rate psychiatric medications as addictive and unhelpful. Among Arabs, being Christian, male, and older (>29 years old) were each associated with higher stigma. Arabs were less likely than non-Arabs to believe in a biological explanation for mental illness. **Conclusion:** Our results demonstrate higher levels of stigma towards mental illness among Arab Americans, especially Christian, male, and older Arabs, potentially related to a weaker belief in a biomedical model for mental illness. These are among the first findings describing mental illness stigma and beliefs about mental health in an Arab American community and may inform future interventions providing culturally competent care to Arab Americans.

Keywords: Arab American; mental health; stigma; attitudes

Introduction

According to the Arab American Institute, there are approximately 3.7 million Arab Americans living in the United States, many of whom are recent immigrants and refugees as a result of conflict in their home country. However, Arab Americans are not recognized as a minority group in the United States and are instead classified racially as “White” in U.S. census reports, health records, and surveys. Consequently, while they are statistically engulfed in the 'White' racial category, in social reality, they experience discrimination and stigma, thus, they are often considered an “invisible” minority. Despite their unique cultural features such as collectivism, upholding family honor, and patriarchal gender roles, there is relatively little research addressing Arab Americans’ perspectives on mental health (Fakhr El-Islam, 2008).

Following September 11th, 2001, discrimination and acculturative stress experienced by Arab Americans markedly increased (Goforth et al., 2016). A recent study of Arab Americans in Southeast Michigan correlated acculturative stress to increased depressive and anxiety symptoms and poor self-rated health (Kader et al., 2020). According to a 2011 survey of 601 adult Arab Americans, about half of respondents met criteria for depression and about one quarter for anxiety (Amer and Hovey, 2012).

Rates of mental illness are even higher in the Arab American refugee population, which comprises a large part of the Arab American immigrant population (Grasser et al., 2021; Javanbakht et al, 2019; Hinchey et al., 2023). Despite the increased prevalence of mental illness within these populations, Arab- and Muslim Americans are less likely to seek mental health treatment than the general population and other minorities (Tanhan and Young, 2022; Khan, 2006; Dallo et al., 2018). Muslim Arab Americans specifically, seek mental health services less than Christian Americans (Amer, 2005; Haque-Khan, 1997; Smith, 2011).

Culture is thought to significantly influence a group's attitudes about mental illness and mental health treatments (Sue and Sue, 1990; Abdullah and Brown, 2011). Stigmatizing conceptualizations of mental illness and negative attitudes towards people with mental illness are common in traditional Arab culture, (Tanhan and Young, 2022; Youssef and Deane, 2013; Sadik et al., 2010; Timraz et al., 2017) where mental illness is often attributed to individual weakness, lack of faith, and/or supernatural powers (Haque-Khan, 1997; Abu-Ras et al., 2008). Stigma is cited as the primary factor discouraging mental health treatment seeking, for going to therapy or to a psychiatric office presents the risk of being seen by others and harming one's family's reputation or potential marriage opportunities (Gorkin et al., 1985; Abu Ras, 2003). While belief in biomedical models of mental illness is not uncommon in the Arab population, there is a growing desire for mental health services to integrate religious- and culturally-oriented treatment approaches (Kayrouz et al.; 2015, Tobin, 2000; Slewa-Younan et al., 2020; Byrow et al., 2020) and a reluctance to use psychiatric medications or therapists (Smith, 2011; Aloud and Rathur, 2009; Krstanoska-Blazeska et al., 2021). Indeed, some Arab communities prefer religious or family circles as the first approach to healing mental illness (Zolezzi et al., 2018). Nevertheless, many existing studies assessing Arabs' beliefs about mental illness and mental health treatment are limited to Arab populations in Arab countries (Zolezzi et al., 2018) or Australia (Krstanoska-Blazeska et al., 2021; Chimoriya et al., 2023; Tomasi et al., 2022; Youssef and Deane, 2006), solely Muslim Arab Americans (Smith, 2011; Alhomaizi et al., 2018; Elghoroury, 2017) or rely on qualitative measures (Mechammil et al., 2019). Therefore, there is a need to understand the mental health attitudes of Arabs who may be influenced by the growing acceptance of mental illness in the United States (Callaghan et al, 2024; Banerjee, 2024).

Importantly, particular sociodemographic characteristics may predispose members of a minority group to acculturation, where their beliefs and attitudes are shaped by those of the prevailing culture in which they are embedded. For instance, younger Arab Americans may be more likely than their parents to assimilate into American culture, therefore being less likely to adopt traditional Arab beliefs and values concerning mental health (Amer, 2013). Thus, we predict that younger Arab Americans will demonstrate less stigmatizing attitudes concerning mental illness and psychiatric treatment. Previously, it has been shown that younger Arabs living in other countries such as Israel hold less self-stigma towards mental illness (Abo Rass et al, 2021); however, this has not yet been investigated among Arab Americans. In addition, previous studies on gender-related differences in stigma have demonstrated mixed results. Some have found that Arab women demonstrate greater mental health stigma towards the self and others compared to Arab men (Zolezzi et al., 2018; Chimoriya et al., 2023; Qushua et al, 2023). This may be attributed to the strong gender roles in Arab culture that emphasize the woman's responsibility to uphold the family's reputation (Aboulhassan and Brumley, 2019; Al-Krenawi et al., 2000; Qushua et al, 2023; Youssef and Deane, 2006). On the other hand, studies of Jordanian, Saudi Arabian, and Australian Arab women found that they had less stigmatizing views towards individuals with mental illness compared to men, while a study of Emirati Arabs found no differences between men and women (Andrade et al, 2022; Alluhaibi and Awadalla, 2022; Krstanoska-Blazeska et al., 2021; Rayan et al, 2016). The impact of gender on mental health stigma in Arab American communities is understudied. However, we hypothesize that Arab American women will exhibit less mental health stigma than Arab American men. This hypothesis is based on the understanding that, in the broader U.S. context, women generally demonstrate more openness and empathy towards mental health issues compared to men (Bradbury, 2020). We believe this trend may extend to Arab American women, potentially due to the influence of American gender norms that encourage women to seek and offer emotional support.

Relatively unstudied too are the potential differences between Arab American Christians and Muslims regarding beliefs about mental health. To our knowledge, only two qualitative studies comparing Arab Christians and Muslims have been conducted in Australia and Israel, finding Arab Christians to view psychiatric medications and modern mental health treatments more favorable and traditional healing less favorable compared to Arab Muslims (Youssef and Deane, 2013; Al-Krenawi and Graham, 2011). Religion constitutes a major component of culture, especially among Arabs; sharing religious beliefs with the majority of Americans engenders camaraderie and may increase the influence of American beliefs on Arab Americans (Rahal et al, 2022). Therefore, we hypothesize that the Arab Christians in our sample will hold less stigma related to mental health than Arab Muslims.

There is a need to better understand the unique conceptualizations of mental health in Arab American communities in order to address the disparities in mental health treatment utilization. Identifying the unique contributions to mental illness stigma and understanding how particular aspects of mental health stigma contribute to mental illness treatment preferences is paramount to reducing barriers to mental health services in this population and customizing mental health education strategies. Therefore, the objective of this study is to characterize the unique sociodemographic contributors to mental illness stigma within the Arab American community in Southeastern Michigan.

Methods

Study Design

The current cross-sectional study utilized an anonymous bilingual online survey created on Qualtrics. The survey was translated into Arabic by one member of the research team and back-translated into English by another member and checked for agreement. Each survey item was presented simultaneously in both English and Arabic. The survey was distributed to the Arab Community Center for Economic and Social Services (ACCESS) employees and patients, the National Arab American Medical Association (NAAMA), and NAAMA Nextgen members, and informal networks serving the Arab community. ACCESS is the largest Arab American community nonprofit in the US, offering a wide range of social, economic, health, and educational services to the population. NAAMA and NAAMA NextGen are all-inclusive associations that serve as the voice of all Arab American healthcare professionals and students while providing educational, philanthropic, and service activities. The survey was also shared among students at ** and ** via electronic flyers with the survey link. The survey link was further shared through the snowball method. It was administered between 4 December 2022 and 20 February 2023 to adults aged 18 years or older who were able to provide informed consent. All procedures were carried out in accordance with the Declaration of Helsinki and approved by the Institutional Review Board at Wayne State University—IRB #22-07-4777 on October 31, 2022.

Measures

The demographic information in the survey includes age, self-identified gender, country of origin (Arab), immigration status, religious affiliation, the highest level of education achieved, and yearly gross household income. Participant stigma toward mental illness against the self, other, and mental health treatments was assessed using a 5-item self-report questionnaire assessing internalized stigma towards mental illness using a 4-point likert-type scale (adapted from King et al., 2007). The reliability of this measure was acceptable ($\alpha=0.70$). Two of these items, “I believe therapy is beneficial for treating mental illness” and “I believe psychiatric medications (antidepressants, anti-anxiety, antipsychotics) are beneficial for treating mental illness,” were reverse-coded, but are presented throughout the paper with negative wording for ease of interpretation. Participants’ beliefs about the origin of mental illness were assessed through a single question, in which the participant chose among biological, spiritual, environmental, and psychological causes.

Data Analysis

Data analyses were conducted in SPSS version 29. Standard data screening was implemented with corrections for outliers and missing data. Data were Missing Completely at Random (MCAR; Little's MCAR test: $\chi^2 = 547.604$, $df = 520$, $p = .194$). Due to relatively low levels of MCAR data, a complete case analysis was performed, leaving a final sample of $N = 218$ for the Arab group and $N = 294$ for the total group (Arabs and non-Arabs). Assumption checking was completed for each analysis, and all test assumptions were met. Pairwise correlation analysis was used to assess for candidate control variables, as well as for any issues of multicollinearity (none of which were found; all $r < 0.9$). Group comparisons on categorical variables, (beliefs in origin of mental health, preferred mental health treatment resources, etc.) were performed using chi-square tests. Group comparisons on continuous variables were conducted using independent T-square tests and Analysis of Covariance (ANCOVAs). Bivariate Pearson correlations were used to assess for statistically significant relationships among stigma scale score, demographics, and our other outcome measures. Logistic regression analysis was used to predict dichotomous dependent variables (instead of chi-square analysis) when other variables needed to be controlled. For all analyses, the criterion for null hypothesis rejection was set at $p < 0.05$.

Results

Demographics

Table 1 presents demographic statistics for the sample grouped by Arab and non-Arab self-identity. Arabs and non-Arabs were similar with respect to average age ($t = 0.789$, $p = .215$) and level of education ($\chi^2 = 7.510$, $p = .185$). Arabs differed significantly in self-reported annual income ($\chi^2 = 17.176$, $p = .009$), immigration status ($\chi^2 = 114.652$, $p < .001$), and religion ($\chi^2 = 88.292$, $p < .001$). A higher proportion of Arab participants claimed an annual income of over 150,000 USD compared to non-Arabs (27.5% vs. 19.7%). Arab participants were less likely to report an annual income of less than 20,000 USD compared to non-Arabs (8.3% vs 22.4%). Additionally, a greater proportion of Arabs declined to disclose their annual income compared to non-Arabs (17.4% vs 7.9%). In regard to immigration status, a greater percentage of Arab participants were first generation Americans and immigrants (66.1% vs 28.9%; 22.5% vs 2.6%), while a larger proportion of non-Arab participants were second-generation Americans or greater (68.4 % vs 8.3%). With respect to religion, the majority of Arab participants identified as Muslim (63.3% vs 3.9%) while non-Arab participants were more likely to identify as Christian (52.6% vs 26.6%), atheist/agnostic (30.3% vs 6.4%), or other religious affiliation (13.2% vs 3.2%).

Table 1. Socio-demographic Characteristics.

Measure		Arab (n=218)	Non-Arab (n=76)	t-value or Chi-square (p-value)
Age (mean)		27.5	28.7	.789 (.215)
Education	High school or GED	6.9%	7.9%	7.510 (.185)
	Some college	14.7%	5.3%	
	Associate's degree	2.8%	1.3%	
	Bachelor's degree	56.4%	65.8%	
	Master's	10.1%	14.5%	
	Doctorate	9.2%	5.3%	
Annual income (USD)	<20k	8.3%	22.4%	17.176 (.009)**
	20k-49k	11.5%	6.6%	

	50k-74k	9.2%	14.5%	
	75k-99k	11.9%	13.2%	
	100k-149k	14.2%	15.8%	
	>150k	27.5%	19.7%	
	Prefer not to say	17.4%	7.9%	
Immigration Status	Second or greater generation American	8.3%	68.4%	
	First generation American	66.1%	28.9%	
	Immigrant	22.5%	2.6%	114.652 (<.001)***
	Refugee	1.4%	0%	
	Other	1.8%	0%	
Religion	Muslim	63.3%	3.9%	
	Christian	26.6%	52.6%	
	Jewish	0.5%	0%	88.292 (<.001)***
	Atheist/agnostic	6.4%	30.3%	
	Other	3.2%	13.2%	

Significant changes are specified by *p* values of symbol *** < .001, **<.01, *<.05

Within the Arab sample, country of origin was also assessed. 113 (51.8%) participants reported their country of origin as Lebanon, followed by 34 (15.6%) from Syria, 25 (11.5%) from Iraq, 19 (8.7%) from Palestine, and 14 (6.4%) from Egypt. Participants reporting other countries of origin represented less than 5% of the Arab sample.

Stigma

Depicted in **Table 2**, Bivariate correlations of composite stigma scores showed that stigma score was not significantly correlated with age or income in the Arab and non-Arab subsamples. While education level was not correlated with stigma score in the Arab group, there was a negative association in the non-Arab group, suggesting higher education to be correlated with lower stigma.

Table 2. Bivariate correlations between demographic variables and stigma score in the Arab and non-Arab subsamples.

Factor	Arabs Pearson correlation (p)	Non-Arabs Pearson correlation (p)
Age	.110 (.107)	-.025 (.833)
Income	.019 (.779)	.048 (.680)
Education level	-.122 (.071)	-.343 (.002)**

Significant changes are specified by *p* values of symbol ** < .01

Further analysis revealed a significant difference in stigma score between Arabs and non-Arabs ($t(292) = -3.42, p < .001$). When comparing ratings of agreement with individual items on the stigma scale, Arabs reported significantly higher average agreement on “I could overcome mental illness on my own” ($t(292) = -2.49, p = .013$), “Psychiatric drugs are addictive” ($t(292) = -2.93, p = .004$), and “Psychiatric medications are not beneficial for mental illness” ($t(292) = -3.09, p = .013$). There were

no observed differences in average responses between Arabs and non-Arabs for “If someone has mental illness they are weak” and “Therapy is not beneficial for treating mental illness.”

Interestingly, among Arab participants, Arab Christians, Arab males, and older Arabs showed a significantly higher average stigma score compared to Arab Muslims ($t(194) = 2.10$, $p = .037$), Arab females ($t(216) = 4.889$, $p < .001$), and younger Arabs ($t(216) = 2.16$, $p = .037$) respectively. Results of an ANCOVA controlling for educational level indicated a significant positive main effect of being Arab on stigma score ($F(1,294) = 13.185$, $p < .001$), as well as a significant positive main effect of being male on stigma score ($F(1,294) = 11.209$, $p < .001$). Results of another ANCOVA revealed a significant difference between Arab female immigrants compared to Arab female nonimmigrants ($F(1,133) = 4.325$, $p = .039$).

When comparing agreement with individual items on the stigma scale within the Arab sample (**Supplementary Table 1**), Arab males reported significantly higher agreement on all items compared to Arab females. Older Arabs only differed significantly from younger Arabs regarding increased agreement with the statement “If someone has mental illness they are weak” ($t(214) = 3.894$, $p < .001$). Similarly, Arab immigrants showed significantly higher agreement with the latter item than non-immigrants, despite overall stigma score not differing significantly ($t(216) = -2.316$, $p = .011$). Arab Christians reported significantly higher agreement on items “If someone has mental illness they are weak” and “I could overcome mental illness on my own” ($t(194) = 2.983$, $p = .002$; $t(194) = 2.799$, $p = .003$).

Beliefs in Origins of Mental Illness

Participants were assessed whether they believed the origin of mental illness can be attributed to biological, spiritual, psychological, and environmental causes. Compared to non-Arab participants, Arabs were less likely to report the origin of mental illness as being biological ($\chi^2 = 10.629$, $p = .001$) (**Table 3**). However, among Arab participants who did endorse a biological origin of mental illness, stigma was significantly lower compared to those who did not ($t = 6.466$, $p < .001$). This effect was also observed in participants who selected psychological ($t = 2.892$, $p = .004$) and environmental ($t = 3.257$, $p = .001$), but not spiritual. Furthermore, those who believed in none of the above explanations demonstrated significantly higher stigma ($t = -2.723$, $p = .007$).

Table 3. Comparisons of Arab and non-Arab participants on their mental illness beliefs.

Measure	Arab (n=218)	Non-Arab (n=76)	Chi-square (p)
“I believe the origin of mental illness is ____”			
Biological	80.3%	96.1%	10.629 (.001)**
Spiritual	26.6%	30.3%	.378 (.539)
Psychological	81.7%	88.2%	1.718 (.190)
Environmental	77.1%	84.2%	1.729 (.188)
Significant changes are specified by p values of symbol *** <. 001, **<.01, *<.05			

Male and female Arab subjects differed in their beliefs in the origin of mental illness with male Arabs being more likely to select “none” ($\chi^2 = 6.758$, $p = .009$). Conversely, young Arab participants were more likely to endorse a spiritual ($\chi^2 = 5.535$, $p = .019$), biological ($\chi^2 = 22.178$, $p < .001$), and environmental ($\chi^2 = 15.203$, $p < .001$) origin of mental illness than older Arab participants. Arab immigrants were less likely to attribute the origins of mental illness to environmental factors than non-immigrants ($\chi^2 = 8.972$, $p = .003$). Furthermore, Muslim Arabs endorsed spiritual origin more than Christian Arabs ($\chi^2 = 6.857$, $p = .009$). (**Supplementary Table 2**).

Discussion

Stigma and negative attitudes towards mental health treatment may be influenced by cultural and community conceptualizations of mental health (Yang et al., 2007) and are cited as the most pervasive barriers to mental health treatment amongst Arab Americans (Aloud and Rathur, 2009;

Khatib et al., 2023). This preliminary study is among the first to examine contributing factors to mental illness stigma in an Arab American community. Through the use of a composite measure of mental illness stigma, encompassing self-stigma, stigma towards others with mental illness, and stigma towards mental health treatment—including psychiatric medications and therapy—our results suggest Arab Americans hold greater overall mental illness stigma compared to non-Arab Americans. To our knowledge, these findings represent the first use of a quantified measure of internalized mental health stigma to compare Arab Americans with non-Arabs and are in line with a handful of studies conducted in other countries that demonstrate mental health stigma to be more prevalent within Arab communities (Youssef and Deane, 2006; Henning-Smith et al., 2013; Levav et al., 2007).

The finding that Arabs had higher scores than non-Arabs on subscale items “Psychiatric drugs are addictive” and “Psychiatric drugs are not beneficial for treating mental illness” is in agreement with several qualitative studies reporting that Arabs hold a relatively high degree of distrust in psychiatric medications (Youssef and Deane, 2013; Alhomaizi et al., 2018; Zolezzi et al., 2018). However, to our knowledge, this is the first study to quantitatively compare Arab immigrants to the rest of the population regarding their beliefs about psychiatric medications, highlighting a significant difference in the level of distrust towards these treatments. Future studies are needed to comprehensively assess these attitudes towards psychiatric medications to understand whether this has implications for acting as a barrier to seeking treatment or for influencing treatment preferences. Furthermore, Arabs scored higher than non-Arabs on the item “I could overcome mental illness on my own,” and this finding aligns with results from a study of Arab Israelis and Jewish Israelis showing Arab Israelis reported higher rates of mental illness but lower help-seeking behaviors (Levav et al., 2007). Although this study’s results could be explained by other factors related to logistic barriers to accessing treatment, qualitative studies have supported the sentiment that Arabs are more likely to be ashamed of seeking help or acknowledging mental illness due to concerns about damaging their social reputation if seen seeking treatment (Abu Ras, 2003; Zolezzi et al., 2018; Al-Krenawi, 2005). It is also important to note that while one may not initially hold personal stigma towards help-seeking for mental illness, collective public stigma in many Arab communities may preclude individuals from seeking out psychiatric treatment and fuel development of internalized self-stigma (Al-Krenawi et al, 2009).

Interestingly, exploratory analyses within our sample revealed Arab American males hold greater mental illness stigma compared to Arab American females, a finding also demonstrated in several prior studies. A study in Lebanon by Abi Doumit and colleagues found Lebanese women to possess more favorable attitudes towards the mentally ill compared to men (Abi Doumit et al., 2019), and an Australian study found that female Arabic-speaking community leaders were more likely to perceive the mentally ill as sick rather than weak, indicating less stigma towards mentally ill people (Krstanoska-Blazeska et al., 2021). The results of the latter study also align with our findings that Arab males are more likely to perceive people with mental illness as weak. This in part could be explained by cultural gender roles in accepting vulnerability vs. seeing vulnerability as weakness. Yet these findings are in opposition to much of the existing literature, as a systematic review of mental illness stigma by Zolezzi et al. demonstrated that Arab females throughout the world report higher stigma on average compared to men (Zolezzi et al., 2018). However, none of the studies in the review that assessed gender differences were conducted in America. Of note, the effect of gender on stigma was seen in all participants in our study, regardless of Arab identity. This may suggest our sample of Arab participants is heavily influenced by American cultural attitudes towards mental illness. Nevertheless, the fact Arabs differed from non-Arabs with respect to stigma suggests there are particular elements to the Arab American community that influence attitudes towards mental illness and mental health treatment. The notion is further supported by our findings that Arab female immigrants reported higher overall stigma than female nonimmigrants, suggesting immigration status produced a direct effect on stigma. Therefore, the attitudes held by Arab females may be more

heavily influenced by the community in which they were raised compared to those held by males. Further work is needed to directly address this question.

To our knowledge, only two other studies have compared the mental health stigma of Arab Christians and Muslims and found that Arab Christians report less stigma towards psychiatric therapy and were more prepared to use modern mental health systems when compared to Muslim and Druze Arabs (Youssef and Deane, 2013; Al-Krenawi and Graham, 2011). Our findings, however, suggest that Arab Christians have higher overall stigma related to mental illness than Arab Muslims, particularly with respect to perceiving the mentally ill as weak and being able to overcome mental illness on one's own. Several factors may contribute to these mixed results, and further study is needed. Nevertheless, Arab religious groups in one region may have developed differently from the same religious group in another region, leading them to develop certain unique values and beliefs.

Compared to younger Arabs, older Arabs in our study had a higher overall stigma towards mental health, specifically in suggesting that people with mental illnesses are weak. These findings are relatively novel in light of findings from Hamid and Furnham, which depicted more positive attitudes towards seeking professional mental health treatment among older UK Arabs and Caucasians; however, no distinction was made between the Arab and Caucasian samples (Hamid and Furnham, 2013).

Acculturation influences mental health stigma through modifying beliefs about the origins of mental illness, which, in our sample, were revealed to differ between Arabs and non-Arabs. Intriguingly, Arabs were less likely to believe that the origin of mental illness is biological compared to non-Arabs, and Arabs that believed in a biological explanation had significantly lower stigma than Arabs that did not. These results are concordant with a previous study (mentioned above, Hamid and Furnham) which found that UK Arabs are less likely to believe in a biomedical model for mental illness compared to Caucasians (Hamid and Furnham, 2013). Comparisons between Australians and Iraqi and Sudanese refugees in Australia yielded similar results (May et al., 2014). Another study found that British participants assigned a biological or psychological explanation for auditory hallucinations while Saudi Arabians claimed Satan or other supernatural causes; however, these comparisons were drawn between British people living in the UK and Saudi Arabians living in Saudi Arabia, which may introduce several confounding variables as they are two different samples (Wahass and Kent, 1997). Other studies have described Arabs' conceptualizations of mental illness generally with mixed results depending on the Arab groups studied; one study in Iraq showed that Iraqis perceive personal weakness, traumatic life events, and brain dysfunction as the major causes of mental illness (Sadik et al., 2010), while another study in Lebanon reported that the majority of Lebanese university students believed in a supernatural or spiritual explanation for mental illness (Rayan and Fawaz, 2018). Arabs' weaker belief in a biomedical model for mental illness may contribute to the greater stigma found amongst this population, and lower acceptance of biological treatments.

Limitations

Our study is preliminary in nature, and a more comprehensive investigation of stigma in our participant population would be helpful to further examine the contributing factors to the apprehension towards psychiatric treatments as observed in our sample. The nature of a survey study also introduces a self-report bias which may not be completely reflective of our sample's true attitudes and experiences, especially considering the sensitive subject of study. Nevertheless, our survey did not inquire about participant personal psychiatric history, which may reduce bias and hesitancy to report. Additionally, sampling was done through convenience sampling and snowball sampling. This potentially introduced bias into our sample due to many of the participants being from the same social circles and economic standing. This is evident in the disproportionately high proportion of the Arab sample reporting an annual income of greater than 150,000 USD. However, the Arab American population is reported to have a higher median income than the national average, especially those of Lebanese and Syrian descent, which comprised a large proportion of our sample (Asi and Beaulieu, 2013). The differences in our findings from existing literature could be reflective

of the younger age of our sample, the sample's high degree of education, and the fact the majority of our sample were not immigrants or were hesitant to report immigration status, meaning our sample could be characterized by a high degree of acculturation. However, this study sought to characterize the unique attributes of the Arab American population, which, especially in Southeast Michigan, has a large number of educated second and third generation immigrants. We also did not collect information about where participants attained the survey. Furthermore, despite these limitations in our sample, the Arabs in our sample demonstrated a number of significant differences from non-Arabs with respect to stigmatizing attitudes towards mental health and mental illness conceptualization.

Strengths

To our knowledge, this is the first study to quantify stigma towards mental health in Arab Americans. Creating a stigma score allows for more valid comparisons with other ethnic groups and for easier assessment of the influence of different demographic characteristics on stigma score. Our study was unique in that we conducted multiple layered comparisons among the Arab sample to discover how Arab Americans differ in their mental health attitudes. The Arab American population is diverse and nuanced, and assessing different aspects of this population is important for future studies and targeted interventions.

Future Directions

Understanding the degree to which religiosity and cultural affiliation influence attitudes and beliefs about mental health could help to further characterize differences in the Arab American population, as some Arab immigrants may be more or less inclined to agree with stigmatizing beliefs associated with their culture of origin. Furthermore, greater characterization as to how aspects of mental health stigma influence perceived barriers to mental health treatment and subsequent treatment resources in the Arab American population is needed to better inform medical practitioners and mental health professionals. Our results may inform medical practitioners and mental health professionals as they interact with Arab Americans and counsel them on their mental health. In addition, community organizations may utilize this more complete picture of this population's experiences and perceptions in creating initiatives for improving mental health awareness within the Arab American community. Special measures should be taken to reduce stigma against mental illness and treatment-seeking through providing education on the causes of mental illness and the role of psychiatric therapy and drugs in treatment.

Supplementary Materials: The following supporting information can be downloaded at the website of this paper posted on Preprints.org.

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