

**The Relationship between Discrimination, Distress Tolerance and Substance Use in an Arab American Community Sample**

**by**

**Samah Abdul Altairi**

**A thesis submitted in partial fulfillment  
of the requirements for the degree of  
Master of Science  
(Psychology)  
in the University of Michigan–Dearborn  
2018**

**Master's Thesis Committee:**

**Professor Pam McAuslan, Co-Chair  
Professor Caleb Siefert, Co-Chair**

## Table of Contents

<b>List of Tables</b> .....	iii
<b>List of Appendices</b> .....	iv
<b>Abstract</b> .....	v
<b>Chapter I Introduction</b> .....	1
Research on Arab Americans.....	1
Discrimination towards Arab Americans.....	2
Substance Use in Arab Americans.....	5
Discrimination towards Minorities and its Relationship to Substance Use.....	8
Distress Tolerance.....	11
Distress Tolerance and Discrimination.....	13
The Present Study.....	15
<b>Chapter II Methods</b> .....	17
Participants.....	17
Measures.....	18
Demographics Questionnaire.....	18
Everyday Discrimination Scale (EDS).....	18
Distress Tolerance Scale (DTS).....	18
Monitoring the Future Survey (MTF).....	18
Religiosity Scale.....	19

Procedure.....	19
<b>Chapter III Results.....</b>	<b>21</b>
Descriptives Statistics.....	21
Correlations.....	22
Does Distress Tolerance Mediate the Relationship between Discrimination and Substance Use?.....	23
Does Religiosity Moderate the Relationships between Discrimination and Substance Use?.....	25
Does Religiosity Moderate the Relationship between Discrimination, Distress Tolerance and Substance Use? .....	26
<b>Chapter IV Discussion.....</b>	<b>28</b>
Hypothesis 1A.....	29
Hypothesis 1B.....	30
Hypothesis 1C.....	34
Hypothesis 2A.....	34
Hypothesis 2B.....	35
Strengths and Limitations of the Present Study.....	35
Limitations.....	36
Strengths.....	37
Implications and Conclusions.....	38
<b>References.....</b>	<b>40</b>

### **List of Tables**

Table 1: Descriptives for Distress Tolerance and Discrimination.....	45
Table 2: Descriptives for Religiosity.....	46
Table 3: Descriptives for Substance Use Subscales.....	47
Table 4: Correlations Between Variables.....	48
Table 5: Religiosity as a Moderator between Discrimination and Marijuana Use.....	49

## **List of Appendices**

Appendix A: Demographics Questionnaire.....	51
Appendix B: Everyday Discrimination Scale (EDS).....	52
Appendix C: Distress Tolerance Scale (DTS).....	53
Appendix D: Monitoring the Future Survey (MTF).....	54
Appendix E: Religiosity Scale.....	55

## **Abstract**

Research regarding the experiences of Arab Americans is challenging. This may be due to the fact that the U.S Census Bureau does not recognize Arab American as a separate ethnic group. Consequently, when large, federally funded studies use the U.S Census Bureau's categories, Arab Americans typically have to identify as white and their experiences are failed to be included. The purpose of this study was to examine the contributing factors that lead to the use of tobacco, alcohol and marijuana within emerging Arab American adults. Past research suggests that the experience of discrimination may be related to substance use in minority groups. This study considered how experience with discrimination and tolerance to distressful events may be influencing substance use within this group. As an exploratory analysis, the role that religiosity may be playing in the relationship between discrimination, distress tolerance and substance use within Arab Americans was examined. Utilizing an online survey, 295 Arab Americans were recruited across the country to participate in this study. To be eligible, participants had to be of Arab descent, between 18-29 years of age, currently living in the United States and been living in the U.S. since 10 years of age or younger. More experience with discrimination was related to less tolerance to distress. Discrimination was negatively correlated to alcohol and marijuana use. Distress tolerance did not mediate the relationship between discrimination and substance use. Religiosity did not moderate the relationship between all the variables. The study has implications for future research to study what factors lead Arab Americans to use substances. Clinical implications include emphasis for prevention programs as

well as lifting the stigma around substance use in Arab Americans to help people within this group to feel more comfortable in seeking out treatment.

## **Chapter I**

### **Introduction**

#### **Research on Arab Americans**

This study was conducted to investigate the relationship between experiencing discrimination and using substances within an Arab American community sample. Specifically, the focus was to examine the mediating role that distress tolerance may have on this relationship. Furthermore, the role of religiosity on this relationship was examined as an exploratory analysis. The purpose of this study was to contribute to the literature that focuses on the unique experiences that Arab Americans have living in the United States today.

According to the Arab American Institute (AAI), it is estimated that nearly 3.7 million Americans trace their roots to an Arab country today, and that number continues to grow (2018). However, research regarding health and wellness among Arab Americans is challenging in part because the U.S Census Bureau does not recognize Arab Americans as a separate ethnic group (Ibish, 2001). The U.S. Census Bureau categories are frequently used to assess race/ethnicity in large, federally funded studies and when this methodology is used, Arab Americans typically identify as White. Thus, studies of discrimination and substance use in the U.S. often fail to include information about the experiences of Arab Americans.

This Introduction begins with a brief review of the statistics and research regarding the experience of discrimination in the Arab American community. Then research that examines the relationship between discrimination and substance use in other minority groups is considered. Next, relevant research is reviewed regarding distress tolerance and religiosity. This research serves as a rationale for assessing how these variables may influence the interaction between



## EXPERIENCES OF ARAB AMERICANS

discrimination and substance use among Arab Americans. Finally, the present study is presented and discussed as it explores the relationships between the variables of focus.

### **Discrimination Towards Arab Americans**

Discrimination can be defined as unfair treatment based on race, gender, age, religion, sexual orientation, and other characteristics (Assari & Lankarani, 2017). Discrimination towards Arab Americans is becoming a serious problem in the U.S. and has been shown to play a role in the daily lives and well-being of this group. Widner and Chicoine (2011) focused on discrimination among Arab Americans in the workplace. When identical resumes with either a White or Arabic-sounding name were sent to 265 job postings in the U.S, an Arab male applicant needed to send out at least two resumes for every one resume that was sent by a White male applicant in order to get a call back for an interview. The study also found that when the job was for an office manager position as opposed to a customer service manager position, the Arab American applicant was more likely to be discriminated against, getting even fewer call backs. This suggests that discrimination may be more likely when higher status is involved. A similar study focused on discrimination among Arab American females was the focus (Gaddis & Ghoshal, 2015). Fictitious female white and Arab American identities were created to make 560 roommate-wanted advertisements in Los Angeles, New York, Detroit, and Houston. To control for possible economic bias, identities were advertised as being college-educated, employed, and were written in grammatically correct English. In all four cities, Arab American female identities were less likely to receive replies of interest. In total, Arab American females received about 40 percent fewer replies than the White females.

The Arab American Institute (AAI) also studies discrimination (Amer & Awad, 2015). It conducted a national study a couple years after the 9/11 attack to assess discriminatory

## EXPERIENCES OF ARAB AMERICANS

experiences of 505 Arab American participants. Over three quarters (78%) of respondents believed there was more racial profiling since 9/11. About 30% reported experiencing discrimination personally, and 40% reported knowing someone who had been discriminated against. Muslim Arabs, those who were not born in the U.S., and younger participants were more likely to report being discriminated against compared to Christian Arab Americans, those who were U.S. born, and older participants. High levels of discrimination towards Arabs, more specifically those who are Muslim, are prevalent, with this population being subject to extremely high level of hate crimes, such as mosque burnings or bomb threats (Nassar-McMillan, Ajrouch, & Hakim-Larson, 2013).

Research links discrimination to psychological distress in this group. Assari and Lankarani (2017) conducted a study that focused on Arab Americans, 337 males and 385 females, living in Michigan. Utilizing face-to-face interviews and a measure that focuses on distress, the participants reported on their experience with discrimination and psychological distress. Discrimination was significantly and positively related to psychological distress.

Moradi and Hasan (2004) studied discrimination and psychological distress among a sample of 108 Arab Americans. This sample consisted of members of a community in north central Florida. Recruiting for this study was executed by networking with student and community organization members from Arabic culture and language courses, Arabic and Islamic student organizations, and Arab-based churches and mosques through personal contacts and by snowball sampling. The majority of participants in this study were college students (68%). More than half of the participants identified as Muslim (61%). Roughly half (53%) reported that they had experienced a discriminatory event where they were treated unfairly due to

## EXPERIENCES OF ARAB AMERICANS

their race. Almost half (47%) reported having been called a racist name within the past year. Further, discrimination was linked to greater levels of psychological distress.

Padela and Heisler (2010) assessed discrimination and abuse based on race, psychological distress, happiness levels, and health status among Arab Americans after September 11, 2001. They gathered data using face-to-face interviews using a community sample of Arab Americans residing in the greater Detroit area. Experiencing post-September 11 abuse and discrimination based on race or ethnicity was associated with lower levels of happiness and worse self-reported health status. Levels of psychological distress were high in this sample, especially among those who reported experiencing either personal or familial (someone in their family experiencing) abuse or discrimination. Furthermore, increasing perceptions of lack of respect for Arab Americans in the U.S. society and greater reported effects of September 11 on respondents' personal safety and security were also associated with higher levels of psychological distress.

This research suggests that discrimination is a substantial issue for this group, but the depth of research on this issue may be limited. The PEW Research Center (2016) assessed discrimination based on race or ethnicity utilizing the U.S. Survey of adults to gather data. The results found that 71% of black Americans experienced discrimination; 52% of Hispanics experienced discrimination; and 30% of whites experienced discrimination. This large study delves into the issue of discrimination among people living in the U.S., but limits its categories to only black, Hispanic, and white. This may be overlooking a wide range of ethnicities and races, including Arab Americans who may be responding as White.

The research reviewed above provides evidence for Arab Americans being at risk for overt discrimination. It also reveals that they are at risk for subtle discrimination, as well. For

## EXPERIENCES OF ARAB AMERICANS

Arab Americans, not unlike any other groups, the experiences of discrimination are associated with distress and research that investigates this relationship is crucial.

### **Substance Use in Arab Americans**

Understanding rates of substance use within the Arab American population is another area where research is limited. One longitudinal study recruited adult (18 or older) Arab refugees and immigrants in southeastern Michigan from refugee resettlement agencies and through advertisement and community presentations (Arfken, Broadbridge, Jamil, Arnetz, 2014). The final sample totaled 291 refugees and 298 immigrants (n = 589). Their results suggested that those who had recently immigrated used alcohol at low rates. After just one year in the U.S., use of alcohol increased by 69.5%. For Arab American women, consumption of alcohol almost doubled after one year (7.3% at Time 1 and 14.2% at Time 2).

Waterpipe tobacco smoking is alternative form of tobacco use, where the smoking process does not remove toxins from the tobacco, making it comparable to or worse than cigarettes (Amer & Awad, 2015; Fakhreddine, Kanj, & Kanj, 2014; Knishkowsky & Amitai, 2005). Grekin and Ayna (2008) studied water pipe use among 600 university students. Being of the Arab ethnicity was the most significant predictor of waterpipe use. El-Shahawy and Haddad (2015) conducted a cross-sectional study that examined the effects of waterpipe use among Arab Americans. Participants were recruited using a convenience sampling technique where they volunteered to participate in response to a widespread advertisement about the study.

Advertisement about the study was spread through local media, social networking sites, and fliers which were distributed in Middle Eastern grocery stores, restaurants, lounges, and faith-based organizations in Richmond, VA. The final sample consisted of 131 smokers who were asked about smoking cigarettes, smoking the waterpipe, smoking both of these, nicotine

## EXPERIENCES OF ARAB AMERICANS

dependence and barriers to smoking cessation. Of the 131 smokers, 103 were exclusive cigarette smokers and 28 were dual cigarette and waterpipe tobacco smokers. The study revealed that dual smokers were more likely to have more dependence on nicotine as well as less confidence in overcoming barriers to cessation.

In one study, cigarette smoking among Arab American adolescents in Michigan was examined (Rice, Templin, & Kulwicky, 2003). This study extended over an 8-year period where tobacco use information was collected from thousands of Arab Americans and other high school students between the ages of 14 and 18. In total, 34% of the Arab American adolescent participants had ever smoked and 17% had smoked at least one cigarette over the past month. Another study that was conducted compared tobacco use in Arab American, Chaldean, and non-Middle Eastern white adults (Jamil et al., 2009). Standardized surveys were available in both English and Arabic to adults (18 years and older) who attended an Arab American and Chaldean community center in a large mid-western city. The community center provided all people, regardless of ethnicity, access to health, human, social, and educational services. The final sample was comprised of 1,919 participants. Thirty percent of the sample were Chaldean, 60% Arab, and 10% non-Middle Eastern White. The average age of these participants was 39 years old. More than half of the sample was female (61.5%). Rates of current cigarette smoking were as follows: about 22% (n = 124) in Chaldeans, about 20% (n = 231) in Arab Americans and about 35% (n = 70) in non-Middle Eastern Whites. Rates of current dual cigarette and waterpipe smoking were as follows: 1.4% (n = 8) in Chaldeans, about 4.3% (n = 49) in Arab Americans and about 2.5% (n = 5) in non-Middle Eastern Whites. These results show that those who identified as Arab American were more likely to dually smoke the waterpipe and cigarettes than the other groups. The results of this study further found that waterpipe smoking was higher

## EXPERIENCES OF ARAB AMERICANS

among the Arab Americans (3.6%) than it was in both Chaldeans (2.6%) and non-Middle Eastern Whites (1%). Results further indicated that those who identified as Arab American were more likely to dually smoke the waterpipe and cigarettes than the other groups (4.3%).

Arfken, Jamil, and Arnetz (2012) examined marijuana use disorder and prescription drug disorder among recent Arab immigrants. To control for immigration effects and for being born in a country with high stigmatization of substance use, the study included Canadian immigrants and non-Arab people of other Middle Eastern countries such as Iran, Afghanistan, and Pakistan. The study failed to detect a significant difference in prevalence of marijuana or prescription drug use disorder among the Arab immigrants, the White non-Hispanic U.S.-born group, the Canadian immigrants, and the other Middle Eastern immigrants (1.5% for marijuana use disorder and 0.6% for prescription drug disorder). These results suggest that the prevalence of current drug use disorder among Arab American immigrants may be just as high as rates in the White non-Hispanic U.S.-born group.

Arfken and Kubiak (2009) assessed the prevalence of polysubstance abuse among Arab Americans. Participants in this study were recruited in Michigan from a publicly funded treatment center for substance abuse. The study focused on 156 Arab American men, 79% of whom were immigrants. Alcohol was the most common drug of abuse (76.3%), followed by marijuana (20.5%) and cocaine (15.4%). Among the sample, about 5% indicated prescription opioids as their drug of abuse and about 5% abused heroin. About 83% of the participants only abused one drug, but about 14% of the sample abused two drugs and 3.2% abused three substances. Those who had lived in the U.S. for 10 or more years and those who had more fluency with the English language were significantly more likely to have polysubstance abuse compared to those abusing only one substance.

## EXPERIENCES OF ARAB AMERICANS

Although not the main focus of this study, Abudabbeh and Hamid (2001) examined the difficulties that come with gaining substantial research that focuses on substance use within Arab Americans. The authors note that within Islam, prohibition of alcohol and other drugs is embedded in the religion. This is important to this population, given that, in general, about 80% of Arabs identify as Muslim. Arab Americans who follow the Islamic faith may feel a sense of shame or guilt associated with using substances. When young Arab Americans use drugs or drink alcohol, it is often disapproved by parents and blamed on the influence of Westernized American culture. However, the studies reviewed above suggest that tobacco, alcohol and marijuana use is not uncommon among Arab Americans and further highlight the importance of having future research focus on substance use within this understudied group.

The research reviewed suggests that increased time Arabs spend in the United States is associated with increased risk to using substances. Of course, there are many mechanisms that likely play a role in this relationship. One such mechanism that may be contributing to this relationship is the experience of discrimination.

### **Discrimination towards Minorities and its Relationship to Substance Use**

Past research suggests that the experience of discrimination may be related to substance use in minority groups. In one study (Stock, Gibbons, Walsh & Gerrard, 2011), the relationship between the stresses associated with discrimination was linked to hypothetical use of various substances among African American participants. When shown scenarios of a situation where discrimination was taking place, participants were asked to rate how stressful that situation would be if they were in it. Along with reporting their history of substance abuse, the participants were asked to report their willingness to use various substances in a hypothetical situation.

## EXPERIENCES OF ARAB AMERICANS

Among participants who had used substances in the past, those who were shown the discrimination scenario, as opposed to the control group who viewed a nondiscriminatory situation, reported higher willingness to use substances. This effect did not hold for those who had not used substances in the past. These findings suggest that African Americans who have had or currently use substances may be at risk for engaging in substance use due to higher levels of stress in response to difficult situations, like discrimination.

There is also evidence that discrimination may lead to substance abuse in the Latino community. Using a nationwide sample, one study (Verrisimo, Gee, Ford, & Iguchi, 2014) utilized a diagnostic interview as well as a survey regarding experiences of discrimination to assess Latino/a experiences lifetime alcohol abuse, illicit drug abuse, and discrimination. A significant relationship between discrimination and risk for substance use disorders among Latinos was found. Discrimination was significantly associated with increased risk of alcohol abuse for women, more than men, and increased risk of drug abuse for men, more than women. Furthermore, foreign-born Latinos appeared to be at higher risk for substance abuse than U.S-born Latinos.

Another study with Latinos suggests that experiencing discrimination may play a role in substance use (Molina, Jackson, & Rivera-Omeda, 2015). In this study, Latinos were recruited through a nationwide survey and assessed for alcohol use disorder using a diagnostic interview, which utilized criteria for lifetime alcohol use disorder from the *Diagnostic and Statistical Manual, Fourth Edition* (Molina, Jackson, & Rivera-Omeda, 2015). To measure racial/ethnic discrimination, the study utilized a discrimination scale containing items assessing how often participants felt they were disliked or treated unfairly due to race/ethnicity and how often they



## EXPERIENCES OF ARAB AMERICANS

had seen friends treated unfairly due to race/ethnicity. Experiencing everyday discrimination predicted increased risk for *DSM-IV* lifetime alcohol use disorder for both women and men.

Discrimination may also lead to substance use among Asian Americans (Lo & Cheng, 2012). A study assessed the relationship between discrimination and substance use disorder using a nationally representative sample of 9,840 individuals. The study focused on the experience of minorities, particularly Asian Americans (21%), Latinos (28%), and African Americans (51%). The study found that, within each minority group, people who experienced more discrimination were more likely to meet *DSM-IV* criteria for substance use disorder within the past year.

There is also evidence for the relationship between discrimination and substance use among American Indians. When 195 adolescents from American Indian reservations were sampled, almost half of them reported perceived discrimination (Whitbeck, Hoyt, McMorris, Chen, & Stubben, 2001). Adolescents who faced discrimination were more likely to engage in delinquent behavior and substance abuse.

Another group that often experiences discrimination are those who identify as homosexual, bisexual, lesbian, or gay. As with other minority groups, greater experience with discrimination has been found to relate to substance use and abuse. For example, in one study of discrimination, individuals were asked about their sexual orientation and were then asked about their experiences with discrimination based on their sexual orientation, race/ethnicity, and gender (McCabe, Bostwick, Hughes, West, & Boyd, 2010). The results revealed that 46% of LGB participants who experienced all three types of discrimination (i.e., based on their sexual orientation, their race/ethnicity, and their gender) met *DSM-IV* criteria for a substance use disorder within the past year. Across these various literatures, there is substantial evidence

## EXPERIENCES OF ARAB AMERICANS

suggesting that discrimination may be related to using alcohol or drugs. With the growing population of Arab Americans in the United States, future studies should include this group to take a closer look at the relationship discrimination and substance use may have.

Overall, the studies reviewed above link the experience of discrimination to risk for substance use in minority groups. To the author's knowledge, there are no studies that demonstrate this association specifically among Arab Americans. While discrimination may increase the risk for using substances, other factors likely impact the relationship as well. Examples of other factors include religiosity and, a relatively new concept, distress tolerance.

### **Distress Tolerance**

Distress tolerance is defined as the perceived or actual ability to tolerate negative emotional or physical states (Brown, Lejuez, Kahler, Strong, & Zvolensky, 2005; Leyro, Zvolensky, & Bernstein, 2010). Simons and Gaher (2005) suggested that distress tolerance is multidimensional and involves an individual's anticipation of and actual experience with negative emotions. This multidimensional approach includes the ability to tolerate distress, the assessment of the emotional situation as acceptable, how the individual regulates her/his emotions, as well as how much attention is absorbed by the negative emotion and how much it interferes with functioning. Distress tolerance is thought to contribute to the development and maintenance of several forms of psychopathology and substance use (Leyro et al. 2010). Psychological distress tolerance is a subcategory of general distress tolerance that is defined as persistence through a psychologically stressful task or state (Brown et al., 2005). Although psychological distress tolerance will not be the focus of the proposed study, there are a number of relevant findings from this literature that will be reviewed below in addition to a review of what is known regarding general distress tolerance.

## EXPERIENCES OF ARAB AMERICANS

The importance of improving distress tolerance as a means of reducing substance abuse has been shown for patients who are currently using substances, as well as for those in treatment. For example, women with less distress tolerance were more likely to engage in problematic alcohol use (Holzhauer, Wemm, & Wulfert, 2017). A measure that focused on distress tolerance, as well as a computerized task that assesses psychological distress tolerance was used to examine the relationship between distress tolerance, alcohol consumption, alcohol consequences, and depression symptoms. For the purpose of the present study, the significant result to mention is that low subjective distress tolerance, even when controlling for all other variables, was uniquely associated with negative consequences from alcohol use.

Another study examined the relationship between distress tolerance and marijuana use among college students who were referred to treatment after violating campus drug policies (Buckner, Jeffries, Terlecki, & Ecker, 2015). The final sample consisted of 88 participants. The majority of the sample reported at least monthly marijuana use (69.3%), 46.6% reported weekly use, and 9.1% reported daily use. Using self-report questionnaires, distress tolerance, marijuana use frequency, and marijuana-related problems were assessed. Marijuana-related problems included possession (77.3%), marijuana paraphernalia possession (40.9%), and “other” (13.6%). Distress tolerance was significantly negatively correlated with both marijuana use frequency and marijuana-related problems, supporting the hypotheses that low distress tolerance may be related to increased drug use frequency and drug-related consequences. This study was limited to focusing on one substance. However, other studies have examined the relationship between distress tolerance and general substance.

Distress tolerance has also been related to more general substance use, regardless of the type of substance being used. One study looked at distress tolerance and its relationship to

## EXPERIENCES OF ARAB AMERICANS

abstaining from substance use (Daughters et al., 2005a). Participants in this study included substance abusers residing in a residential substance abuse treatment facility in northeast Washington, DC ( $n = 89$ ). These participants had used marijuana, alcohol, cocaine, stimulants, sedatives, opiates, hallucinogens, PCP, and/or inhalants. As inclusion criteria, participants had to identify at least one serious abstinence attempt in the past. Psychological distress tolerance was assessed through a computer task and a questionnaire for dysphoria before and after a psychological stressor. Psychological distress tolerance was measured by assessing the latency in seconds of terminating the computer task. Those with greater psychological distress tolerance on the computer task reported longer periods of abstinence from their drug of choice suggesting that having a greater tolerance to psychological distress is significantly related to more general tolerance to distress as well as less substance use behaviors. Although this study assessed a variety of substances, it did not examine if substance use treatment was impacted.

These authors conducted another study that examines the impact of distress tolerance on substance use treatment, providing insight to another aspect of the relationship between distress tolerance and substance use (Daughters et al., 2005b). The sample consisted of 122 individuals entering a residential substance abuse treatment facility in Washington, DC. The majority of the sample was men (70.5%) and the average age was 40 years old. All participants used substances on a weekly basis in the past year. Substances included crack/cocaine (60.7%), alcohol (41.0%), heroin (27.9%), and marijuana (27.0%). This study utilized the same computer task and mirror-tracing task to assess substance use treatment outcome. The study found that termination latency of the psychological stressors predicted early treatment dropout from the substance abuse treatment facility.

### **Distress Tolerance and Discrimination (traumatic event)**

## EXPERIENCES OF ARAB AMERICANS

Although we are unaware of any research examining the relationship between discrimination, distress tolerance and substance use in general, or within the Arab American community in particular, studies from several literatures suggest important links between these constructs. Discrimination can be viewed as a stressful and traumatic experience. The race-based traumatic stress theory (Carter, 2007) suggests that ethnic- and racial- minority individuals may experience racial discrimination as a psychological trauma, as it may elicit a response comparable to post-traumatic stress. It also suggests that when distress cannot be tolerated adaptively, individuals may utilize substance in an effort to regulate their emotions. Using this connection of discrimination as a traumatic event, the links between the constructs can be made.

Past research suggests trauma experience is related to higher levels of alcohol use and endorsement of alcohol use to cope with psychological distress mediates this relationship (Kaysen et al., 2007). This study examined a sample of 369 participants who were recruited from domestic violence shelters and other victim-assistance agencies, all of whom had experienced trauma due to domestic violence. This study aimed to assess the use of alcohol as a means to cope with psychological distress. Women who reported more pronounced difficulties coping with the distress from trauma-related symptoms had higher levels of alcohol use and heavy episodic alcohol use to cope. Drinking alcohol to cope with the distress mediated the relationship between trauma-symptoms and heavy episodic drinking.

Another study assessed distress tolerance and marijuana use among veterans, a sample who has experienced trauma (Hasan, Babson, Banducci, & Bonn-Miller., 2015). The study recruited 103 veterans who identified as marijuana-dependent and reported being motivated to quit. Participants were given two measures that assessed distress tolerance; one measure examined perceived distress tolerance the other measure utilized a mirror-tracing persistence task

## EXPERIENCES OF ARAB AMERICANS

as a laboratory analogue of distress tolerance. Veterans who had greater perceived distress tolerance used less marijuana over the quit period than veterans that had less perceived tolerance to distress. Performance on the laboratory analogue of distress tolerance was not significantly related to marijuana quit attempts over the time period. These results highlight the importance of the perception of being able to tolerate stressful events and its relationship to substance use, particularly in those who have had exposure to traumatic events.

### **The Present Study**

Discrimination is a common and growing experience Arab Americans face living as minorities in the U.S. (Amer & Awad, 2015). The use of substances, including (but not limited to) alcohol, marijuana, and tobacco has been shown to be prevalent among Arabs as well. Further, prevalence tends to increase the longer Arabs live in the U.S. and the more assimilated they become to the Western culture (Arfken, Broadbridge, Jamil, Arnetz, 2014). Discrimination has been linked to substance use in many minority groups. However, this has not been confirmed for Arab Americans. Additionally, distress tolerance appears to play a contributing role in substance use but no research has attempted to assess the mediating role it could be playing between discrimination and substance use.

The aim of the present study was to examine the relationship between discrimination, distress tolerance, substance use and religiosity in Arab Americans. It was anticipated that discrimination would have a direct effect on substance use and that distress tolerance would potentially mediate this relationship. Exploratory analyses considered the moderating influence of religiosity. The hypotheses were as follows:

### **Hypothesis 1 (Correlations):**

## EXPERIENCES OF ARAB AMERICANS

- A. More experience with discrimination will relate to less tolerance to distress and more substance use in the Arab American sample.
- B. Greater religiosity will be related to more tolerance to distress and less substance use.
- C. Low tolerance to distress will be related to more substance use.

### **Hypothesis 2 (Mediation and Moderation):**

- A. Distress tolerance will mediate the relationship between discrimination and substance use.
- B. As an exploratory analysis, religiosity will be considered as a moderator of the relationship between discrimination, distress tolerance and substance use.

## Chapter II

### Methods

#### Participants

To be eligible, participants had to be between the ages of 18 and 29, currently living in the United States, and living in the U.S since they were 10 years old or younger. The final sample consisted of 295 (202 males and 93 females) Arab American participants who were recruited through the Amazon Mechanical Turk (MTurk) website. One case was removed due to the participant moving to the U.S when they were 20 years old. Participants who were born in the U.S. made up 77.6% ( $n = 229$ ) of the sample while 22.4% ( $n = 66$ ) of the participants were not born in the U.S. The average age of participants was 24 years old ( $M = 24, SD = 2.60$ ).

About 40% ( $n = 117$ ) of participants were community college or university students. Participants who worked full-time made up 80% ( $n = 236$ ) of the sample; about 12% ( $n = 35$ ) of the sample worked part-time and 8% ( $n = 24$ ) of the participants did not work at all. About 48% ( $n = 141$ ) of participants considered their relationship status to be “single- not exclusively dating anyone” and 26.8% ( $n = 79$ ) were “single – in an exclusive dating relationship.” The remaining participants in the sample identified their relationship status as follows: 11.9% ( $n = 35$ ) of participants were married, 6.8% ( $n = 20$ ) were cohabitating, 6.1% ( $n = 18$ ) were engaged, one participant was separated, and one participant was divorced. Participants who identified as Muslim made up 60.7% ( $n = 179$ ) of the sample, 16.9% ( $n = 50$ ) identified as Atheist or Nonbeliever, 10.5% ( $n = 31$ ) identified as not having a preference;



## EXPERIENCES OF ARAB AMERICANS

leaving the rest of the sample identifying as Catholic, Christian, Fundamentalist, Jewish, or Other (11.9%;  $n = 35$ ).

### Measures

**Demographics Questionnaire.** (Appendix A) A demographics questionnaire included questions to assess age, gender, ethnicity and immigration status.

**Everyday Discrimination Scale (EDS).** (Appendix B) The EDS is used to assess everyday and lifetime discrimination with eight items measured on a 6-point Likert type scale ranging from 1 (*almost every day*) to 6 (*never*) (Kershaw et al., 2016). Sample items include “People act as if they are afraid of you” and “You are called names or insulted.” This scale is originally a nine item scale, but one item was mistakenly omitted. The item omitted is, “You are threatened or harassed.” All items on this scale were recoded, which modified the 6-point scale to range from 1 (*never*) to 6 (*almost every day*). This means that higher scores indicate more experience with everyday discrimination. Cronbach’s alpha for the current sample was .94.

**Distress Tolerance Scale (DTS).** (Appendix C) The DTS serves as a self-report measure of distress tolerance, conceptualized as an individual’s ability to withstand negative emotional states (Simons & Gaher, 2005). It is comprised of 15 items, each scored on a 5-point Likert scale from 1 (*strongly agree*) to 5 (*strongly disagree*). Higher scores on these items indicate more tolerance to distress. One item, which stated, “I can tolerate being distressed or upset as well as most people” was reverse coded. Cronbach’s alpha for the current sample was .94.

**Monitoring the Future Survey (MTF).** (Appendix D) The MTF survey is used to assess frequency of use for substances (Bachman, Johnston, O’Malley, Schulenberg, & Miech, 2015). The original scale measures a variety of substances, but for the purpose of this study, it was modified to focus on tobacco use, alcohol, and marijuana. This survey consisted of three items

## EXPERIENCES OF ARAB AMERICANS

for each drug. The standard set of three questions was used to determine *usage* levels for the drugs. For example, items asked, “On how many occasions (if any) have you used marijuana... (a) ...in your lifetime? (b) ...during the last 12 months? (c) ...during the last 30 days?” Each of the three questions is answered on the same answer scale: 0, 1–2, 3–5, 6–9, 10–19, 20–39, and 40 or more occasions. For each drug, the standard sets of three questions were combined to create subscales for substance use. When examined at the item level, tobacco use was significantly positively skewed. Therefore, scales were winsorized so that the item response ranges from 0 to six (20 - 39 days or more). Cronbach’s alpha for tobacco use was .92; Cronbach’s alpha for alcohol use was .89; Cronbach’s alpha for marijuana use was .92.

**Religiosity Scale.** (Appendix E) Four items were used to assess religiosity in the current study (Roberts, 1998). The first question asked participants “How important is religion to you?” Response options for this item ranged from 1 (*not at all important*) to 5 (*extremely important*). The remaining three questions asked participants how often they “attend church, mosque, temple, or other religious activities,” “engage in private prayer,” and “engage in private scripture reading.” Response options for these three items ranged from 0 (*never*) to 7 (*daily*). Higher scores on this scale indicated more religiosity. Because the four items differed regarding response options, each item was transformed the original into a *Z*-score. The four *Z*-scores were then added and divided by four to get an average *z*-score for religiosity. Higher scores on this scale indicated more religiosity.

### **Procedure**

Prior to data collection, the study was reviewed and approved by the University of Michigan – Dearborn IRB. Participation in the study occurred completely online. The study was posted to the MTurk website with the description explaining that participants must be between

## EXPERIENCES OF ARAB AMERICANS

the ages of 18 and 29, reside in the U.S, and must be of Arab descent. Participants were required to complete a screening questionnaire to assess eligibility for the study based on the inclusion criteria. Those who did not meet inclusion criteria were thanked for their interest in the study and exited out of the survey. Eligible participants were granted access to a link to a Qualtrics survey. Once they clicked the link, they were directed to the consent form outlining their rights as a research participant, warned of the potential loss of anonymity, the purpose of the study, risk/benefits of the study, and PI and IRB contact information. After reading the consent form they had to select “yes” that they consent or “no” that they do not consent. Those who responded “no,” that they do not consent, were thanked for their interest in the study and sent back to the MTurk website. Those who responded “yes” were able to continue on to complete the survey.

During the survey, participants began by completing the demographic questionnaire. They then completed the measures that assessed their distress tolerance, experiences of discrimination, and substance use. Upon successful completion of the survey, participants received a confirmation code that they inputted to the MTurk website in order to receive compensation. The survey took research participants approximately 15 minutes to complete. Research participants were compensated \$2.00.

Responses were anonymous with no names or identifying information linked with the study data. The Qualtrics survey did not associate the surveys with IP addresses. Data was accessed and stored using password protected websites and laptops.

## Chapter III

### Results

#### Descriptives Statistics

After entering the data into SPSS, basic descriptive statistics and correlations were examined. Basic descriptive statistics for distress tolerance and discrimination variables used in analyses can be found in Table 1. The majority of participants reported at least some experience with discrimination. The average participant ( $M = 3.71$ ,  $SD = 1.15$ ) experienced discrimination “a few times a month” with about 15% ( $n = 44$ ) reporting “never” and about 6% ( $n = 25$ ) reporting that they experienced discrimination “every day.” This means that about 85% ( $n = 251$ ), the majority of participants, have faced discrimination at some point.

The average response to items on the Distress Tolerance Scale was “agree and disagree equally” ( $M = 3.20$ ,  $SD = .88$ ), indicating participants’ indifferent responses about their ability to withstand negative emotional states. About half (47.8%) of participants indicated “strongly agree” or “mildly agree” regarding their inability to tolerate distress. Specifically, about 10% ( $n = 26$ ) of participants reported “strongly agree” to inability to tolerate distress. About 18% ( $n = 59$ ) reported they “strongly disagree” to being unable to tolerate distress.

Descriptives for individual items within the Religiosity scale can be found in Table 2. The majority of participants ( $n = 87$ ) indicated that religion was “quite important” to them. Most participants indicated some level of religious importance, with only 22.4% ( $n = 66$ ) responding that religion was “not at all important.” When asked about attendance of church, mosque, temple or other religious activities, about 27% of participants ( $n = 80$ ) reported attending “once a week.”

## EXPERIENCES OF ARAB AMERICANS

About 23% ( $n = 68$ ) of the sample reported “never” attending religious services or activities, meaning that about 77% of participants attend some type of religious activity at least on occasion. Over a third of participants (36%;  $n = 106$ ) reported engaging in private prayer daily. About 21% ( $n = 62$ ) reported “never” engaging in private prayer, meaning that 79% of participants engage in private prayer at least occasionally. When asked about private scripture reading, the average participant indicated engaging in reading “once a month” ( $M = 3.92$ ,  $SD = 2.30$ ). Eighty participants (27%) reported that they “never” engage in private scripture, while 54 participants (18.3%) reported doing so “daily.”

Descriptive statistics for the Modified Monitoring the Future Survey can be found in Table 3. The majority of participants have used tobacco within their lifetime (57.7%;  $n = 169$ ), about 45% ( $n = 133$ ) used tobacco in the past year and 38.4% ( $n = 112$ ) used tobacco within the past month. Furthermore, 70.4% ( $n = 207$ ) of participants reported drinking alcohol within their lifetime. About 62% ( $n = 183$ ) reported drinking alcohol within the past year and about 56% ( $n = 163$ ) reported drinking alcohol within the past month. About 46% ( $n = 135$ ) of participants reported using marijuana in their lifetime, 37.4% ( $n = 110$ ) used marijuana in the past year and 32.2% ( $n = 92$ ) used marijuana within the past month.

### Correlations

Correlations between all of the variables in the study were run (see Table 4). Contrary to predictions, discrimination was negatively correlated with both alcohol and marijuana use, indicating that less experience with discrimination was related to more usage of alcohol and marijuana. When examining correlation of discrimination with substances individually, discrimination was not correlated to past month ( $r = -.04$ ,  $p > .05$ ), year ( $r = -.07$ ,  $p > .05$ ) or lifetime tobacco use ( $r = -.11$ ,  $p > .05$ ). Less experience with discrimination was correlated with

## EXPERIENCES OF ARAB AMERICANS

more marijuana use within the past year ( $r = -.14, p < .05$ ) as well as lifetime marijuana use ( $r = -.13, p < .05$ ). Less experience with discrimination was significantly related more alcohol use within the past year ( $r = -.15, p < .05$ ) and lifetime alcohol use ( $r = -.18, p < .01$ ).

Contrary to predictions, distress tolerance was unrelated to the use of alcohol ( $r = .60, p > .05$ ), tobacco ( $r = .00, p > .05$ ) and marijuana ( $r = .03, p > .05$ ). As predicted, greater experience with discrimination was related to less tolerance to distress ( $r = -.35, p < .01$ ). More experience with discrimination was significantly positively related to religiosity ( $r = .19, p < .01$ ). Moreover, religiosity was significantly related to less tolerance to distress ( $r = .19, p < .01$ ). As predicted, more religiosity was significantly negatively related to alcohol ( $r = -.19, p < .01$ ) and marijuana use ( $r = -.16, p < .01$ ). Distress tolerance and religiosity were not significantly related to the individual level substance use items.

### **Does Distress Tolerance Mediate the Relationship between Discrimination and Substance Use?**

It was hypothesized that distress tolerance would mediate the relationship between discrimination and substance abuse. A series of analyses were conducted using the PROCESS macro and simple mediation to test this relationship for each of the three types of substance use (tobacco, alcohol, marijuana). Specifically, Hayes' Model 4 was used within the macro with discrimination as the primary predictor, distress tolerance as the mediator and each drug subscale at the outcome variable.

For tobacco use, the analysis confirmed the significant relationship between discrimination and distress tolerance seen in the zero-order correlations ( $\beta = -.27, SE = .04, p < .01$ ). However, the overall model was not significant  $F(2, 295) = .97, p > .05; R = .08, R^2 = .01$ .

## EXPERIENCES OF ARAB AMERICANS

There was a non-significant direct effect between discrimination and tobacco use ( $\beta = -.15$ ,  $SE = .11$ ,  $p > .05$ ). The potential mediating variable, distress tolerance, was also not significantly related to tobacco use ( $\beta = -.10$ ,  $SE = .14$ ,  $p > .05$ ). Finally, the test of the indirect effect (i.e., distress tolerance as a mediator of the relationship between discrimination and tobacco use) was not significant ( $\beta = .02$ ; 95% CI =  $-.07, .10$ ).

The analysis for alcohol use also confirmed the significant relationship between discrimination and distress tolerance seen in the zero-order correlations ( $\beta = -.27$ ,  $SE = .04$ ,  $p < .01$ ). The overall model was significant for alcohol use,  $F(2, 294) = 3.31$ ,  $p < .05$ ;  $R = .15$ ,  $R^2 = .02$ ). There was a significant direct effect between discrimination and alcohol use ( $\beta = -.25$ ,  $SE = .11$ ,  $p < .05$ ). There was a non-significant direct effect between distress tolerance and alcohol use ( $\beta = .02$ ,  $SE = .14$ ,  $p > .05$ ). The test of indirect effect was not significant ( $\beta = -.01$ ; 95% CI =  $-.09, .07$ ), indicating that distress tolerance does not mediate the relationship between discrimination and alcohol use.

The analysis for marijuana use confirmed the significant relationship between discrimination and distress tolerance seen in the zero-order correlations, as well ( $\beta = -.27$ ,  $SE = .04$ ,  $p < .01$ ). The overall model was not significant for marijuana use  $F(1, 295) = 2.35$ ,  $p > .05$ ;  $R = .13$ ,  $R^2 = .02$ ). There was a significant direct effect between discrimination and marijuana use ( $\beta = -.22$ ,  $SE = .10$ ,  $p < .05$ ). There was a non-significant direct effect between distress tolerance and alcohol use ( $\beta = -.04$ ,  $SE = .13$ ,  $p > .05$ ). Finally, the test of the indirect effect (i.e., distress tolerance as a mediator of the relationship between discrimination and marijuana use) was not significant ( $\beta = .01$ ; 95% CI =  $-.07, .10$ ).

**Does Religiosity Moderate the Relationships between Discrimination and Substance Use?**

Based on the zero-order correlations and the lack of significant relationship between distress tolerance and other variables, additional exploratory analyses that considered the moderating role of religiosity in the relationship between discrimination and the three substance use variable were considered. First, a series of analyses were conducted using the PROCESS macro. Simple moderation analyses (Hayes' Model 1) were conducted to consider the potential moderating role of religiosity between discrimination and substance use for each of the three types of substances (tobacco, alcohol, marijuana).

Overall, Model 1 was not significant for tobacco use  $F(3, 295) = .58, p > .05; R = .08, R^2 = .01$ ). There was not a significant direct effect between discrimination and tobacco use ( $\beta = -.13, SE = .10, p > .05$ ). The potential moderating variable, religiosity, was not significantly correlated to tobacco use ( $\beta = -.03, SE = .36, p > .05$ ). The interaction of discrimination and religiosity was not shown to have a significant effect on tobacco use ( $\beta = -.00, SE = .10, p > .05$ ), confirming that religiosity did not play a moderating role in the relationship between the variables. Furthermore, conditional effects of discrimination on tobacco use at low ( $\beta = -.14; 95\% CI = -.42, .15$ ), moderate ( $\beta = -.13; 95\% CI = -.34, .07$ ) and high ( $\beta = -.13; 95\% CI = -.41, .15$ ) religiosity levels were all revealed to be non-significant.

The overall model was significant for alcohol use,  $F(3, 294) = 4.93, p < .01; R = .22, R^2 = .05$ ). As seen in the zero-order correlations, there was a significant negative direct effect between discrimination and alcohol use ( $\beta = -.20, SE = .10, p < .05$ ). However, there was a non-significant direct effect between religiosity and alcohol use ( $\beta = -.41, SE = .35, p > .05$ ). The analyses further revealed that the interaction of discrimination and religiosity did not have a significant effect on alcohol use ( $\beta = .02, SE = .10, p > .05$ ), indicating that religiosity did not



## EXPERIENCES OF ARAB AMERICANS

moderate this relationship. Furthermore, conditional effects of discrimination on alcohol use was significant at moderate religiosity levels ( $\beta = -.20$ ; 95% CI =  $-.40, .00$ ), but were non-significant at low ( $\beta = -.22$ ; 95% CI =  $-.50, .05$ ) and high ( $\beta = -.18$ ; 95% CI =  $-.45, .08$ ) religiosity levels.

The overall model was significant for marijuana use  $F(3, 295) = 3.71, p < .05; R = .19, R^2 = .04$ ). Direct effects revealed a reduced relationship between discrimination and marijuana use that was marginally significant ( $\beta = -.16, SE = .10, p = .10$ ). There was a non-significant direct effect between religiosity and marijuana use ( $\beta = -.50, SE = .34, p > .05$ ). The interaction between discrimination and religiosity did not have a significant effect on marijuana use ( $\beta = .06, SE = .10, p > .05$ ), indicating that religiosity did not moderate the relationship between the variables. Table 5 and Figure 1 reveal conditional direct effects within the model for marijuana use. Although non-significant, the pattern reveals that for those low in religiosity, the relationship between discrimination and marijuana use was marginally stronger than for those who were moderate or high in religiosity.

### **Does Religiosity Moderate the Relationship between Discrimination, Distress Tolerance and Substance Use?**

After mediation analyses and simple moderation analyses were shown to have non-significant findings (distress tolerance and religiosity did not reveal significant conditional direct effects), Hayes' Model 8 was used within the macro to produce a moderated mediation model for the three substances. In these models, distress tolerance was a mediator between discrimination and the substances and religiosity was considered as a moderator of the relationship between discrimination and distress tolerance and between distress tolerance and substance use.

## EXPERIENCES OF ARAB AMERICANS

The overall model revealed was non-significant for tobacco use  $F(3, 295) = .49, p > .05; R^2 = .08, R^2 = .01$ ). The interaction results revealed that religiosity did not moderate the relationship between distress tolerance and tobacco use within the model ( $\beta = .01, SE = .10, p > .05$ ). Similar non-significant results were found for alcohol and marijuana, as well.

## **Chapter IV**

### **Discussion**

Research has shown that discrimination towards Arab Americans is a growing issue that negatively impacts health, opportunities, and daily life experiences (Padela & Heisler, 2010). Facing discrimination contributes to the likelihood that a person will use substances. However, research that focuses on the relationship between discrimination and substance use has primarily focused on minority groups other than Arab Americans, such as Asian Americans, African Americans and Latinos. The relationship between discrimination and substance use has not been studied within Arab Americans. Distress tolerance has been defined as the perceived or actual ability to tolerate negative emotional or physical states (Brown et al., 2005). Distress tolerance is described as multidimensional and involves both an individual's anticipation of and actual experience with negative emotions (Simons & Gaher, 2005). The concept of intolerance to distress has been linked to substance use, across various aspects of substance use, including the likelihood that a person will engage in using substances, the longevity of abstinence from substances and even the number of drug-related consequences a person faces (Buckner et al., 2017; Daughters et al., 2005a). Past research has found that, in people who face traumatic events, there is increased likelihood that they will use substances (Kaysen et al., 2007). Research has further suggested that within these individuals, when faced with distressful events, their perception of their ability to tolerate and withstand distress was low (Kaysen et al., 2007). This study examined the

## EXPERIENCES OF ARAB AMERICANS

potential connection between distress tolerance and substance use in an attempt to better understand the factors that may contribute to substance use specifically among Arab Americans.

### **Hypothesis 1A**

The results partially supported the hypothesis that more experience with discrimination is related to less tolerance of distress and more use of substances. As expected, it was found that the more discrimination a person experienced, the less tolerant they were to distressing experiences. Past research has found that being faced with traumatic events can be linked to a person's perception of their ability to tolerate distress (Hasan et al., 2015). That is, people who experience trauma are less likely to believe that they can withstand stressful events that they are faced with (Hasan et al., 2015). Although this link between facing a traumatic experience and reduced distressed tolerance has been suggested, to the author's knowledge, there has been no research that has examined the relationship between discrimination and distress tolerance. The findings of this study provides evidence that experiencing such discriminatory events may be negatively contributing to a person's perception of being able to tolerate other stressful events.

Past research has found a relationship between discrimination and substance use in numerous groups. For example, American Indians who experienced discrimination were more likely to use substances (Whitbeck et al., 2001). African Americans who were exposed to discriminatory events reported greater willingness to use substances than those who had not experienced discrimination (Stock et al., 2011). Lo and Cheng (2012) found that among three minority groups (Asian Americans, Latinos and African Americans), people who reported more experience with discrimination were more likely to meet *DSM-IV* criteria for substance use disorder within the past year. These findings are not surprising given the literature on substance use, particularly what makes some people more likely to use. Some people engage in using

## EXPERIENCES OF ARAB AMERICANS

substances as an avoidant coping strategy (Hyman & Sinha, 2009). This means that people may engage in actions to avoid situation where they are faced with problems that are predictive of distress (Holahan, Moos, Holahan, Brennan, & Schutte, 2005).

This explanation has further been used to understand substance use within minorities. The relationship between discrimination and substance use among minorities has been linked to avoidant coping. Research has suggested that minorities who face discrimination turn to substances in an effort to cope with the stress associated with experiencing discriminatory events (Gerrard et al., 2012). Furthermore, research on minority groups has shown that minorities who have faced discrimination are more likely to use substances in an attempt to escape, avoid, or minimize unpleasant or aversive emotional experiences than those who have not (Gerrard et al., 2012).

Based on the past research, a similar relationship was predicted for Arab Americans. However, contrary to predictions *less* discrimination was related *more* usage of alcohol and marijuana; discrimination was unrelated to tobacco use. This finding brings to light another factor that may be at play here. Those who face less discrimination may be the ones who are perceived as “less Arab American” by those who would discriminate against them. These individuals may be more in tune with Western culture and may be less likely to have outward trappings that would indicate their ethnic and religious heritage. Both the prohibition of substance use within the Islamic religion and the Arab cultural stigma around substance use may be missing for this group and have less of an influence on their decisions. This may, in turn, lead them to be more willing to use substances, as it is more prevalent and less stigmatized in Western culture as it is in Arab culture.

### **Hypothesis 1B**

## EXPERIENCES OF ARAB AMERICANS

The results partially supported the hypothesis that more religiosity is related to more tolerance to distress and less use of substances. Contrary to predictions, there was an inverse relationship between religiosity and distress tolerance. More religiosity in the sample was related to less tolerance to distress. It was expected that religiosity would serve as a protective function when faced with distress. This prediction was reasonable given past research that links religiosity and reduced distress, known as the buffering hypothesis. The buffering hypothesis explains that religiosity may buffer the impact of stress on a person's psychological and physiological well-being (O'Connor, Cobb, O'Connor, 2003; Krause, 1998). It has been suggested that religion modifies a person's stress appraisal process, having both emotion-focused and problem-focused coping properties (Pargament, 1997). This suggests that people who are more religious or identify with a religion strongly are more likely to exhibit lower levels of psychological distress (O'Connor et al., 2003). Research has also suggested that when faced with stressful events, religion can protect an individual by reducing the negative consequences of the stressors on their psychological well-being (Williams et al., 1991).

Reliability for the DTS was .94, indicating that distress tolerance as measured by the DTS was measured in an internally consistent manner. However, this measure may not have been tapping into the most relevant construct. In retrospect, the scale more so assesses a person's perception of being able to withstand distress rather than actual mechanisms or actions they engage in to cope with stressful events. The items on the scale may have been stronger in assessing the construct of distress tolerance if it examined a person's perception of their ability to tolerate distress as well as the actions they engage in to handle or manage distress. Distress tolerance has been described as multidimensional, but this scale did not tap in to the different dimensions. Although it was expected that a more religious person would perceive better ability

## EXPERIENCES OF ARAB AMERICANS

to withstand distress because of their faith, perception of ability is only one aspect of distress tolerance. Distress tolerance includes emotions, appraisal, motivation to overcome, as well as actions to cope or regulate distress (Simons & Gaher, 2005). The scale seems to have failed to assess all of these aspects.

The findings may also be explained by the current stigma around being Muslim in today's political and social climate. Now more than ever, there is a strong negative image of Arab Americans and Muslims portrayed in the media (Saleema & Ramasubramanian, 2017). It is no surprise that many Muslims report dissatisfaction with the ways in which Muslims are represented in the media (Ahmed & Ezzeddine, 2009). A study focused on Muslim Arab Americans and their responses to media representations of their religious in-group. This study revealed that participants who viewed negative media representations of their religious in-group, relative to a control video, were more likely to avoid interactions with majority members (Saleema & Ramasubramanian, 2017). The findings of this study make sense with what our results have revealed; Arab Americans who are highly religious also carry the burden of a negative image that is brought upon them by the current media. It makes sense that these people are also more likely to have less tolerance to distress. This has been further supported regarding media and discrimination.

Post-9/11 discrimination towards Arab Americans is extremely high (Nassar-McMillan, Ajrouch, & Hakim-Larson, 2013). Muslims in America report high levels discrimination, specifically due to their religious identity (Ahmed & Ezzeddine, 2009). Unfortunately, this has been magnified by the current political climate. A recent study focused on how the media and current political climate may be affecting Muslims (Schmuck, Matthes, & Paul, 2017). This study involved a lab experiment where young Muslims were exposed to right-wing populist ads

## EXPERIENCES OF ARAB AMERICANS

in the lab. After watching these ads, the sample found that those who watched the right-wing populist ads had self-reported increased perceived discrimination in comparison to a control group. Furthermore, Muslim participants who were exposed to the right-wing ads also self-reported decreased self-esteem and decreased sense of national identification as American. These studies provide some explanation as to why people of Arabic descent may experience more pressure living in the U.S., which may impair their distress tolerance. Being so readily identified as Arab or Muslim in the U.S comes with an added stressor of feeling a need to defend the Arab descent, Muslim faith and who they are. It makes sense that this stigma around Arabs and Muslims can hurt a person's ability to withstand stressful events.

As expected, more religiosity was significantly negatively correlated to less alcohol and marijuana use. It was not significantly related to tobacco use. These findings are consistent with the literature in that those who are more religious are less likely to use substances (Abudabbeh & Hamid, 2001). It has been suggested that Arab Americans who identify as Muslim are less likely to use substances due to the religious prohibition of drugs and alcohol that is embedded in Islam (Abudabbeh & Hamid, 2001). Given that more than half of our sample was of Islamic faith, the prohibition of substance use, particularly alcohol, may be the driving force that influences them to abstain from drinking alcohol or smoking marijuana. Being more religious may be acting as a protective function, discouraging people from using substances and engaging in risky behaviors because they are prohibited by the religion. It has been suggested that the stigma around substance use within the Arab culture does not include waterpipe smoking (Amer & Awad, 2015). In fact, waterpipe smoking has become a social activity among Arabs and is a norm for this group. Since waterpipe smoking is a form tobacco use, this may explain the non-significant relationship between religiosity and tobacco use.



## EXPERIENCES OF ARAB AMERICANS

### **Hypothesis 1C**

The hypothesis that less distress tolerance is significantly related to more substance use was not supported. Results of this failed to link distress tolerance to alcohol, marijuana and tobacco use. These results are surprising given that the literature has provided much evidence for the link between distress tolerance and substance use. Research has found that people who use substances including (but not limited to) tobacco, alcohol and marijuana, are more likely to be intolerant to distress (Daughters et al., 2005b). As stated earlier, this inconsistency may be due to the specific distress tolerance scale that was used. The scale focused more on a person's perception of their ability to tolerate distress and emotional experience rather than coping mechanisms. Using substances such as tobacco, alcohol and marijuana is known to be an avoidant coping strategy. Having a distress scale that does not assess this more thoroughly may have impacted the results.

### **Hypothesis 2A**

It was predicted that distress tolerance would mediate the relationship between discrimination and substance use. Results of this study did not support this, as mediation analyses were overall non-significant for tobacco, alcohol and marijuana. These findings are surprising given the literature that makes basic connections between these constructs. Although there has been no research that considers distress tolerance as a mediator, it was hypothesized to play this role based on past research. According to the race-based traumatic stress theory, ethnic- and racial- minority individuals may experience racial discrimination as a psychological trauma (Carter, 2007). This author explains that the experience of discrimination can elicit a response comparable to post-traumatic stress. When taking this theory into consideration, the rationale to link the constructs seemed valid. As mentioned, past research has supported the mediating role

## EXPERIENCES OF ARAB AMERICANS

that distress tolerance plays in the relationship between a traumatic experience and using substances (Hasan et al., 2015). When conceptualizing discrimination as a traumatic experience, it was reasonable to predict that distress tolerance would have a mediating role in the relationship between discrimination and substance use.

### **Hypothesis 2B**

The final analysis was an exploratory one that considered religiosity as a potential moderator in the relationship between discrimination, distress tolerance and substance use. Not supporting the hypothesis, results of the moderated mediation analysis were non-significant. Although religiosity did not act as a moderator, as previously mentioned greater religiosity was related to more experience with discrimination. This may be playing a huge role in the lives in Arab Americans. This may trickle back to the presumption that those who are more religious, particularly in the Islamic faith, are more readily recognized as being Arab American and/or Muslim. This could be from appearance, engaging in private prayer, consistent attendance of religious temples or even reading scripture. To the people around them, these factors can be making it more apparent that they are of Arab descent or of Muslim faith. Unfortunately, this may make this group more likely to face discrimination based on their race and/or religion.

Although not statistically significant, there was some suggestion in the results that the positive relationship between discrimination and marijuana use seems to be stronger for less religious individuals than it is for those who are more religious. As noted above, this may also be explained by the assimilation to Western culture marijuana smokers may have. Among Arab Americans who do not follow their culture and/or religion so closely, the protective function that religiosity plays may be missing.

### **Strengths & Limitations of the Present Study**

## EXPERIENCES OF ARAB AMERICANS

**Limitations.** There are several limitations to the present study that may have impacted the results. One limitation is that participants were asked about substance use. The sample was open to people ages 18 through 29; the U.S. legal drinking age is 21 years old. This may have made the people who are under 21 years of age more apprehensive about answering truthfully and fully about their alcohol use. Marijuana use is illegal in the U.S. (with some regulations and exceptions) and this may have also impacted participants' responses regarding marijuana use. Although appropriate measures were taken to ensure and inform the participants that their responses would be anonymous and confidential, they may have been hesitant to disclose their usage of substances. Moreover, the majority of the sample identified as Muslim. The prohibition of substance use within the religion may have also influenced the transparency of participants' responses.

The original Everyday Discrimination Scale (Kershaw et al., 2016) has 9 items. However, one item was accidentally omitted from the Qualtrics survey. The missing item stated, "You are threatened or harassed." This item may have impacted the results in that it left out an extreme type of discrimination. Having the item included would have assessed discrimination as it was intended.

Another limitation to the study that may have impacted the results is the distress tolerance scale that was used. Simons & Gaher (2005) have mentioned that distress tolerance is multidimensional and involves both an individual's anticipation of and actual experience with negative emotions. This includes the ability to tolerate distress, the assessment of the emotional situation as acceptable, how the individual regulates her/his emotions, as well as how much attention is absorbed by the negative emotion and how much it interferes with functioning. However, as previously mentioned, the scale does not touch on all aspects of how people cope

## EXPERIENCES OF ARAB AMERICANS

with stressful experiences. Instead, it seems to focus only on the perception of ability to withstand the stressful event. Having a scale that has more of a multifaceted approach to distress tolerance may have done a better job of tapping in on all of the dimensions within the construct. Consequently, this may have elicited more accurate responses and provided more comprehensive results regarding peoples' experiences with distress.

Using mTurk to recruit participants could have negatively impacted our results. As noted, all participants were compensated \$2.00 for their participation. Although attention checks were appropriately inserted throughout the survey to ensure people were not randomly responding, participants may have answered the survey without answering in a fully serious or honest manner. People who are aware of mTurk surveys may be doing so just for the incentive of making money. Furthermore, conducting research online means that there is no guarantee that the people taking the survey are actually who they say they are (may not even be Arab). However, screening criteria were set up on mTurk in a way that attempted to deal with this. In order to get into the survey, people had to meet basic criteria (race, age and immigration status). In order to take the survey with the wrong intent in mind, people would have had to premeditated lie.

**Strengths.** Using mTurk brought this study more strengths that outweighed the possible limitations. Utilizing this recruitment method, Arab Americans across the United States had access to this study and were able to be involved in such important research. Given that city of Dearborn, Michigan has one of the highest proportion of Arab Americans in the U.S (De La Cruz, 2008), conducting a face-to-face experiment instead of an online survey would have failed to give us a proper, inclusive depiction of what goes on in the daily life experiences that some Arabs Americans have across the country. Using mTurk also provided the study with a large

## EXPERIENCES OF ARAB AMERICANS

sample size in a fairly quick amount of time. This type of recruitment method allowed data collection to reach a large number of people, which provided more diversity in the sample's demographics and experiences.

To the author's current knowledge, research that focuses on discrimination and substance use in Arab Americans is limited. These variables have been considered in the literature, but little has been done to study the factors that may be a link between these experiences. Although distress tolerance did not come through in the findings, this study adds to the knowledge of discrimination and substance use in a large sample of emerging adults.

Moreover, finding high rates of substance use makes an important contribution to the literature, given that people often believe that Arab Americans do not use substances due to religious or cultural values. Research that focuses on the daily, unique life experiences that Arabs have living in the U.S. is limited altogether. This study sheds light on this minority group's experiences with hopes of inspiring others to do so as well.

### **Implications and Conclusions**

This study has implications for future research as well as clinical education and treatment. Given the scant research on distress tolerance and the factors that can be related to discrimination and substance use, these factors can be delved into further to gain a better understanding of how people deal with stress, whether it is among Arab Americans or other groups. The analyses that examined how religiosity relates to discrimination, distress tolerance and substance use were conducted were not originally hypothesized and were exploratory in nature. Future research could consider how religiosity can influence not only the use of substances in Arabs, but also other aspects of their lives. Given the current political climate, this

## EXPERIENCES OF ARAB AMERICANS

study can also be a stepping-stone for future research to assess the experiences of discrimination even further among Arab Americans.

Data from this study also included variables such as gender and social desirability. Future research may take this study to the next step by examining how gender can be playing a role in the relationship of the variables. Cultural and social gender norms play a contributing factor in all groups' lives, so it would be interesting to see how it would play out in Arab Americans. Social desirability is also important to consider in future analyses with this data. As past research has suggested that substance use is frowned upon among some Muslim Arabs, future research that examines social desirability would provide more knowledge about substance use among those who do and do not follow the Arab culture and religious values. This type of social desirability is different than it is typically conceived, given that it is unique to social desirability within the Muslim/Arab group. It would be interesting, as well as beneficial, to have a new measure that is created in the future to assess this idea of social desirability.

Results of the study suggested that, like any other group, many Arab Americans use substances. However, Arab Americans may face cultural and/or religious beliefs that may make them hesitant to seek treatment. The aim of this study to aid in lifting the stigma around substance use among Arab Americans in hopes that this will allow more people in this group to feel comfortable in seeking out treatment. This study further provides a basis for the need of prevention programs that target Arab Americans. The clinical implications are also geared towards current clinicians who work with Arab Americans, who may need to take into account the unique experience of Arabs given how cultural, religious, political, social and other factors all play a part in their lives.

**References**

- Abudabbeh, N., & Hamid, A. (2001). Substance use among Arabs and Arab Americans. *Ethnocultural Factors in Substance Abuse Treatment*, 275-290.
- Ahmed, S., & Ezzeddine, M. (2009). Challenges and opportunities facing American Muslim youth. *Journal of Muslim Mental Health*, 4(2), 159-174.
- Amer, M. M., & Awad, G. H. (Eds.). (2015). *Handbook of Arab American psychology*. Routledge.
- Arfken, C. L., Broadbridge, C. L., Jamil, H., & Arnetz, B. B. (2014). Immigrant Arab Americans and alcohol use: longitudinal study. *Journal of Immigrant and Minority Health*, 16(6), 1303-1306.
- Arfken, C. L., Jamil, H., & Arnetz, B. (2012). Marijuana and non-medical prescription drug use among immigrant Arab Americans. *New Iraqi Medicine*, 8, 7-13.
- Arfken, C. L., Kubiak, S. P., & Farrag, M. (2009). Acculturation and polysubstance abuse in Arab-American treatment clients. *Transcultural Psychiatry*, 46(4), 608-622.
- Assari, S., & Lankarani, M. M. (2017). Discrimination and psychological distress: gender differences among Arab Americans. *Frontiers in Psychiatry*, 8, 23.
- Bachman, J. G., Johnston, L. D., O'Malley, P. M., Schulenberg, J. E., & Miech, R. A. (2015). The Monitoring the Future project after four decades: design and procedures.
- Brown, R. A., Lejuez, C. W., Kahler, C. W., Strong, D. R., & Zvolensky, M. J. (2005). Distress tolerance and early smoking lapse. *Clinical Psychology Review*, 25(6), 713-733.
- Buckner, J. D., Jeffries, E. R., Terlecki, M. A., & Ecker, A. H. (2016). Distress tolerance among students referred for treatment following violation of campus cannabis use policy: Relations to use, problems, and motivation. *Behavior Modification*, 40(5), 663-677.
- Carter, R. T. (2007). Racism and psychological and emotional injury: Recognizing and assessing race-based traumatic stress. *The Counseling Psychologist*, 35(1), 13-105.
- Daughters, S. B., Lejuez, C. W., Kahler, C. W., Strong, D. R., & Brown, R. A. (2005a). Psychological distress tolerance and duration of most recent abstinence attempt among residential treatment-seeking substance abusers. *Psychology of Addictive Behaviors*, 19(2), 208.

## EXPERIENCES OF ARAB AMERICANS

- Daughters, S. B., Lejuez, C. W., Bornovalova, M. A., Kahler, C. W., Strong, D. R., & Brown, R. A. (2005b). Distress tolerance as a predictor of early treatment dropout in a residential substance abuse treatment facility. *Journal of Abnormal Psychology, 114*(4), 729.
- De la Cruz, P. (2008). Arab population: 2000: *Census 2000 brief*. DIANE Publishing.
- El-Shahawy, O., & Haddad, L. (2015). Correlation between nicotine dependence and barriers to cessation between exclusive cigarette smokers and dual (water pipe) smokers among Arab Americans. *Substance Abuse and Rehabilitation, 6*, 25.
- Fakhreddine, H. M. B., Kanj, A. N., & Kanj, N. A. (2014). The growing epidemic of water pipe smoking: health effects and future needs. *Respiratory Medicine, 108*(9), 1241-1253.
- Gaddis, S. M., & Ghoshal, R. (2015). Arab american housing discrimination, ethnic competition, and the contact hypothesis. *The Annals of the American Academy of Political and Social Science, 660*(1), 282-299.
- Gerrard, M., Stock, M. L., Roberts, M. E., Gibbons, F. X., O'Hara, R. E., Weng, C. Y., & Wills, T. A. (2012). Coping with racial discrimination: The role of substance use. *Psychology of Addictive Behaviors, 26*(3), 550.
- Grekin, E. R., & Ayna, D. (2008). Argileh use among college students in the United States: an emerging trend. *Journal of Studies on Alcohol and Drugs, 69*(3), 472-472.
- Hasan, N. S., Babson, K. A., Banducci, A. N., & Bonn-Miller, M. O. (2015). The prospective effects of perceived and laboratory indices of distress tolerance on cannabis use following a self-guided quit attempt. *Psychology of Addictive Behaviors, 29*(4), 933.
- Holahan, C. J., Moos, R. H., Holahan, C. K., Brennan, P. L., & Schutte, K. K. (2005). Stress generation, avoidance coping, and depressive symptoms: a 10-year model. *Journal of Consulting and Clinical Psychology, 73*(4), 658.
- Holzhauser, C. G., Wemm, S., & Wulfert, E. (2017). Distress tolerance and physiological reactivity to stress predict women's problematic alcohol use. *Experimental and Clinical Psychopharmacology, 25*(3), 156.
- Hyman, S. M., & Sinha, R. (2009). Stress-related factors in cannabis use and misuse: implications for prevention and treatment. *Journal of Substance Abuse Treatment, 36*(4), 400-413.
- Ibish, H. (2001). *1998-2000 report on hate crimes and discrimination against Arab Americans*. American-Arab Anti-Discrimination Committee.
- Jamil, H., Templin, T., Fakhouri, M., Rice, V. H., Khouri, R., Fakhouri, H., & Baker, O. (2009). Comparison of personal characteristics, tobacco use, and health states in Chaldean, Arab



## EXPERIENCES OF ARAB AMERICANS

- American, and non-Middle Eastern White adults. *Journal of Immigrant and Minority Health*, 11(4), 310-317.
- Kaysen, D., Dillworth, T. M., Simpson, T., Waldrop, A., Larimer, M. E., & Resick, P. A. (2007). Domestic violence and alcohol use: Trauma-related symptoms and motives for drinking. *Addictive Behaviors*, 32(6), 1272-1283.
- Kershaw, K. N., Lewis, T. T., Diez Roux, A. V., Jenny, N. S., Liu, K., Penedo, F. J., & Carnethon, M. R. (2016). Everyday Discrimination Scale. *Psychtests*.
- Knishkowsky, B., & Amitai, Y. (2005). Water-pipe (narghile) smoking: an emerging health risk behavior. *Pediatrics*, 116(1), 113-119.
- Krause, N. (1998). Stressors in highly valued roles, religious coping and mortality. *Psychology and Aging*, 13, 242-255.
- Krogstad, J. M., & Lopez, G. (2016, June 29). Roughly half of Hispanics have experienced discrimination. In *PEW Research Center*. Retrieved from <http://www.pewresearch.org>.
- Leyro, T. M., Zvolensky, M. J., & Bernstein, A. (2010). Distress tolerance and psychopathological symptoms and disorders: a review of the empirical literature among adults. *Psychological Bulletin*, 136(4), 576.
- Lo, C. C., & Cheng, T. C. (2012). Discrimination's role in minority groups' rates of substance-use disorder. *The American Journal on Addictions*, 21(2), 150-156.
- McCabe, S. E., Bostwick, W. B., Hughes, T. L., West, B. T., & Boyd, C. J. (2010). The relationship between discrimination and substance use disorders among lesbian, gay, and bisexual adults in the United States. *American Journal of Public Health*, 100(10), 1946-1952.
- Molina, K. M., Jackson, B., & Rivera-Olmedo, N. (2015). Discrimination, Racial/Ethnic identity, and substance use among latina/os: are they gendered?. *Annals of Behavioral Medicine*, 50(1), 119-129.
- Moradi, B., & Hasan, N. T. (2004). Arab American persons' reported experiences of discrimination and mental health: The mediating role of personal control. *Journal of Counseling Psychology*, 51(4), 418.
- Nassar-McMillan, S. C., Ajrouch, K. J., & Hakim-Larson, J. (Eds.). (2013). *Biopsychosocial perspectives on Arab Americans: Culture, development, and health*. Springer Science & Business Media.
- O'Connor, D. B., Cobb, J., & O'Connor, R. C. (2003). Religiosity, stress and psychological distress: No evidence for an association among undergraduate students. *Personality and Individual Differences*, 34(2), 211-217.

## EXPERIENCES OF ARAB AMERICANS

- Padela, A. I., & Heisler, M. (2010). The association of perceived abuse and discrimination after September 11, 2001, with psychological distress, level of happiness, and health status among Arab Americans. *American Journal of Public Health, 100*(2), 284-291.
- Pargament, K. I. (1997). *The psychology of religion and coping: theory, research and practice*. London: Guildhall Press.
- Rice, V. H., Templin, T., & Kulwicki, A. (2003). Arab-American adolescent tobacco use: four pilot studies. *Preventive Medicine, 37*(5), 492-498.
- Roberts, K. A. (1998). Salience. In *Encyclopedia of Religion and Society, online*. Retrieved from <http://hrr.hartsem.edu/ency/Salience.htm>.
- Saleem, M., & Ramasubramanian, S. (2017). Muslim Americans' responses to social identity threats: Effects of media representations and experiences of discrimination. *Media Psychology, 1*-21.
- Schmuck, D., Matthes, J., & Paul, F. H. (2017). Negative Stereotypical Portrayals of Muslims in Right-Wing Populist Campaigns: Perceived Discrimination, Social Identity Threats, and Hostility Among Young Muslim Adults. *Journal of Communication, 67*(4), 610-634.
- Simons, J. S., & Gaher, R. M. (2005). The Distress Tolerance Scale: Development and validation of a self-report measure. *Motivation and Emotion, 29*(2), 83-102.
- Stock, M. L., Gibbons, F. X., Walsh, L. A., & Gerrard, M. (2011). Racial identification, racial discrimination, and substance use vulnerability among African American young adults. *Personality and Social Psychology Bulletin, 37*(10), 1349-1361.
- Twenty-twenty census: Reaching an accurate count. (2018, April 26). In *Arab American Institute*. Retrieved from <http://www.aaiusa.org/2020census>.
- Verissimo, A. D. O., Gee, G. C., Ford, C. L., & Iguchi, M. Y. (2014). Racial discrimination, gender discrimination, and substance abuse among Latina/os nationwide. *Cultural Diversity and Ethnic Minority Psychology, 20*(1), 43.
- Whitbeck, L. B., Hoyt, D. R., McMorris, B. J., Chen, X., & Stubben, J. D. (2001). Perceived discrimination and early substance abuse among American Indian children. *Journal of Health and Social Behavior, 405*-424.
- Widner, D., & Chicoine, S. (2011, December). It's all in the name: Employment discrimination against Arab Americans. In *Sociological Forum* (Vol. 26, No. 4, pp. 806-823). Oxford, UK: Blackwell Publishing Ltd.

## EXPERIENCES OF ARAB AMERICANS

Williams, D. R., Larson, D. B., Buckler, R. E., Heckman, R. C., & Pyle, C. M. (1991). Religion and psychological distress in a community sample. *Social Science and Medicine*, 32, 1257–1262.

**Tables and Figures**

**Table 1**  
**Descriptives for Distress Tolerance and Discrimination**

Variable	<i>n</i>	<i>M (SD)</i>	Range
DTS	295	3.20 (.88)	1-5
DISC	295	3.29 (1.15)	1-6

*Note.* DTS = Distress Tolerance Scale (1 = strongly agree – 5 = strongly disagree); DISC = Everyday Discrimination Scale (1 = never – 6 = almost every day)

**Table 2**  
**Descriptives for Religiosity**

Item	<i>n</i>	<i>M (SD)</i>	1		2		3		4		5		6		7	
			<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
ReligImp	293	3.07 (1.41)	66	22.4	35	11.9	56	19.0	87	29.6	50	17.0				
ReligAttn	292	3.80 (1.99)	68	23.2	33	11.3	13	4.4	33	11.3	80	27.3	53	18.1	13	4.4
ReligPray	294	4.56 (2.43)	62	21.0	28	9.5	15	5.1	19	6.4	25	8.5	40	13.6	106	35.9
ReligScrip	294	3.92 (2.30)	80	27.1	28	9.5	21	7.1	24	8.1	44	14.9	44	14.9	54	18.3

*Note.* % = Valid Percent of Response Rates. RELIGimp = Importance of Religion (1 = not at all important – 5 = extremely important); RELIGattn = Attendance of Religious Temples or Activities (1 = never – 7 = daily); RELIGpray = Engage in Private Prayer (1 = never – 7 = daily); RELIGscrip = Engage in Private Scripture Reading (1 = never – 7 = daily)

## EXPERIENCES OF ARAB AMERICANS

Table 3  
Descriptives for Substance Use Subscales

Variable	n	M (SD)	Range	%							Total
				0	1-2	3-5	6-9	10-19	20-39	40 or more	
TOB-30days	292	1.37 (2.05)	0-6	61.6	6.8	5.8	5.8	5.8	6.8	7.2	100.0
TOB-year	294	1.72 (2.30)	0-6	54.8	8.2	7.1	4.8	5.1	5.8	14.3	100.0
TOB-lifetime	295	2.34 (2.50)	0-6	42.3	9.6	7.5	6.1	5.5	4.8	24.2	100.0
ALC-30days	293	1.38 (1.64)	0-6	44.4	17.4	15.4	10.6	6.1	3.1	3.1	100.0
ALC-year	294	2.32 (2.30)	0-6	37.8	9.9	9.9	7.5	10.2	9.9	15.0	100.0
ALC-lifetime	294	3.14 (2.55)	0-6	29.6	6.5	9.9	5.8	6.1	7.5	34.7	100.0
MAR-30 days	295	0.96 (1.76)	0-6	68.8	9.2	5.1	4.4	4.4	3.1	5.1	100.0
MAR-year	294	1.29 (2.05)	0-6	62.6	8.5	7.8	3.1	4.1	4.4	9.5	100.0
MAR-lifetime	295	1.77 (2.35)	0-6	54.2	8.5	5.4	6.8	5.1	2.7	17.3	100.0

*Note.* % = Valid Percent of Response Rates. ALC-30days = Alcohol use within the past 30 days; ALC-year = Alcohol use within the past year; ALC-lifetime = Alcohol use within their lifetime; (0 = 0 occasions – 6 = 40 or more occasions); TOB-30days = Tobacco use within the past 30 days; TOB-year = Tobacco use within the past year; TOB-lifetime = Tobacco use within their lifetime; (0 = 0 occasions – 6 = 40 or more occasions); MAR-30days = Marijuana use within the past 30 days; MAR-year = Marijuana use within the past year; MAR-lifetime = Marijuana use within their lifetime; (0 = 0 occasions – 6 = 40 or more occasions).

Table 4  
Correlations Between Variables

Variable	1	2	3	4	5	6
1. DTS	1					
2. DISC	-.35**	1				
3. RELIG	-.14*	.19**	1			
4. ALC	.06	-.15*	-.19**	1		
5. TOB	.00	-.08	-.02	.47**	1	
6. MAR	.03	-.13*	-.16**	.47**	.56**	1
M	3.20	3.29	.00	2.28	1.75	1.34
SD	.88	1.15	.94	1.98	2.02	1.92

*Note.* DTS = Distress Tolerance Scale (1 = strongly agree – 5 = strongly disagree); DISC = Everyday Discrimination Scale (1 = never – 6 = almost every day); RELIG = Religiosity Scale (1 = not at all important – 5 = extremely important; 1 = never – 7 = daily); ALC = Alcohol Subscale on Modified Monitoring the Future Survey (0 = 0 occasions – 6 = 40 or more occasions); TOB = Tobacco Subscale on Modified Monitoring the Future Survey (0 = 0 occasions – 6 = 40 or more occasions); MAR = Marijuana Subscale on Modified Monitoring the Future Survey (0 = 0 occasions – 6 = 40 or more occasions).

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

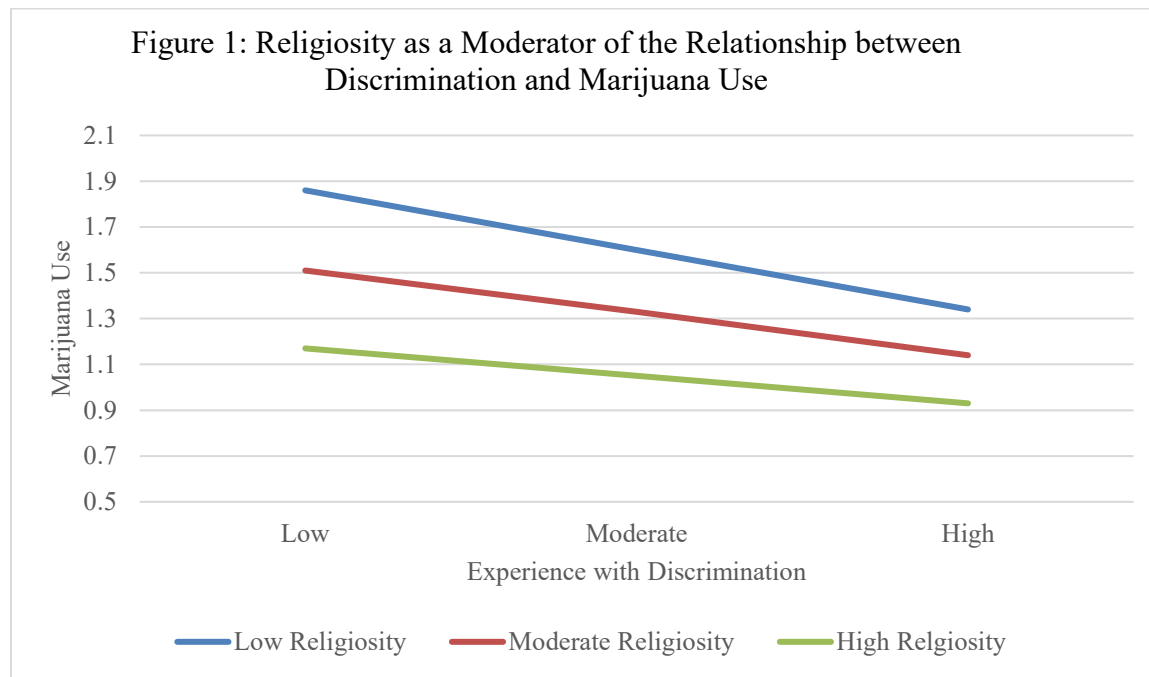
EXPERIENCES OF ARAB AMERICANS

Table 5  
Religiosity as a Moderator between Discrimination and Marijuana Use

Predictor Variable	$\beta$	$p$	95% CI
Low Religiosity	-.225	.096	-.491, .041
Moderate Religiosity	-.165	.095	.358, .029
High Religiosity	-.104	.443	-.364, -.157

Note. Conditional effects of discrimination on marijuana use at low, moderate and high levels of religiosity, with religiosity as the moderator.

\* $p \leq .05$



# EXPERIENCES OF ARAB AMERICANS

## Appendix A: Demographics Questionnaire

In order to determine if you are eligible to participate in the study please answer the following questions. Eligible participants will be directed to the informed consent document that will provide more information about the study.

### Gender

- Male
- Female

What year were you born? \_\_\_\_\_

In which country do you reside?

- Canada
- United States
- Other (please specify)\_\_\_\_\_

What is your ethnicity?

- African American/Black
- Arab or Middle Eastern
- Asian or Pacific Islander
- Caucasian/White
- Hispanic
- Native American/American Indian
- Other (please describe)\_\_\_\_\_

Were you born in the U.S.?

- Yes
- No

At what age did you move to the U.S.? \_\_\_\_\_

**Appendix B: Everyday Discrimination Scale (EDS)**

In your day-to-day life, how often have any of the following things happened to you?

**Response Options**

- 1 – almost every day
- 2 – at least once a week
- 3 – a few times a month
- 4 – a few times a year
- 5 – less than once a years
- 6 – never

1. You are treated with less courtesy than other people.
2. You are treated with less respect than other people.
3. You receive poorer service than other people at restaurants or stores.
4. People act as if they think you are not smart.
5. People act as if they are afraid of you.
6. People act as if they think you are dishonest.
7. People act as if they're better than you.
8. You are called names or insulted.



**Appendix C: Distress Tolerance Scale (DTS)**

Directions: Think of times that you feel distressed or upset.

**Select the item from the menu that best describes your beliefs about feeling distressed or upset.**

1. Strongly agree
2. Mildly agree
3. Agree and disagree equally
4. Mildly disagree
5. Strongly disagree

1. Feeling distressed or upset is unbearable to me.
2. When I feel distressed or upset, all I can think about is how bad I feel.
3. I can't handle feeling distressed or upset.
4. My feelings of distress are so intense that they completely take over.
5. There's nothing worse than feeling distressed or upset.
6. I can tolerate being distressed or upset as well as most people.
7. My feelings of distress or being upset are not acceptable.
8. I'll do anything to avoid feeling distressed or upset. Regulation
9. Other people seem to be able to tolerate feeling distressed or upset better than I can.
10. Being distressed or upset is always a major ordeal for me.
11. I am ashamed of myself when I feel distressed or upset.
12. My feelings of distress or being upset scare me. Appraisal
13. I'll do anything to stop feeling distressed or upset.
14. When I feel distressed or upset, I must do something about it immediately.
15. When I feel distressed or upset, I cannot help but concentrate on how bad the distress actually feels.

**Appendix D: Monitoring the Future Survey (MTF)**

The following set of three questions assesses usage levels of substances.

**Response Options**

- 0
- 1-2
- 3-5
- 6-9
- 10-19
- 20-39
- 40 or more occasions

On how many occasions (if any) have you used **tobacco** ...

- ... in your lifetime?
- ... during the last 12 months?
- ... during the last 30 days?

On how many occasions (if any) have you used **alcohol** ...

- ... in your lifetime?
- ... during the last 12 months?
- ... during the last 30 days?

On how many occasions (if any) have you used **marijuana** ...

- ... in your lifetime?
- ... during the last 12 months?
- ... during the last 30 days?

**Appendix E: Religiosity Scale**

1. How important is religion to you?

**Response Options**

- 1 - not at all important
- 2 - a little important
- 3 - somewhat important
- 4 - quite important
- 5 - extremely important

2. How often do you engage in private prayer?

3. How often do you attend church, mosque, temple, or other religious activities?

4. How often do you engage in private scripture reading?

**Response Options**

- 0 - never
- 1 - less than once a month
- 2 - once a month
- 3 - 2 to 3 times a month
- 4 - once a week
- 5 - 2 to 3 times a week
- 6 - daily