SUICIDE COGNITIONS AMONG ARAB AMERICAN EMERGING ADULTS: RISK AND PROTECTIVE FACTORS

_____

A Dissertation Presented to

The Faculty of the Department

of Psychology

University of Houston

_____

In Partial Fulfillment

Of the Requirements for the Degree of

Doctor of Philosophy

_____

By

Soumia Cheref

September 2020

_____

SUICIDE COGNITIONS AMONG ARAB AMERICAN EMERGING ADULTS: RISK AND PROTECTIVE FACTORS

_____
Soumia Cheref

APPROVED:

_____
Rheeda L. Walker, Ph.D.
Committee Chair
University of Houston

_____
Germine Awad, Ph.D.
University of Texas at Austin

_____
Weihua Fan, Ph.D.
University of Houston

_____
Carla Sharp, Ph.D.
University of Houston

_____
Daniel P. O'Connor, Ph.D.
Dean, College of Liberal Arts and Social Sciences
Department of Health and Human Performance

SUICIDE COGNITIONS AMONG ARAB AMERICAN EMERGING ADULTS: RISK AND PROTECTIVE FACTORS

_____

An Abstract of a Dissertation

Presented to

The Faculty of the Department

of Psychology

University of Houston

_____

In Partial Fulfillment

Of the Requirements for the Degree of

Doctor of Philosophy

_____

By

Soumia Cheref

September 2020

_____

ABSTRACT

Arab Americans are a rapidly growing and increasingly marginalized ethnic group. Despite evidence that anti-Arab discrimination has increased in the past two decades, there remains a dearth of literature. The only published empirical investigation of suicide risk among Arab Americans utilized epidemiological methodology and reported similar suicide death rates to other ethnoracial minority groups (El-Sayed et al., 2011). Notably, in the near decade since its publication, factors that contribute to suicide vulnerability for this population remain unknown. Furthermore, studies have found that younger Arab Americans report more frequent experiences with discrimination (Awad, 2011). Building on a vast literature that has found race-based stressors to increase risk for suicide, the primary goal of this study was to explore risk and resilience factors for suicide cognitions among Arab American emerging adults. Structural equation modeling was utilized to test the hypothesized model, but findings suggested the data better fit a path regression model. Gender significantly predicted suicide ideation. A model was subsequently identified and interpreted only for female Arab American participants as the sample size was limited for male participants. Results revealed that anxiety, but not depressive, symptoms mediated the relationship between perceived discrimination and suicide ideation for female participants. Religious coping moderated this relationship such that higher frequency of perceived discrimination was associated with higher levels of anxiety symptomatology for participants who reported religious coping scores between the 38th and 87th percentile for the current sample. Religious coping indirectly predicted suicide ideation via mediated effects of anxiety. Ethnic identity and ethnic density did not emerge as significant moderators. Ethnic identity was positively associated with depressive symptoms and ethnic density was negatively associated with suicide ideation. Study implications and future directions are discussed.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Introduction

Arab Americans are a unique ethnic group in the United States that is often labeled an "invisible" minority group due to U.S. Census classification of Arabs as "White/European American" (Amer & Awad, 2016). This classification may account for the largely lacking scientific inquiry into Arab American mental health. Such a gap in the literature presents a problem as Arab Americans, particularly Muslim Arabs, experienced a significant increase in discriminatory events following the terror attacks on 9/11. Federal Bureau of Investigation (FBI) indicated that reported hate crimes against Muslims and those who resemble Arabs increased by 1,700% following 9/11 (Federal Bureau of Investigation, 2002; Singh, 2002). Although understudied, researchers have found that ethnic discrimination toward Arab Americans is associated with poorer mental health, including increased risk for depression, posttraumatic stress disorder, and anxiety disorders (Abu-Ras & Abu-Bader, 2008; Abu-Ras & Suarez, 2009; Rousseau, Hassan, Moreau, & Thombs, 2011), factors that are often cited as increasing risk for suicide (Franklin et al., 2017; Sareen, 2011). Furthermore, like other racial and ethnic groups, Arab Americans are less likely to seek mental health treatment (Abu-Ras & Abu-Bader, 2008). Untreated mental illness is also linked to increased suicide risk (Mościcki, 2014).

Suicide is a research area that has received remarkably little attention among Arab Americans. Indeed, a search of the available literature to date contained only one published study on Arab American suicide. This is especially problematic as suicide is a leading cause of death in the United States, particularly among emerging adults (i.e., persons 18 to 25 years old; Kessler, Berglund, Borges, Nock, & Wang, 2005). El Sayed and his colleagues (2011) found that while Arab Americans die by suicide less frequently than White Americans, suicide death rates among this population are comparable to those of other racial and ethnic minority groups (i.e., African

Americans, Asian Americans, and Hispanic Americans). However, this was an epidemiological study that did not examine factors that may lead Arab Americans to die by suicide, nor did it explore suicide ideation. Given that the Arab American population is one that is rapidly growing (Brown et al., 2012), there is a profound need to explore factors associated with risk of suicide and related thoughts and behaviors among this population. As such, the purpose of the current study is to examine psychological and sociocultural factors that may exacerbate or buffer suicide risk among Arab American emerging adults. Specifically, this study will examine whether psychological distress mediates the effect of perceived discrimination on suicide cognitions (i.e., implicit associations with suicide and self-reported suicide ideation). Further analyses will examine if religious coping, ethnic identity, or ethnic density will mitigate such associations.

Arabs in the United States

At first glance, Arab Americans appear to comprise a very small percentage of the overall U.S. population. The U.S. Census estimates that Arab Americans make up 0.5% (1.5 million) of the U.S. population (Asi & Beaulieu, 2013). However, the U.S. Census classifies Arab Americans as "White" and this estimate is obtained from follow-up questions on the Census that query ancestry. These questions often remain unanswered. Thus, this is likely an underestimate of the actual number of Arabs residing in the U.S. The Arab American Institute Foundation estimates that at least 3.7 million Americans trace their roots to an Arab country (Arab American Institute, 2014). In addition, the Arab American population increased by more than 72% from 2000 to 2010 and this trend is likely to continue in the future (Arab American Institute, 2014) .

The terms "Arab American" and "Muslim American" are often confounded, both in the available literature and among lay persons. This poses a significant problem as findings from the literature may not be applicable to the ethnic or religious group for which it is intended. Only

23% of American Muslims are also Arab Americans (Zogby, 2001). Furthermore, the majority of Arabs residing in the United States (77%) report adhering to the Christian, and not the Muslim, faith (Zogby, 2001). The current study will focus on Arab Americans of all religions and will utilize the American-Arab Anti-Discrimination Committee's (2009) operationalization of Arab Americans. Specifically, the term "Arab American" in this study refers to individuals living in the United States who trace their ancestry to one of the 22 Arab-speaking countries in North Africa and the Middle East: Algeria, Bahrain, the Comoros Islands, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Mauritania, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, the United Arab Emirates, and Yemen.

There is a common misconception that Arab Americans did not experience discrimination prior to 9/11. However, discrimination against this ethnic group can be traced back to 1914 (Naber, 2000). Though Arab Americans have been experiencing discrimination for many decades, the frequency and intensity of such discrimination increased greatly following 9/11. Abu-Ras & Abu-Bader (2008) found that 77% of Muslim and Arab Americans reported experiencing a discriminatory event following 9/11 and 50% indicated that their lives have changed following 9/11. Hate crimes also saw a sharp increase post-9/11. Not only did hate crimes against Muslims and persons resembling Muslims increase by approximately 1,700% during this period (Federal Bureau of Investigation, 2002; Singh, 2002), Arab Americans were also subject to institutional discrimination as they were targeted by U.S. policies that received wide public support (Cainkar, 2009). Cainkar (2009) reported that a minimum of 100,000 Arabs were affected by these policies, which included wiretapping, FBI interviews, and secret and indefinite detentions. Such experiences have led to an increased sense of fear and anxiety among Arab Americans; fear both from hate crimes and the public policies that target this population

(Abu-Ras & Abu-Bader, 2008). Given the sociopolitical effects on Arab Americans, further research is required to better understand this population's mental health functioning. Of particular interest is the potential impact of discrimination on psychological distress and suicide-related outcomes, a grossly understudied outcome among Arab Americans.

Perceived Discrimination and Psychological Distress

Discrimination is understood as a stressful life event that causes a stress response that may lead to elevated risk for mental illness (Pascoe & Smart Richman, 2009). In his Race-Based Traumatic Stress Injury Model, Carter (2007) posited that discrimination in its many forms (e.g., verbal, physical, institutional, and microaggressions) can be understood as a traumatic event. His model was developed to aid in understanding the disproportionately high levels of post-traumatic stress disorders in people of color. Carter (2007) explains that reactions to discriminatory events may result in symptoms of mental illness (e.g., PTSD, anxiety, and depression) or they may result in adaptive outcomes (e.g., the use of active coping skills and race- and religion-based resources). Much of the available literature has focused on the deleterious effects of discrimination, with little focus on culturally-based factors that can mitigate the effects of discrimination.

There is robust evidence for the relationship between experiences of discrimination and poorer mental and physical health. In a meta-analysis investigating the relationship between perceived discrimination across a number of minority populations, including race/ethnicity, gender, and sexual orientation, and mental and physical health outcomes, Pascoe & Smart Richman (2009) found a strong relationship between perceived discrimination and mental health outcomes (e.g., depressive symptoms, anxiety symptoms, posttraumatic stress symptoms, and indicators of psychosis or paranoia). Furthermore, perceived discrimination was not only

associated with symptomatology of mental illness, but also to diagnoses of mental disorders (Pascoe & Smart Richman, 2009). There is also evidence that Arab Americans experiencing discrimination report a worse health status than those who do not report discrimination (Padela & Heisler, 2010).

While the relationship between perceived discrimination and poorer mental health outcomes has been established in the literature among African Americans (Pieterse et al., 2012), there remains a large gap in exploring this relationship among other racial and ethnic minority groups, including Arab Americans (Abu-Ras & Suarez, 2009). This is particularly concerning as a study examining relatively subtle forms of discrimination found that Arab Americans experienced higher levels of prejudice encounters than African Americans, Asian Americans, and Hispanic Americans (Bushman & Bonacci, 2004). Of the literature that examined the effects of discrimination, one study found that Muslim Arabs residing in Montreal, Canada exhibited a significant increase in psychological distress (i.e., depression and anxiety) in the face of discrimination between 1998 (i.e., pre-9/11) and 2007 (Rousseau, Hassan, Moreau & Thombs, 2011). While this association was not significant for non-Muslim Arabs, both Muslim and non-Muslim Arabs reported a significant increase in experiences of discrimination between 1998 and 2007. A similar study conducted in the United States found that while Muslim Arabs reported higher rates of perceived abuse and discrimination than Christian Arabs, the effects of discrimination on psychological distress did not differ between the two groups (Padela & Heisler, 2010). This suggests that the psychological consequences of perceived discrimination are similar among Arab Americans regardless of religious affiliation.

Though limited, the available literature provides preliminary evidence that perceived discrimination is associated with poor mental health outcomes among Arab Americans. For

instance, Abu-Ras and Abu-Bader (2008) conducted a series of focus groups of largely Muslim Arab Americans in which participants reported a common theme surrounding fear and anxiety regarding personal safety and hate crimes. Another study recruited Muslim Americans, 60% of whom also identified as Arab Americans (Abu-Ras & Suarez, 2009). This study found that 21% of participants reported injury or death to a friend or family member following 9/11 and 52% reported a reluctance to leave their home following these events (Abu-Ras & Suarez, 2009). Additionally, this study found that feeling less safe in the US following 9/11 was a significant predictor of posttraumatic stress disorder (Abu-Ras & Suarez, 2009).

Few studies have examined depression and anxiety among Arab Americans, but the available literature suggests that Arab Americans may be at increased risk for such disorders. In a large study of 601 Arab Americans (70% of which identified as Muslim Arabs) from 35 states, 25% of participants reported anxiety symptoms in the moderate to severe range on the Beck Anxiety Inventory (BAI) and 50% of participants reported depressive symptoms in the clinical range of the Center for Epidemiologic Studies-Depression Scale (CES-D; Amer & Hovey, 2012). The mean score on the BAI in this sample was significantly higher than that found in a non-clinical normative sample. This was also true for the CES-D as previous literature indicated that 20% of any non-clinical sample would score in the clinical range, compared to the 50% observed for Arab Americans in this study (Amer & Hovey, 2012). These findings are particularly troubling as the participants in this sample reported high educational achievement (60% completed a bachelor's degree or greater) and income (55% reported an annual family income greater than $50,000), factors that exhibit a robust association with decreased mental illness (Lorant et al., 2003). Although the relationship between discrimination and anxiety and depression was not examined in this study, the authors posit that societal factors, such as

discrimination, profiling, and a biased anti-Arab media, may account for the higher reports of depression and anxiety among Arab Americans.

In another study examining depression and anxiety among Muslim and Arab Americans following 9/11, Abu-Ras & Abu-Bader (2008) found that anxiety was reported as a major mental health issue by 65% of the sample and 62% of participants reported depressive symptoms in the clinical range on the CES-D. Additionally, those who reported that their lives had negatively changed after 9/11 reported more depression than those who did not (Abu-Ras & Abu-Bader, 2008). Although the relationship between perceived discrimination and depression was not directly assessed in this study, 77% of the sample reported experiencing a discriminatory event. Taken together, these findings demonstrate that Arab Americans experience increased psychological distress compared to non-clinical samples of Americans. Emerging findings also suggest that experiences of discrimination may account for this increased risk. However, more research is needed to determine the role of discrimination in subsequent psychological distress. Furthermore, the relationship between psychological distress is an established risk factor for suicide thoughts and behaviors (see Batty et al., 2018 for review), but has not been examined among Arab Americans.

Perceived Discrimination and Suicide

Suicide is a leading cause of death in the United States and accounts for nearly 45,000 deaths each year (Centers for Disease Control and Prevention [CDC], 2018). It is the 10th leading cause of death across all age groups, but the second leading cause of death among emerging adults (18 to 25 year old young adults), surpassed only by unintentional injury (CDC, 2015). Additionally, the number of suicides have increased yearly since 1999 (CDC, 2018), making it a

major public health problem that warrants significant attention. A literature search of suicide outcomes among Arab Americans yielded only one empirical study.

El-Sayed and associates (2011) found that Arab Americans had lower rates of suicide compared to non-ethnic Whites Americans. They found that the suicide death rate for Arab Americans were lower among both males (12.43 per 100,000) and females (4.86 per 100,000), compared to the rates observed for male (25.25 per 100,00) and female (6.42 per 100,000) non-ethnic White individuals (El-Sayed et al., 2011). These findings are similar to other literature suggesting that White Americans die by suicide at a higher rate than African Americans, Asian Americans, and Hispanic Americans (Centers for Disease Control and Prevention, 2015). These results also follow a national trend of higher suicide deaths among males than females. However, females have consistently been shown to think about and attempt suicide more frequently than males (CDC, 2015; Substance Abuse and Mental Health Services Administration, 2014).

El-Sayed et al. (2011) also found that Arab Americans residing in Michigan are more educated and reported higher household income than their non-Arab and non-Hispanic White counterparts. However, Arab Americans exhibited an increased risk of mortality and decreased life expectancy than their similarly aged non-Arab and non-Hispanic White counterparts. Although discrimination was not formally assessed in this study, the authors theorized that frequent experiences of discrimination Arab Americans face, combined with increased pressure to assimilate in order to reduce such discriminatory experiences, may account for this finding. However, more work is needed to identify factors associated with decreased life expectancy among Arab Americans.

Other researchers found that second-generation persons of Middle Eastern decent (i.e., Arabs and individuals from other Middle Eastern countries, including Afghanistan, Turkey,

Israel, Armenia, and Iran) living in California (Nasseri & Moulton, 2011) and Sweden (Hjern & Allebeck, 2002) exhibited higher risk of dying by suicide than their first-generation counterparts. Second-generation individuals may experience increased risk for suicide death that may be attributed to additional acculturation stressors that first-generation individuals may not experience or may experience at a decreased degree. Although the association between discrimination and suicide outcomes has not been examined among Arab Americans, several researchers have revealed an association between perceived discrimination and suicide ideation and suicide attempts among other racial and ethnic minority groups (e.g., Asian Americans, African Americans, and Latinxs; Cheng et al., 2010; Cheref, Talavera, & Walker, 2018; Gomez, Miranda, & Polanco, 2011; Walker, Salami, Carter, & Flowers, 2014; Wang, Wong, & Fu, 2013).

One major limitation of the extant literature on Arab Americans is the reliance on findings obtained via self-report. Arab Americans, similar to other racial and ethnic minorities, are likely to underreport mental illness. This phenomenon has been attributed to cultural values that may restrain self-reported expression of mental illness and concerns over family honor (Al-Krenawi & Graham, 2000). The exclusive use of self-report measures to examine suicide thoughts and behaviors has also been criticized as suicide is a phenomenon that tends to be stigmatized more than other psychological problems (Glenn et al., 2017). To address this limitation, the current study will combine self-reported suicide ideation and behavioral methodology to examine suicide risk. The Implicit Associations Test (IAT) is a computer-administered assessment of automatic, non-explicit cognitions that has been developed to address the limitations of self-report (Greenwald et al., 1998). Use of the suicide/death IAT has been shown to consistently and robustly distinguish those with a history of suicide ideation and

behaviors from those without such a history (Glenn et al., 2017; Nock et al., 2010; Nock & Banaji, 2007). Additionally, a stronger association between self and suicide/death was associated with a 6-fold increase in suicide attempts among psychiatrically hospitalized civilians (Nock et al., 2010) and a 2-fold increase in suicide attempts among psychiatrically hospitalized veterans (Barnes et al., 2017) in the six months following hospitalization. Given these findings, a combination of behavioral and self-reported measures of suicide cognitions (i.e., self-reported thoughts about suicide and implicit associations with suicide) is likely to produce a more accurate estimate of suicide risk among Arab Americans.

Theoretical Approach to Studying Suicide Outcomes among Arab Americans

Researchers and theorists have expanded investigations of mental illness by understanding resilience and vulnerability simultaneously (Luthar et al., 2000). Sakdapolrak et al. (2008) posited that vulnerability and resilience ought to be understood as being in a dialectical relationship. They add that such resilience and vulnerability result from the individual's interaction with the socio-ecological system surrounding them. This system consists of the environment and social institutions the individual encounters regularly. To this end, experiences such as exclusion, discrimination, hate crimes, exploitation, and segregation may increase vulnerability; whereas ethics, family support, religion, spirituality, and empowerment may increase resilience (Sakdapolrak et al., 2008). This approach aligns with the Race-Based Traumatic Stress Injury Model (Carter, 2007) which also suggests that experiences of discrimination can lead to either mental illness or the use of adaptive coping skills and cultural resources to overcome experiences of negative racial and ethnic events. These two models can be combined to provide a theoretical approach to understanding the psychological distress and

potential subsequent suicide ideation associated with perceived discrimination among Arab Americans, while also examining factors that may serve to protect from such outcomes.

Additionally, suicide ideation as a mental health outcome that may arise from discrimination can be understood via the interpersonal-psychological theory of suicide (Joiner, 2005), which posits that thwarted belonging is one of the components necessary for an individual to consider suicide. Smart Richman & Leary (2009) have also suggested that this threat to sense of interpersonal belonging plays an integral role in perceived discrimination.

Perceived Discrimination and Religious Coping, Ethnic Identity, and Ethnic Density

In their meta-analysis, Pascoe and Smart Richman (2009) encountered several moderators that acted to mitigate the association between perceived discrimination and health outcomes. Namely, social support, active coping styles, and ethnic identity were found to serve as protective factors among racial, ethnic, sexual, and gender minorities faced with perceived discrimination. Ethnic density has also received some empirical attention as a factor that may protect against mental illness (Kwag et al., 2012; Wadsworth & Kubrin, 2007). Indeed, researchers have suggested that despite the deleterious effects 9/11 has had on the Arab American community, positive effects have also been reported. Among these are an increase in self-confidence and self-esteem (Abu-Ras & Suarez, 2009). Religious coping, ethnic identity, and ethnic density are three factors that may mitigate risk for suicide outcomes for Arab Americans even when discrimination is reported.

Religious coping refers to the use of religious behaviors and resources as a means to cope with distress (Amer & Kayyali, 2016). It has been identified as an important resiliency factor for Arab Americans, particularly for those who also identify as Muslim (Beitin & Allen, 2005). Abu-Ras, Gheith, and Cournos (2008) found that Muslims reached out to faith-based supporters

(i.e., Imams) five-times more frequently in the aftermath of 9/11 than before 9/11. Some of the primary issues Muslim Americans in this study reported discussing with faith-based leaders included concerns over safety, discrimination, and anxiety. Amer & Hovey (2007) found that among Muslim Arab Americans, less religiosity was associated with increases in depressive symptomatology. Similarly, a study of Arab American adolescents found that increased reports of religious coping were associated with decreased levels of psychological distress (Ahmed et al., 2011). Religiosity was also posited as a factor that may have contributed to the relatively lower rates of suicide deaths among Arab Americans (El-Sayed et al., 2011). However, religiosity was not assessed in this study.

Ethnic identity is another cultural factor that has been shown to decrease risk for mental illness among Arab Americans. Ethnic identity refers to one's sense of belonging with other members of one's ethnic group and includes having positive attitudes about one's ethnic group as well as taking part in ethnic behaviors and practices (Phinney, 1992). In one study, Arab Americans who reported having a strong ethnic identity were found to have higher levels of self-esteem and decreased levels of depression (Fakih, 2013). Among Arab American adolescents, increased reports of ethnic identity was associated with less psychological distress (Ahmed et al., 2011).

Though the relationship between ethnic identity and suicide outcomes has not been explored among Arab Americans, research among other racial and ethnic minority groups suggests that ethnic identity may not directly buffer against suicide outcomes (Perry, Stevens-Watkins, & Oser, 2013; Ai, Weiss, & Fincham, 2014; Chesin & Jeglic, 2012). Instead, findings suggest that increased ethnic identity across racial and ethnic groups mitigates risk for psychological distress (Huynh et al., 2014; Tynes et al., 2012) and suicide outcomes (Cheref et

al., 2018; R. L. Walker et al., 2008) in the face of other stressors (e.g., discrimination and anxiety). Thus, Arab Americans may exhibit a similar pattern whereby ethnic identity may act as a moderator of the relationship between perceived discrimination, psychological distress, and suicide cognitions.

Ethnic Density refers to increased proportions of individuals of the same racial or ethnic group living in the same areas. Arab Americans who lived in areas with higher Arab ethnic density have exhibited decreased associations between perceived discrimination and distress (Abdulrahim et al., 2012). Furthermore, El-Sayed et al. (2011) found lower suicide death rates among Arab Americans who lived in areas with higher Arab ethnic density compared to those who lived in areas with a lower Arab ethnic density. These findings suggest that ethnic density could serve as a factor that protects against suicide ideation even when faced with discriminatory experiences.

Current Study

Arab Americans are an ethnic group that is largely overlooked in the psychology literature. While this is partially attributed to the classification of Arab Americans as "White/Caucasian" on the U.S. Census, it is clear that a great deal of work is needed to better understand the psychological functioning of this ethnic group. This is especially true given the sociopolitical climate that arose in the aftermath of 9/11. The vast increase in discrimination experienced by individuals who trace their ancestry to Arab countries in particular warrants further study. In addition, suicide is a major public health problem that continues to rise nationwide, especially among emerging adults. Though the literature suggests that Arab Americans die by suicide at rates similar to those observed in other racial and ethnic groups (i.e., African, Asian, and Latinx Americans), no studies have examined factors that may increase or

mitigate risk for suicide among this ethnic group. As such, the current study aims to address this gap in the literature by examining whether self-reported experiences of discrimination may be associated with suicide cognitions via increases in psychological distress. This study will also examine the potential mitigating effects of religious and sociocultural resources (i.e., religious coping, ethnic identity, and ethnic density). To that end, structural equation modeling will be utilized to examine direct and indirect relationships between risk and protective factors associated with suicide cognitions among Arab American emerging adults. Figure 1 illustrates the hypothesized relationships between perceived discrimination, psychological distress, and cognitions about suicide as well as the hypothesized moderating effects of cultural resources. The literature suggests that reports of important study variables (e.g., discrimination and suicide outcomes) may vary based on religious affiliation and sex/gender. As such, religious affiliation and self-reported gender are included as covariates in the final hypothesized model. The hypotheses for the current study are:

1. Perceived discrimination, depressive symptoms, and anxiety symptoms will each negatively correlate with implicit associations with life (relative to death) and positively correlate with self-reported suicide ideation. Stronger implicit associations with life relative to death and self-reported suicide ideation will be negatively correlated. Religious coping, perceived ethnic density, and ethnic identity will each positively correlate with implicit associations with life and negatively correlate with self-reported suicide ideation.
2. Perceived discrimination will positively and directly predict the latent variable psychological distress (which consists of depressive symptoms and anxiety symptoms) and indirectly predict the latent variable suicide cognitions (consisting of implicit suicide

cognitions and self-reported suicide ideation) via psychological distress. That is, psychological distress will mediate the relationship between perceived discrimination and suicide cognitions.

3. Increased reports of religious coping, ethnic identity, and perceived ethnic density will each interact with perceived discrimination to directly and negatively predict psychological distress and indirectly predict lower reports of suicide cognitions. That is, cultural resources will moderate the relationship between experiences of discrimination and psychological distress and suicide cognitions such that increased reports of cultural resources will result in a weaker association between psychological distress and suicide cognitions.

Method

Participants

Participants were 203 emerging adults enrolled in a large public university in the southwestern region of the United States. They were offered course credit for their participation and the option to enter a drawing for one of four $25 Amazon gift cards. In order to be eligible, participants had to be emerging adults (i.e., between the ages of 18 and 25 years old) and identify as Arab American. Additionally, the current study was conducted in English, and participation thus required ability to read and respond to study items. Data for 46 participants were removed from the sample due to incorrect responses on validity check questions (n = 8), non-Arab American background (e.g., Pakistani American, n = 5), and over 20% incomplete data (n = 28). The final sample consisted of 157 participants. The majority of the sample (n = 117) was female. Participant ages ranged from 18 to 25 and the mean age was 20.38 (SD = 1.94).

The majority of participants were second-generation Arab Americans (63%), followed by first-generation/immigrant (21%), and third-generation (10%) Arab Americans. Half of the sample (50%) reported religious affiliation with Islam, 26% were affiliated with Christianity, 12% indicated an "other" religious affiliation, 10% indicated they were atheist, agnostic, or did not affiliate with any religion, and 3% affiliated with the Druze faith. With regard to marital status, most of the respondents indicated they were single (n = 126); 5 were engaged, 5 were married, and 4 indicated they were in a domestic partnership. The majority of participants (91.1%) indicated they were undergraduate students; 13 participants were enrolled in a graduate program. Parental education achievement was also high. Most participants reported that their father (73.7%) and mother (63.7%) obtained an Associates degree or higher. In terms of income, 64% reported an annual family income above $50,000 and 36% indicated an income of over $100,000.

Measures

Demographics. A demographics form will be administered to query participant characteristics including age, gender, race/ethnicity, country of birth for the participant and both parents. Marital status, generational status, refugee status, and religious affiliation will also be queried.

***Perceived Discrimination*.** The Perceived Ethnic Discrimination Questionnaire (PEDQ; Contrada et al., 2001) is a self-report measure designed to assess various types of discrimination, including verbal rejection, avoidance, exclusion, denial of equal treatment, and threat of violence. Total scores are acquired by summing ratings on the frequency of discriminatory events experienced over the past three months. The PEDQ consists of 22 items, each of which is rated on a Likert scale ranging from 1 (never) to 7 (very often). Total scores range from 22-154.

Sample items include (a) “How often has it been implied or suggested that because of your ethnicity you must be unintelligent?” (b) “How often have others threatened to hurt you because of your ethnicity?” and (c) “How often have others avoided social contact with you because of your ethnicity?” The PEDQ has been shown to be a reliable measure of perceived discrimination among Arab Americans (α = .96; Awad, 2010). Internal consistency reliability was good in the present sample (α = .97).

***Implicit Suicide Cognitions*.** The Suicide/Death Implicit Association Test (Suicide/Death IAT; Nock et al., 2010) will be used to assess implicit suicide cognitions. The IAT is a brief computer administered task that utilizes reaction times to determine participants’ automatic associations with certain items (i.e., suicide in the current study). Participants are presented with stimuli representing death and suicide (i.e., *die*, *dead*, *deceased*, *lifeless*, and *suicide*) as well as stimuli representing life (i.e., *alive*, *survive*, *live*, *thrive*, and *breathing*) along with attributes to self (i.e., *I*, *myself*, *my*, *mine*, and *self*) and others/not me (i.e., *they*, *them*, *their*, *theirs*, and *other).* Response times are used to calculate a *D* score (Greenwald et al., 2003) to determine the relative association between self and death/suicide. In this study, positive *D* scores represent a stronger association between the self and life, whereas negative *D* scores represent a stronger association between the self and death/suicide. Internal consistency reliability was acceptable in the present sample (α = .78).

Self-Reported Suicide Ideation. The Adult Suicidal Ideation Questionnaire (ASIQ; Reynolds, 1991) will be utilized to assess participants’ suicide ideation. The ASIQ is a 25-item self-report measure of suicide ideation experienced over the past month for adults ages 18 years and older. Responses are assessed on a Likert-scale ranging from 0 (never had the thought) to 6 (had the thought almost every day). Total scores are acquired by summing the ratings for items

1-25. Total scores range from 0-150 with higher scores indicating greater levels of suicide ideation. The scale has shown high reliability and validity across settings (Fu & Yip, 2007; Reynolds, 1991) and among racial and ethnic minorities (α = .96-.98; Hovey, 2000; Walker et al., 2014).The ASIQ demonstrated excellent internal consistency reliability in the present sample (α = .99).

Religious Coping. The Brief Arab Religious Coping Scale (BARCS; Amer, Hovey, Fox, & Rezcallah, 2008) will be used to assess religious coping. The BARCS is a 15-item measure that assesses how often participants engage in religious coping activities when they experience stressful situations or problems. Items are rated on a Likert scale ranging from 0 (not used at all/does not apply) to 3 (used always). The BARCS was designed specifically for Arab Americans and includes culturally appropriate terms (e.g, Bible and Qur'an). Sample items include "I attended religious classes (e.g., Bible study, Islamic halaqa)" and "I prayed to get my mind off my problem/s." Scores are obtained by summing responses and range from 0-45, with higher scores indicating increased use of religious coping. The BARCS is a valid measure of religious coping and has shown good reliability among Arab Americans (α = .89 to .94; Amer et al., 2008). Internal consistency reliability was good in the present sample (α = .95).

Perceived Ethnic Density. Though no measures of perceived ethnic density exist, several researchers have included a one-item question to determined participants' perception of the number of people living in their neighborhood who share their ethnic background (Jurcik et al., 2013; Kwag et al., 2012; Veling et al., 2008). In the current study, perceived ethnic density will be measured utilizing Veling and colleagues' (2008) perceived ethnic identity question. The question will be adapted to include only Arab Americans: "Thinking about people in your local area (15-20 minutes' walking distance), what proportion of all the people in your local area are

Arab Americans?" Responses will range from 1 (none), 2 (a few), 3 (about half), 4 (most), to 5 (all).

Ethnic Identity. The Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992) is a widely used measure of ethnic identity based on the components of ethnic identity that are common across ethnic groups (Phinney, 1992). The measure consists of 12 items that assess three aspects of ethnic identity (i.e., positive ethnic attitudes and sense of belonging; ethnic identity achievement; and ethnic behaviors/practices). Participants are instructed to rate each item on a Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). An average score is obtained with higher scores representing a more positive ethnic group identity. The MEIM has been shown to be valid and reliable for Arab Americans (α = .88; Awad, 2010). The measure similarly demonstrated good internal consistency in the present study α = (.87).

Depressive Symptomatology. The Beck Depression Inventory, II (BDI-II; Beck, Steer, & Brown, 1996) will be used to assess physical and psychological symptoms of depression. It consists of 21 self-report items with responses ranging from 0-3. An example item, "0 - I do not feel I am worthless; 1 - I don't consider myself as worthwhile and useful as I used to; 2 - I feel more worthless as compared to other people; 3 - I feel utterly worthless," assess the range of experiencing worthlessness, a common symptom of depression. Total scores range from 0 to 63, with higher scores indicating a greater presence of depression. This measure has demonstrated good reliability in ethnically diverse samples (α ranges from .84 to .94; Cheref, Lane, Polanco-Roman, Gadol, & Miranda, 2015; Joe, Woolley, Brown, Ghahramanlou-Holloway, & Beck, 2008; Walker et al., 2008). The BDI-II also demonstrated good reliability in a sample of 30 Arab American women (α = .82; Hassouneh & Kulwicki, 2007). Internal consistency reliability was good in the present sample (α = .95).

Anxiety Symptomatology. The Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988) will be used to assess symptoms of anxiety. The BAI was developed to assess symptoms of anxiety that are distinct from symptoms that overlap with depressive symptoms (Steer et al., 1993). In addition, The BAI includes physiological symptoms of anxiety, which have been found to be more prominent among Arab Americans as this population is more likely to report somatic symptoms of psychopathology (Sayed, 2003). The BAI consists of 21 items that are rated on the extent to which the participant is bothered by each item in the previous week. Ratings are on a Likert scale ranging from 0 (not at all) to 3 (severely – It bothered me a lot). Scores range from 0-63, with higher scores indicating increased presence of anxiety symptoms. The BAI has demonstrated good reliability among Arab Americans (α = .93; Amer & Hovey, 2012). Internal consistency reliability was good in the present sample (α = .96).

Procedure

Participants were recruited via flyers posted on bulletin boards and hallways as well as via e-mails sent to instructors and student organizations. Inclusion criteria were highlighted on recruitment flyers. Interested participants were provided with a link that directed them to the Qualtrics survey. Participants completed the entire study on Qualtrics which allowed them to complete the study at a location and time of their choosing. Participants first provided consent to be included in the study. They were then asked to indicate if were over the age of 18 and an Arab American emerging adult (yes/no). Those who selected no were thanked for their time and informed they were not eligible. Eligible participants were directed to the study page where they responded to questionnaires and completed the Suicide IAT. Glenn and his colleagues (2016) found similar associations between explicit and implicit cognitions about suicide in their internet-administered study compared to studies where the Suicide IAT was administered in

laboratory settings. Following completion of the study, participants were directed to a debriefing form that include mental health referrals. Participants who wished to enter a random drawing for one of four $25 Amazon gift cards, were directed to a different page where they were prompted to provide their first name and e-mail address if they wished to participate in the drawing. Those enrolled in relevant courses were also granted course credit for their participation. All study procedures were approved by the Institutional Review Board prior to data collection.

Statistical Analytic Plan

Statistical Power Analysis. Power analyses for structural equation modeling were conducted using Preacher and Coffman's (2006) macro for R. A power analysis was conducted to determine the sample size needed with an alpha = .05, power = .80 and degree of freedom = 34, calculated per Rigdon's (1994) formula. This analysis revealed that a sample of 284 participants is needed to obtain a good model fit for the hypothesized model. While the current sample does not meet this requirement, statisticians have indicated that small sample sizes can produce large effects (Deng et al., 2018; Wolf et al., 2013). Wolf et al. (2013) utilized Monte Carlo analyses to systematically evaluate sample size requirements for a variety of SEM analyses. They found that sample size requirements vary based on several factors and ranged from 30 to 460 across models. Furthermore, models containing latent variables were found to require larger sample sizes than path models (Wolf, 2013).

Hypothesis 1. To test the first hypothesis, bivariate correlations were utilized to assess the association between perceived discrimination, depressive symptoms, anxiety symptoms, religious coping, perceived ethnic density, ethnic identity, self-reported suicide ideation, and Suicide IAT scores.

Hypothesis 2 & Hypothesis 3. The hypothesized model will be examined via Analysis of Moment Structures (AMOS) for Statistical Package for the Social Sciences (SPSS). Maximum likelihood estimation was used to determine parameter estimates. This method estimates all parameters simultaneously and is the most common SEM method. However, it is recommended that this method be used only when data are normally distributed (Kline, 2015). As such, skewness and kurtosis were examined prior to assessing the model. Data were also screened for outliers and multicollinearity.

The overall model fit will be evaluated via chi-square statistic (χ^2), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA) as it is recommended that multiple indices be used to enhance evaluation of model fit (Kline, 2015). A model is considered to have good fit if the χ^2 statistic is nonsignificant, the CFI is greater than .95, and the RMSEA is below .08. RMSEA values below .05 indicate a very good fit, values between .05 and .08 indicate an adequate fit, and values above .08 indicate a poor model fit (Kline, 2015). Modification indices and empirical evidence were utilized to respecify the hypothesized.

Results

Preliminary Analyses

Tables 1a displays the means, standard deviations, and intercorrelations for study variables for the full sample. Table 1b and Table 1c display these values for female and male participants, respectively. A preliminary multivariate analysis of variance (MANOVA) was conducted to test for omnibus differences between gender and religious groups (i.e., Muslim, Christian, Atheist/Agnostic, and “other religion” Arabs) on implicit suicide cognitions, self-reported suicide ideation, perceived discrimination, depressive symptoms, anxiety symptoms, religious coping, perceived ethnic density, and ethnic identity. Participants identifying as Druze

(n = 4) were recoded into the "other religion" category for this analysis given the small sample size.

The MANOVA yielded a significant main-effect for religious affiliation, Wilk's $\lambda = 0.75$, $F(24, 412) = 1.82$, $p < .05$, partial $\eta^2 = .09$. Religious coping was found to vary between groups, $F(3,154) = 10.62$, $p < .001$, partial $\eta^2 = .18$. Bonferroni post hoc analyses revealed that Atheist participants reported significantly less use of religious coping (M = 7.38, SD = 10.83) than Muslim (M = 22.77, SD = 11.72), Christian (M = 25.32, SD = 10.97), and "other religion" (M = 19.40, SD = 9.71) participants. The main effect for gender approached significance, Wilk's $\lambda = 0.91$, $F(8,142) = 1.84$, $p = .07$, partial $\eta^2 = .09$. Female participants reported more depressive symptoms (M = 18.10, SD = 15.54) than their male counterparts (M = 12.61, SD = 13.49); $F(1,156) = 3.36$, $p = .07$, partial $\eta^2 = .03$. These results warrant the addition of gender and religious affiliation as covariates for this sample and were thus retained in the hypothesized SEM Model.

Hypothesis 1: Intercorrelations

Bivariate correlations were utilized to examine intercorrelations among study variables. As hypothesized, self-reported perceived discrimination ($r = .26$, $p < .01$), depressive symptoms ($r = .60$, $p < .01$), and anxiety symptoms ($r = .53$, $p < .01$) were significantly associated with increased reports of suicide ideation (see Table 1a). Increased self-associations with life were correlated with decreased self-reported suicide ideation ($r = -.16$, $p < .05$). Contrary to the first hypothesis, Suicide IAT sores were not significantly associated with any other study variables. Ethnic identity was negatively associated with suicide ideation ($r = -.18$, $p < .05$), but neither religious coping nor ethnic density were significantly correlated with suicide ideation.

Hypothesis 2 & 3: Structural Equation Model

This study's primary aim was to test the hypothesized links between perceived discrimination, psychological distress, cultural resources, and suicide cognitions among Arab American emerging adults. The structural model proposed to test these associations is presented in Figure 1.

Data Preparation

Prior to testing the hypothesized model, SEM assumptions were examined. Data were screened for multivariate outliers, normality, and multicollinearity. No missing data was observed for this sample. To assess for multivariate outliers, Mahalanobis distance values were calculated for each participant. This statistic identifies participants whose data are improbably distant from the centroid for the sample (Collier, 2020). Mahalanobis distance values identified four problematic multivariate outliers that were removed from the sample. The new sample size of 153 participants did not reveal any additional outliers. Skewness and kurtosis indices were examined to assess for univariate normality (see Table 2). Per Kline (2015) skewness values exceeding ±3 and kurtosis values exceeding ±10 indicate that date is nonnormally distributed. Skewness values ranged from -1.14 to 1.42 and kurtosis values ranged from -1.10 to 2.31, indicating that the data are normally distributed.

Because interaction terms were included to test moderation effects can artificially increase multicollinearity, all continuous study variables were mean centered. Multicollinearity was then assessed via examination of tolerance and variance inflation factor (VIF) values. Tolerance values less than 0.1 and VIF values greater than 10 are indicative of problematic multicollinearity (Klein, 2015). Tolerance and VIF values for all study variables and interaction terms were within the acceptable range (see Table 3). Additionally, the bootstrap method was utilized for this analysis. This procedure allows AMOS to provide estimates from 5000 bootstrap

samples. Bootstrapping provides standardized direct, indirect, and total effects not otherwise produced by AMOS.

Measurement Model

The measurement model in SEM is utilized to assess the convergent validity of hypothesized latent constructs by examining factor loadings of the observed indicator variables. Per Kline (2015), statistical significance of indicator variables is not sufficient for convergent validity. Instead, the majority of variance for each indicator ought to be explained by the latent construct. In other words, squared standardized loadings (R^2) greater than .50 and standardized indicator loadings exceeding .70 indicate good convergent validity. The hypothesized model yielded poor model fit: $\chi^2(25, N = 157) = 61.12$, $p < .001$, CFI = .87, RMSEA = .10 (90% CI: .07, .13). Results of the measurement model indicated that the latent construct of psychological distress accounted for the majority of variance for both symptoms of depression ($\beta = .73$, $p < .001$, $R^2 = .54$) and anxiety ($\beta = .77$, $p < .001$, $R^2 = .60$). Conversely, self-reported suicide ideation ($\beta = 3.6$, $p < .001$, $R^2 = 12.97$) and Suicide IAT scores ($\beta = -.05$, $p = .91$, $R^2 = .003$) did not load on to the suicide cognitions latent construct.

Although the suicide cognitions construct is supported by theory, this finding was expected given the relatively weak correlation between self-reported suicide ideation and Suicide IAT scores. The latent construct of suicide cognitions was thus removed from the model and self-reported suicide ideation was entered as the dependent variable for all subsequent analyses. The measurement model was reassessed and the psychological distress latent construct was again supported: depressive symptoms ($\beta = .75$, $p < .001$, $R^2 = .57$) and anxiety ($\beta = .75$, $p < .001$, $R^2 = .57$), indicating an acceptable measurement model. However, the model did not adequately fit the data: $\chi^2(15, N = 157) = 46.71$, $p < .001$, CFI = .89, RMSEA = .12 (90% CI: .08, .16).

Model Respecification

The measurement model was further respecified to improve overall model fit. This process was informed by modification indices and correlation among variables. A modification index (MI) is a chi-squared statistic with one degree of freedom that indicates the expected drop in model fit chi-squared if a fixed parameter were to be freely estimated (Collier, 2020). In other words, MIs measure the degree to which adding a single path or covariance would improve model fit (Kline, 2015). MIs are a valuable statistic in respecifying structural models, but Kline (2015) warns that careful attention ought to be paid to suggested parameters as MI analyses may suggest "illegal" parameters. In addition, modifications must be either theoretically or empirically supported by prior research. An MI value of 3.84 (p = .05) or greater indicates that the addition of this parameter will result in a significant reduction to the model chi-squared, thus only MIs exceeding 3.84 were considered in this study.

Iteration 1. After replacing the suicide cognitions latent variable with self-reported suicide ideation in the proposed model, MI analyses identified six regression paths. However, four of the suggested paths are "illegal" parameters representing an observed variable predicting indicators of psychological distress. The largest of the remining MIs, the path representing suicide ideation regressed on ethnic density (MI = 4.83), was added first. The addition of this path is supported by findings that ethnic density is associated with lower suicide death rates for Arab Americans (El-Sayed et al., 2011). A regression path of perceived discrimination x ethnic density was also added to assess whether ethnic density directly moderates the effect of perceived discrimination on suicide ideation. The addition of these regression paths improved overall fit but failed to reach acceptable model fit: $\chi^2(13, N = 157) = 37.73$, $p < .001$, CFI = .91, RMSEA = .11 (90% CI: .07, .15). Modification indices again supported the addition of a

regression path from ethnic identity (MI = 4.62) to suicide ideation. However, the addition of this path along with the interaction of perceived discrimination x ethnic identity did not yield an acceptable model fit: $\chi^2(11, N = 157) = 31.91$, $p < .01$, CFI = .93, RMSEA = .11 (90% CI: .07, .16).

Examination of MIs for this version of the model suggested only paths of observed variables predicting indicator variables for psychological distress, suggesting that although the data supports a latent construct of psychological distress, the effects of perceived ethnic discrimination may differ across its indicators. Modification indices suggested the addition of regression paths of perceived discrimination predicting both symptoms of depression (MI = 7.22) and anxiety (MI = 8.47). To test these paths, the latent construct of psychological distress was removed from the model and replaced with depressive and anxiety symptoms as simultaneous mediators. Removal of the psychological distress latent construct resulted in a path regression model as the respecification process did not support a structural regression model.

Iteration 2. Because the model respecification process for the hypothesized model suggested that the data better reflect a path model, the respecification process was restarted such that the modification indices better reflects a non-structural model. All hypothesized paths predicting psychological distress were added as predictors of depressive symptoms and anxiety symptoms. This allows for examination of the effects of each independent variable on depression and anxiety. The path model produced a considerably improved model fit, an acceptable comparative model fit index (CFI = .97), but RMSEA and chi-square values did not result in acceptable fit: $\chi^2(6, N = 157) = 14.39$, $p < .05$, RMSEA = .09 (90% CI: .03, .16). Examination of MIs suggested the addition of a regression path of ethnic identity (MI = 5.25) and ethnic density (MI = 4.61) predicting suicide ideation. First, regression paths were added for ethnic identity and

its interaction with perceived discrimination predicting suicide ideation. This model resulted in an acceptable chi-square statistic, $\chi^2(4, N = 157) = 8.49$, $p = .08$, and comparative model fit (CFI = .98), but root mean square error of approximation fell short of the .08 cut-off, RMSEA = .09 (90% CI: .00, .17).

This modified path model resulted in two modification indices, suggesting that the addition of regression paths from ethnic density (MI = 4.13) and ethnic density x discrimination (MI = 4.23) predicting suicide ideation would improve model fit. However, the addition of these paths would result in a model with only two degrees of freedom. Collier (2020) warns that models with less than 3 degrees of freedom may result in inflated path estimates. To avoid potential inflations, parameter estimates were examined to improve model parsimony. Parameter estimates indicated that ethnic density ($b = .54$, $p = .76$) and perceived discrimination x ethnic density ($b = -.04$, $p = 52$) did not significantly impact anxiety symptoms and depressive symptoms. Thus, paths representing ethnic density and its interaction with perceived discrimination predicting anxiety symptoms and depressive symptoms were removed from the model and new paths were added for ethnic density and perceived discrimination x ethnic density predicting suicide ideation. This model yielded acceptable model fit: $\chi^2(6, N = 157) = 4.03$, $p = .67$, CFI = 1.00, RMSEA = .00 (90% CI: .00, .08). Figure 2 depicts this model and parameter estimates are presented in Table 4. Examination of standardized parameter coefficients revealed that gender emerged as a significant predictor of suicide ideation. This finding indicates that measurement invariance exists between gender subgroups in the sample. When measurement invariance in suspected in path analysis, Kline (2015) suggests that the model ought to be specified independently for each subgroup. Because of the small sample size exhibited for male participants ($n = 40$), the respecification process was restarted for female participants only.

Iteration 3. In order to identify a model for female participants, the respecification process was restarted with the measurement model. Gender was removed as a covariate. The measurement model did not fit the data for female participants, $\chi^2(14, N = 114) = 36.15$, $p < .001$, CFI = .88, RMSEA = .12 (90% CI: .07, .17). Examination of modification indices for the measurement model suggested that a path model also better fits the data for female participants. This model resulted in an acceptable chi-square statistic, and comparative model fit, but similar to the full sample, the RMSEA statistic fell short of the .08 cutoff: $\chi^2(6, N = 114) = 10.49$, $p = .11$, CFI = .97, RMSEA = .081 (90% CI: .00, .016). Modification indices suggested only one additional path of ethnic density predicting suicide ideation (MI = 6.08). As this study is concerned with exploring the potential moderating effects of ethnic density, the interaction of perceived discrimination x ethnic density was also added as a predictor of suicide ideation. The final model (see Figure 3) yielded excellent model fit and was utilized to test hypotheses for the study: $\chi^2(4, N = 114) = 2.14$, $p = .71$, CFI = 1.00, RMSEA = .00 (90% CI: .00, .15).

Results of the Final Model

Mediation Results. The second hypothesis posited that the latent construct of psychological distress would mediate the relationship between perceived discrimination and the latent construct of suicide cognitions. The measurement model supported the construct of psychological distress as indicated by significant factor loadings of depressive symptoms and anxiety symptoms. Model respecification resulted in path models for both the full sample and the female subsample. Because the respecified model for the full sample suggested measurement invariance between male and female participants, only the results of the female subsample were interpreted further. Standardized and unstandardized parameter estimates, and standard error

estimates for the final model are presented in Table 5. This model accounted for 47% of the variance in suicide ideation and 21% of the variance in anxiety symptoms.

***Direct Effects*.** For female participants, perceived discrimination was a significant predictor of anxiety symptoms (β = .27, p < .05), but not depressive symptoms (β = -.01, p = .95). This finding partially supports the hypothesis that perceived discrimination directly increases psychological distress and explains the lack of acceptable model fit when this latent variable was entered as the mediator. Both depressive symptoms (β = .54, p <.001). and anxiety symptoms (β = .22, p < .01) emerged as direct predictors of suicide ideation. As hypothesized, perceived discrimination did not directly predict suicide ideation (β = .09, p = .24).

Indirect Effects. The indirect effects produced by the AMOS software only provides cumulative indirect effects of mediator variables. To assess the indirect effects of perceived discrimination via depressive symptoms and anxiety symptoms separately, the Separate Indirect Effects AMOS plugin tool developed by Gaskin (2016) was utilized. Results indicated that the second hypothesis was partially supported. Perceived discrimination had a positive indirect effect on suicide ideation via anxiety symptoms (β = .06, p < .01) but not depressive symptoms (β = -.003, p = .96). Therefore, for emerging adult Arab American women, anxiety symptoms significantly mediated the relationship between perceived discrimination and suicide ideation, but depression did not.

Moderated Mediation Results. Moderated mediation was tested via interaction terms between cultural resources and perceived discrimination predicting anxiety symptoms and depressive symptoms. Direct effects of cultural resources were also examined.

Direct Effects. Ethnic identity and ethnic density did not significantly moderate the relationship between perceived discrimination and depressive symptoms nor anxiety symptoms

among female participants. Religious coping significantly interacted with perceived discrimination to positively and directly predict anxiety symptoms (β = .28, p < .01), but not depressive symptoms. This finding is contrary to the study's hypothesized inverse effect for religious coping on psychological distress. The conditional effects of perceived discrimination on anxiety symptoms were examined via tests of simple slopes at low (1 *SD* below the mean), mean, and high (1 *SD* above the mean) levels of religious coping (see Figure 4). At low levels of religious coping, the effect of discrimination on anxiety symptoms was nonsignificant (β = -.0001, p = .99). The effect of discrimination on anxiety symptoms was significant at the mean (β = .14, p < .01) and approached significance at high levels (β = .27, p = .056) of religious coping. Preacher et al.'s (2020) web-based probing tool for regions of significance indicated that perceived discrimination was associated with increased anxiety symptoms when religious coping values were between the 38th and 87th percentile fort this sample.

Although not hypothesized, the model also identified a direct negative effect of ethnic density on suicide ideation (β = -.18, p < .01). The interaction of ethnic density x perceived discrimination (β = -.10, p = .15) did not significantly predict suicide ideation, suggesting that for Arab female participants, ethnic density acts as a protective factor against suicide ideation regardless of level of discrimination experienced. Religious coping also emerged as a direct and negative predictor of depressive symptoms (β = -.25, p < .01) while ethnic identity positively predicted depressive symptoms (β = .19, p <.05).

Indirect Effects. Examination of indirect effects of cultural resources on suicide ideation via mediators revealed a significant indirect effect of perceived discrimination x religious coping on suicide ideation via anxiety symptoms (β = .06, p < .01). This finding was again contrary to the hypothesized negative effects of religious coping on suicide ideation via psychological

distress. A negative indirect effect of religious coping on suicide ideation via depressive symptoms was also revealed (β = -.13, p < .01).

Discussion

The overarching aim of the present study was to address the notable paucity of research investigating suicide vulnerability for Arab American individuals. Specifically, this study was the first to investigate the relationship between perceived discrimination, psychological distress, and suicide ideation among emerging adult Arab Americans. A further goal was to explore the potential mitigating effects of religious coping, ethnic identity, and ethnic density as sociocultural resources. Structural equation modeling was utilized to test hypothesized relationships between these variables. The hypothesized model was not supported by the data but it informed the final model via confirmatory and exploratory model respecification methods. Respecification indicated that a path regression model fit the data better than a structural regression model. Furthermore, gender emerged as a significant predictor of suicide ideation, indicating that Direct and indirect effects of independent variables on suicide ideation likely differ for male and female Arab Americans and warranted stratified analyses.

Due to the small sample size for male participants, a final model was identified and interpreted for only female Arab American emerging adults. Results from this model revealed that symptoms of anxiety, but not depression, significantly mediated the relationship between perceived discrimination and suicide ideation. Religious coping further moderated this relationship such that female participants who reported religious coping between the 38th and 87th percentile in the current sample experienced an increase in anxiety symptoms as frequency of perceived discrimination increased. While ethnic identity and ethnic density did not moderate the

relationship between perceived discrimination and anxiety, ethnic density emerged as a negative predictor of suicide ideation and ethnic identity positively predicted depressive symptomatology.

Implicit and Explicit Suicide Cognitions

Although stronger associations between self and life were negatively correlated with self-reported suicide ideation, the structural fit between these two variables was not significant as was hypothesized. Several factors could explain the snow finding. In accordance with the present study, Harrison and colleagues (2014) found that stronger self-associations with life correlated with lower frequency of suicide ideation in a nonclinical sample of Caucasian university students. The relationship between Suicide IAT scores and self-reported suicide ideation were mediated by survival and coping beliefs in this study. Furthermore, Suicide IAT scores did not significantly differ between those who reported a history of a single suicide attempt, multiple attempts, and no suicide attempt history. The authors thus concluded that "Implicit suicide-related cognition appears to reflect a gradual diminishing of the desire to live, rather than a desire to die." (p. 831, Harrison, 2014).

The lack of structural fit between explicit and implicit measures has been shown to vary based on the psychological outcome being explored (Payne et al., 2010). A review of the literature did not reveal any published examinations of the Suicide IAT in samples of marginalized individuals. According to Nock and Banaji (2007), "the IAT rests on the assumption that it should be easier to make the same behavioral response (i.e., a key press) to concepts that are strongly associated relative to concepts that are weakly associated" (p. 709). Given that the Suicide IAT contains stimuli related to death in addition to suicide (e.g., *die, dead, deceased*), it may not be a culturally sensitive tool of suicide risk assessment for ethnoracial groups where death is celebrated such as Mexican Americans (Gutiérrez et al., 2015). Death is

considered a significant marker of life and is similarly celebrated among Arab Americans (Amer & Awad, 2016). This is especially true for Muslim and Christian Arabs who view death as a transition to the afterlife (Al-Meshhedany & Al-Sammerai, 2010). Furthermore, the lack of structural fit may be accounted for by religious views on death by suicide. Suicide is frowned upon in both Muslim and Christian faiths (Amer & Awad, 2016) which may preempt implicit self-associations with suicide despite the presence of suicide ideation. This may also account for the small percentage (9%) of participants whose IAT scores reflected self-associations with death compared to self-reported suicide ideation.

Mediating Effects of Depression and Anxiety.

The results of this study indicate that perceived discrimination indirectly increases self-reported suicide ideation via increases in symptoms of anxiety. That is, for young female Arab Americans, higher frequency of perceived discrimination was associated with increased levels of anxiety symptoms, which in turn predicted higher levels of suicide ideation. The role of anxiety in exacerbating suicide vulnerability in the face of discrimination was significant above and beyond the effects of depressive symptomatology. While zero-ordered correlations found a significant and positive correlation between depression and discrimination, the null finding for the mediating role of depressive symptoms in the effects of discrimination on suicide ideation was unexpected. Nonetheless, these findings further confirm evidence that anxiety confers unique risk for suicide beyond the effects of clinical and sub-clinical depression across populations (Sareen, 2011, Hunter & Schmidt, 2010; Hwang & Goto, 2009; Joe et al., 2006).

Although the direct and indirect effects of perceived discrimination on suicide ideation have not been previously examined for Arab Americans, this finding is consistent with previous research that has found a direct relationship between perceived discrimination and anxiety

symptomatology for this population (Abu-Ras & Abu-Bader, 2008; Assari & Lankarani, 2017). The significant direct effect of anxiety on suicide ideation also supports similar findings for other marginalized racial and ethnic groups in the U.S. (Gomez, Miranda, & Polanco, 2011; Walker, Salami, Carter, & Flowers, 2014; Wang, Wong, & Fu, 2013).

Although psychological distress and perceived discrimination are established risk factors for suicide risk, the potential mediating and moderating effects of anxiety and depression have been yet to be closely examined. Findings from the current study indicate that for female Arab Americans, anxiety plays an important mechanistic role in explaining the relationship between discrimination and suicide ideation. Similar findings have been reported for Hispanic emerging adults and African American youth (Cheref et al., 2018; Walker et al., 2017). Controlling for depressive symptoms, Cheref et al., (2018) found that perceived discrimination predicted increased suicide ideation for Hispanic emerging adults only when anxiety symptoms exceeded the 23rd percentile for the sample. The moderating effect of anxiety approached significance for African Americans but was not significant for Asian American participants. Walker and colleagues (2017) examined the mediating effects of depression and anxiety in a longitudinal study of racial discrimination among African American youth. The authors found that for African Americans aged 10 to 12 years, perceived racial discrimination directly predicted suicide ideation two years later in the second wave of the study. In accordance with the present study, they found that anxiety symptoms, but not depressive symptoms, mediated this effect (Walker et al., 2017). They also reported sex differences such that depressive symptoms served to further mediate the effect of anxiety on suicide ideation for girls, but not boys in the sample. In addition, perceived racism reported in the first phase of the study was more strongly associated with anxiety symptoms at the second wave of the study for girls, but during the first wave for boys.

These findings show that in addition to differences between ethnoracial groups, experiences of discrimination confer differential risk for anxiety and suicide outcomes for male and female participants of similar ethnoracial background.

Gender Differences. While mixed findings have been found with regard to gender differences, experiences, reactions, and impacts of discrimination have been found to vary between males and females across ethnoracial groups (Carter, 2007; Williams & Mohammed, 2009). When faced with an experimental induction of stress, female participants exhibit increased reduction, reactivity, and recovery in response to experimental inductions of stress (Rausch et al., 2008). Several studies examining the impact of the 9/11 attacks on Muslim and Arab Americans reported important gender differences (Abu-Ras et al., 2008, 2008; Padela & Heisler, 2010; Rousseau et al., 2011). Overall, these studies suggest that Muslim women experience increased levels of discrimination, including hate crimes, and negative outcomes related to perceived discrimination. For example, Muslim men and women residing in New York City reported comparable symptoms of PTSD in response to the 9/11 attacks, but significantly more women reported reluctance to leave home and men reported more feelings of fatigue/exhaustion (Abu-Ras & Suarez, 2009). Contrary to other findings, Arab American males residing in Michigan were found to exhibit a stronger association between perceived discrimination and psychological distress compared to their female counterparts (Assari & Lankarani, 2017). Taken together, these findings provide evidence for the differential impacts of perceived discrimination for males and females across marginalized groups that warrant further study.

Mediating Effect of Anxiety. The finding that anxiety symptoms mediated the impact of discrimination on suicide risk for female Arab Americans whereas depressive symptoms do not

may be explained by additional factors not explored in the current study. Some potential factors that have emerged in the literature include concern for safety, hypervigilance, rumination, perceived control, and affective and physiological reactions (Assari et al., 2015; Rausch et al., 2008). These additional factors may exacerbate the effects of discrimination on anxiety for Arab Americans and account for greater variance in suicide ideation than depressive symptoms. It is also imperative to consider the sociopolitical atmosphere Arab and Muslim Americans face in the aftermath of the 9/11 attacks.

Abu-Ras & Abu-Bader (2009) found that Muslim and Arab Americans reported comparable levels of depression and anxiety post-9/11, but anxiety was identified as the chief mental health issue by the majority of the sample. Some studies have suggested that emotional reactions to discriminatory experiences, rather than frequency of such experiences, may account for the negative mental health outcomes among Muslim Americans. For example, an exploratory study utilizing focus group methodology to explore the impacts of the 9/11 attacks on Arab and Muslim Americans living in New York City found that fear was the initial reaction reported by all participants and safety emerged as the biggest concern for this sample (Abu-Ras & Abu-Bader, 2008). In addition to discrimination, respondents indicated safety concerns about hate crimes and ever-changing laws and policies impacting their community. Rodriguez Mosquera Khan, and Seyla (2013) found that while Muslim Americans reported greater levels of sadness than fear and anger in the days leading up to the 10-year anniversary of 9/11, fear and anger predicted concerns about discrimination, but sadness did not. The authors also found that fear (but not anger or sadness) mediated the relationship between increased concerns with discrimination and higher levels of rumination and avoidance of public places. Together these findings suggest that Muslim and Arab Americans' emotional reactions to the events of the 9/11

attacks and discrimination experienced post-9/11 are complex and vary depending on the outcome being explored. While sadness is experienced as the strongest emotion, fear and concerns with discrimination and safety convey more robust impacts on the mental health of Arab and Muslim Americans.

There is also evidence that Arab and Muslim Americans are facing increased discrimination in the aftermath of Donald Trump's presidential campaign and presidency. During his campaign, Trump called for "a total and complete shutdown of Muslims entering the United States" (Johnson, 2015). In a Pew Research Center poll (2017) conducted in the months after his inauguration, 91% of U.S. born and 65% of non-U.S. born Muslims reported that anti-Muslim discrimination is common in the U.S. and 48% of the respondents reported experiencing at least one discriminatory act in the previous year. Higher levels of perceived religious discrimination were observed in a large sample of Muslim Americans during Donald Trump's presidential campaign (Abu-Ras et al., 2018). Sixty-six percent of the participants in this study reported experiencing religious discrimination in the past 12 months and 26% in the last 30 days. Most participants (85%) experienced increased stress related to Islamophobia during this time and an alarming 36% did not feel safe at all. Concerns with safety were associated with increased reports of discrimination, stress, and reduced quality of life. Notably, no ethnic differences were observed in experiences of religious discrimination nor its impact on stress, but female participants felt less safe and reported higher levels of discrimination than their male counterparts.

The finding that anxiety plays a unique role in conveying risk for suicide can be further understood in the context of the race-based traumatic stress injury model (Carter 2007) and the interpersonal psychological theory of suicide (Joiner 2005). Per Joiner (2015), thwarted

belonging is one of three necessary factors for an individual to complete suicide. Carter (2007) posits that race-based stress, including subtle experiences of discrimination (i.e., microaggressions), is a cumulative and chronic stressor that is experienced as uncontrollable and evokes psychophysiological responses similar to PTSD. Concerns about safety among Muslim and Arab-Americans have been linked to hypervigilance and avoidance of settings and individuals that may bring about discrimination (Abu-Ras et al., 2018; Abu-Ras & Suarez, 2009; Modir & Kia-Keating, 2018). Feeling less safe since 9/11 emerged as the only predictor of PTSD in a sample of Muslim Americans, but experiences of discrimination and hate crimes did not predict PTSD symptoms (Abu-Ras & Suarez, 2009). In addition to personal experiences of discrimination, hypervigilance may arise from perceptions of societal discrimination against Arab and Muslim Americans. Rippy & Newman (2006) found that Muslim Americans reported greater levels of perceived societal discrimination post-9/11 compared to personal experiences of discrimination. In addition, the negative depiction and vilification of Muslim and Arab Americans in the media may be contributing to the normalization of discrimination toward Arab Americans as well as increased internalization of discrimination. This was suggested as a potential explanation for the increased impact of religious discrimination for Muslim American youth compared to older adults (Abu-Ras et al., 2018). Indeed, greater exposure to daily news was associated with increased reports of anti-Arab prejudice (Persson & Musher-Eizenman, 2005). Such depictions may also contribute to feelings of alienation and thwarted belonging particularly among younger Arab Americans who more often encounter individuals from other ethnicities (Amer & Awad, 2016). The combination of increased physiological responses, fear for safety, and diminished sense of belonging may create the conditions under which suicide is considered.

Perceived control, the belief that one can influence their affect and environment, is another mediating process that has been implicated in the deleterious effects of discrimination and suicide outcomes (Moradi & Hasan, 2004; Sareen, 2011). For Arab Americans, perceived discrimination was found to directly predict lower reports of perceived control (Moradi & Hasan, 2004). Perceived control also mediated the relationship between discrimination and increased reports of psychological distress and decreased levels of self-esteem. Lack of perceived control may explain the greater impact of discrimination on anxiety and subsequent suicide ideation. In his seminal article Sareen (2011) posits that "in the context of a stressor, the perceptions of being powerless or lacking the capacity to effect change in order to move on from an aversive status or role may drive suicidal behavior" (p. 944). Given that emerging adulthood is described as an "age of identity exploration" (Arnett, 2002), lack of control may be especially harmful for Arab Muslim Americans in this stage of life as they negotiate sense of belonging and identity within peer and family contexts (Britto & Amer, 2007; Modir & Kia-Keating, 2018). In a study examining Arab identity among second-generation Arab Muslim emerging adults, moderate bicultural identity (i.e., moderate identification with both Arab and American identity) was associated with less family support and more family acculturative stress than high bicultural identity and high Arab cultural identity (Britto & Amer, 2007). Bicultural identity may thus decrease a strong sense of belonging to either ethnic group.

The Role of Cultural Resources

Religious Coping. Whereas religious coping did not significantly interact with discrimination to predict depression, it emerged as a direct predictor of lower depression scores. In addition, religious coping indirectly mitigated the risk for suicide ideation via its effect on depressive symptoms. These results confirm the buffering effects of religious coping on

depression for Arab Americans (Amer & Hovey, 2007). Similarly, religious coping was associated with decreased levels of psychological distress among Arab American adolescents (Ahmed et al., 2011).

The current study found that female participants who reported religious coping between the 38th and 87th percentile were more likely to report anxiety symptoms at higher levels of discrimination. Via increased anxiety, the interaction between discrimination and religious coping also indirectly predicted higher levels of suicide ideation. Unsurprisingly, much of the current literature on religiosity and religious coping among Arab Americans focuses on Muslim Arabs, and more frequently on multiethnic Muslim Americans. These findings generally support that religiosity functions to mitigate risk for negative outcomes (Abu Raiya et al., 2008; Abu-Raiya & Pargament, 2015; Gardner et al., 2014). However, some studies have reported associations of religiosity and increased risk for negative outcomes (Abu-Ras et al., 2018; Abu-Ras & Abu-Bader, 2008), suggesting that use of religious coping may not be effective in the face of some stressors. The relationship between religious coping and suicide ideation may further differ between religious groups. For instance, an Isreali study found a negative association between religious coping for Christian Arab youth living in Isreal but not their Muslim counterparts (Muallem & Israelashvilli, 2015), but this has yet to be examined this in the U.S.

The finding that religious coping increases risk for anxiety may be accounted for by the sociopolitical climate in the U.S. In a study comparing use of religious coping before and after the 9/11 attacks, Abu-Ras, Gheith, and Cournos (2008) found significant increases in the use faith-based supporters (e.g. Imam) to address a wide range of concerns. The largest increases were observed for anxiety (10% to 49%), suicidal/homicidal thoughts (1% to 5%), and safety/discrimination/harassment (14% to 74%), each exhibiting a fivefold increase compared to

levels observed prior to 9/11. While these findings reflect an older (mean age is 39 years) multiethnic Muslim sample (58% were Arab American), they highlight an increase in faith-based help seeking for anxiety, discrimination, and suicide that align with the findings of the current study. A recent study of over 1,000 multiethnic Muslim participants reported that during Donald Trump's presidential campaign, Muslim Americans who reported greater levels of religiosity also reported experiencing more perceived religious discrimination and a greater perceived impact of Islamophobia (Abu-Ras et al., 2018). Moreover, anger mediated the relationship between concerns about discrimination due to 9/11 and use of religious coping for Muslim Arabs (Rodriguez Mosquera et al., 2013). Sadness and fear did not emerge as significant mediators in the study. This suggests that increased use of religious coping may be activated in response to secondary emotions that are more physiologically arousing than others (i.e., anger).

The extant literature sheds some light into potential explanations for the unexpected finding that religious coping increased vulnerability for anxiety and suicide ideation when female Arab American participants reported greater frequencies of perceived discrimination. Specifically, these findings suggest that while religious coping serves to reduce levels of depressive symptomatology, it may not buffer against more chronic stressors such as discrimination. Religious coping may not be sufficient to reduce the effects of more chronic stressors as suggested by findings that indicate perceived discrimination and religious coping are positively correlated. Use of religious coping may also preclude employment of additional coping skills, particularly for Muslim Arabs. For instance, one study found that 98% of the Muslim American participants agreed that life stressors are a test of one's faith and 95% stated use of the Quran is sufficient to treat mental illness (Abu-Ras et al., 2008).

Ethnic Identity. Ethnic identity did not moderate the effects of perceived discrimination on anxiety and depression as hypothesized. However, there was a direct positive effect of ethnic identity on depression, such that female participants who reported stronger ethnic identity were more likely to report higher levels of depressive symptomatology. This finding is contrary to studies that have found mitigating effects of ethnic identity on psychological well-being for Arab Americans (Ahmed et al., 2011; Fakih, 2013). A British study, however, reported similar findings such that a stronger Muslim identity was associated with increased depressive symptomatology (Stuart et al 2020). The insignificant direct effect of ethnic identity on suicide ideation supports findings for other racial and ethnic groups (Ai et al., 2014; Chesin & Jeglic, 2012; Hong et al., 2018; Perry et al., 2013). It is worth noting that the literature on ethnic identity as a buffer has reported mixed results across races and ethnicities, (Huynh et al., 2014; Tynes et al., 2012). Such a wide array of findings suggests that ethnic identity may not be a robust protective factor and might even exacerbate risk for marginalized individuals under certain conditions. For young adult Arab Americans, gender may be an important factor to consider when examining ethnic identity. For instance, while the present study found a negative impact of ethnic identity on depression for female participants, zero-ordered correlations indicated a strong and negative association between ethnic identity and suicide ideation for male participants (r = -.58).

Ethnic identity is of particular importance during the emerging adulthood stage of development and requires further study for Arab Americans. The participants in the current study were all very young or born after the events of 9/11, which accelerated the preexisting vilification of Arab and Muslim Americans in the U.S. and around the world. Furthermore, anti-Arab racism has been more widely tolerated in the U.S. compared to other ethnic groups (Amer

& Awad, 2016). A recent qualitative study provided novel insight into the experiences of 25 Middle Eastern American college students during the first two years of college (Modir & Kia-Keating, 2018). Several themes emerged, including concerns with alienation on campus, invisible minority status, and normalized prejudice comments from peers. Participants represented a variety of religious affiliations, but nearly all reported being labeled as a "terrorist." Surprisingly, the majority of respondents indicated that they more often experience discriminatory remarks from friends and acquaintances in the form of a joke (e.g., "Oh we better watch out for you [Middle Easterners]"). The authors described this experience as a "double-edged sword" as the same peers making such comments were also a source of support. Furthermore, some families encouraged participants to conceal their ethnic background from fear of discrimination (e.g., "My parents always told me, 'Don't be that Arabic at school, don't get involved, just always have your opinions to yourself"). Notwithstanding these challenges, many participants reported pride in their Middle Eastern identity and were motivated to find opportunities for growth as a result of emotional discriminatory experiences. Given these recent insights, ethnic identity development warrants further study for younger Arab American males and females who likely have a different experience than their older counterparts.

Ethnic Density. Ethnic density did not moderate the effects of perceived discrimination on symptoms of anxiety and depression as hypothesized. However, ethnic density emerged as a direct negative predictor of suicide ideation. This finding is in line with the lower suicide death rate observed for Arab Americans living in higher Arab ethnic density areas (El-Sayed et al. 2011). Studies examining the effects of ethnic density on mental health outcomes across countries (e.g., U.S., United Kingdom, in Canada) and ethnoracial groups have found mixed results (Bécares et al., 2018; Shaw et al., 2012). A recent meta-analysis found no significant

impacts of ethnic density on anxiety and depression outcomes, but ethnic density emerged as a consistent and robust protective factor for suicide ideation and psychotic experiences (Bécares et al., 2018). These results suggest that while ethnic density is not a uniform protector against psychological distress, it has a strong buffering effect on suicide vulnerability. Furthermore, the robust finding that ethnic density mitigates risk for psychotic experiences may be a function of fewer instances of "paranoid ideation" in the context of genuine or perceived threat because of one's race or ethnicity.

Implications, Future Directions, and Limitations

Implications and Future Directions. The results of the current study have several important implications for research, theory, and clinical practice. First, gender was a significant predictor of suicide ideation, indicating that risk and protective profiles of suicide vulnerability differ for male and female Arab American emerging adults. Second, for female Arab Americans who experience perceived discrimination, anxiety symptomatology plays a critical role in increasing the risk for suicide ideation. Whereas depressive symptoms still served as a direct predictor of suicide ideation, anxiety symptoms mediated the relationship between perceived discrimination and suicide ideation even after controlling for depression. Clinicians working with Arab American females are encouraged to assess prior and recent experiences of discrimination and anxiety symptomatology in addition to depression. Future research might also apply intersectionality theory to examine the experiences and impacts of discrimination for the intersection of gender, religion, and ethnicity for Arab Americans.

Third, perceived discrimination and religious coping play different roles in exacerbating and mitigating risk for depression, anxiety, and suicide ideation for female Arab Americans. Increased use of religious coping was directly associated with lower levels of depression.

However, higher levels of perceived discrimination and religious coping directly predicted higher levels of anxiety symptoms, which in turn predicted increased levels of suicide ideation. These associations were only true when reported use of religious coping was moderate to high (i.e., between the 38th and 87th percentile). Future research is warranted to confirm these findings and identify other coping resources that may reduce risk for suicide ideation among this population. Fourth, higher ethnic density mitigated the risk for suicide ideation regardless of frequency of perceived discrimination. This finding adds to a growing body of literature that has found robust protective effects of ethnic density on suicide ideation across ethnic groups.

Limitations. The findings of this study ought to be interpreted in light of several limitations. First, the small sample data size did not allow for examination of suicide risk for male participants. Given that suicide death rates are higher for Arab American males than females (El-Sayed et al., 2011), it is especially important that future research explore factors that may exacerbate and mitigate suicide risk for Arab American males. Correlation results of this study indicate that a strong ethnic identity may be an important resiliency mechanism for this population. Thus, future investigations may consider evaluating the relationship between ethnic identity and suicide ideation for emerging adult Arab American males. Similarly, path analysis for female participants may have been underpowered. Second, while the current study intentionally focused on Arab Americans regardless of religious affiliation, there are methodological drawbacks for utilizing a monolithic Arab American ethnicity. Although results of this study revealed no mean differences between religious groups on frequency of perceived discrimination, Muslim Americans, in particular Muslim females, have been found to experience more frequent perceived discrimination than Arab Americans from other religious communities. Accordingly, there may be religious group differences that were inadvertently obscured by this

methodology. This may be especially true for Muslim participants as Islamic laws forbids suicide and death by suicide can result in shame for the victim's family (El-Sayed et al., 2011). Future research might explore whether suicide vulnerability differs for Muslim and non-Muslim Arab American emerging adults. Furthermore, an increasing number of Americans no longer identify with any religion. About 23% of Americans who were raised Muslim and 22% who were raised Christian no longer identify with these faiths (Mohamed & Sciupac, 2018). In addition, 23% of Muslims have converted from other religions and Muslims make up the largest proportion of Americans who reported converting religions (Mohamed 2018). Arab Americans who convert to a new religion may differ in their experiences of discrimination. Further, non-Arab Muslim Americans who converted to Islam reported lower levels of perceived societal discrimination towards Muslims (Rippy & Newman, 2006).

Third, this study did not examine other culture-based stressors that may bet differently associated with anxiety, depression, and suicide ideation. One such stressor is acculturative stress, which refers to distress associated with assimilating to a host culture. Acculturative stress has been linked to suicide risk for emerging adult ethnoracial minorities (Gomez et al., 2011; Walker et al., 2008)., and may convey similar risk for Arab Americans. Finally, interpretation of findings is limited by use of self-report measures and cross-sectional methodology that preempt conclusions of causality. Although perceived discrimination and anxiety are established risk factors for suicide ideation, findings related to religious coping may differ in longitudinal studies. It is possible that levels of perceived discrimination and religious coping increase in tandem, but religious coping may not sufficiently mitigate the impacts of perceived discrimination for a marginalized population experiencing multiple forms of discrimination (e.g., personal, societal, and political). Similarly, the effects of perceived discrimination on suicide

ideation may differ at various time-points following the event. Longitudinal methodologies will aid in elucidating the temporal relationship between perceived discrimination and its relationship with psychological distress, suicide ideation, and sociocultural resources. A relative strength is the inclusion of an implicit measure of suicide ideation. However, implicit suicide cognitions were not included in final analyses and findings were drawn from self-report measures.

Strengths. Despite its limitations, this study has several key strengths. Notably, this is the first empirical investigation of risk factors for suicide ideation in a sample of Arab Americans. Though limited to female participants, findings of this study contribute to gaps in the Arab American and suicide literature. In addition, use of structural equation modeling allowed for a data driven and empirically supported model that identified notable risk and resilience factors for suicide ideation in an increasingly marginalized and rapidly growing population. The focus on emerging adulthood, a period in life associated with increased distress and identity exploration, is noteworthy for several reasons. First, experiences of race-based stressors among ethnoracial minority college students, including hate crimes, has been associated with negative outcomes in academic, occupational, and economic prospects (Owens et al., 2010). Second, recent studies exploring the impacts of perceived discrimination on Arab and Muslim Americans have focused on adult samples across the lifespan. Such studies have indicated that younger participants experience discrimination more frequently and are more likely to report negative outcomes related to discrimination (Abu-Ras et al., 2018; Awad, 2010).

Despite the growing literature for Arab Americans, studies focusing on Arab American college students are especially lacking. A qualitative study among Middle Eastern Americans reported unique stressors faced by this population, including consistent reports of discriminatory remarks in the form of jokes from peers who also double as social supports (Modir & Kia-

Keating, 2018). Further research investigating perceived discrimination among young Arab Americans might explore the potential differences in experiences and outcomes related to peer-initiated discriminatory comments compared to discrimination experienced from others.

Another strength of this study is the emphasis and clear operationalization of Arab American ethnicity. There is a lack of consistency in reporting of demographic variables across studies. Arab, Muslim, and Middle Eastern Americans are often grouped together, and these terms have been used interchangeably though they represent heterogenous populations. Because anti-Muslim rhetoric significantly increased following the terrorist attacks on 9/11, researchers have largely concentrated on understanding the mental health of Muslim Americans. Although some studies do not report the ethnic breakdown of Muslim American samples, Arab Americans tend to make up the largest ethnic group in such studies. The system of classification can be problematic as many of these samples include African American Muslims and findings may not generalize to Muslims from different ethnic background. This may be especially true for African American Muslims who may experience both race- and religion- based discrimination differently from Arab Muslim Americans.

Conclusion

The present study was designed to determine the effects of perceived discrimination on suicide ideation for Arab American emerging adults. Findings provide preliminary support for anxiety as a mechanism through which perceived discrimination in Arab American females may increase risk for suicide ideation beyond the effects of depressive symptomatology. Examination of cultural resources as potential buffers revealed that ethnic density is an important factor to consider when studying suicide ideation. Results also suggest that moderate to high levels of religious coping are associated with increased risk for suicide ideation and anxiety when higher

frequency of discrimination is reported. The current study is the first to explore suicide vulnerability in an Arab American sample and makes important contributions to the limited literature on Arab American mental health. The findings also provide clinical implications to consider when working with this population. Clinicians treating emerging adult Arab American females are encouraged to consider anxiety symptoms and physiological manifestations of perceived discrimination that may be a more robust indicator of suicide risk than depression.

References

Abdulrahim, S., James, S. A., Yamout, R., & Baker, W. (2012). Discrimination and psychological distress: Does Whiteness matter for Arab Americans? *Social Science & Medicine*, *75*(12), 2116–2123. https://doi.org/10.1016/j.socscimed.2012.07.030

Abu Raiya, H., Pargament, K. I., Mahoney, A., & Stein, C. (2008). A psychological measure of Islamic religiousness: Development and evidence for reliability and validity. *The International Journal for the Psychology of Religion*, *18*(4), 291–315.

Abu-Raiya, H., & Pargament, K. I. (2015). Religious coping among diverse religions: Commonalities and divergences. *Psychology of Religion and Spirituality*, *7*(1), 24.

Abu-Ras, W., & Abu-Bader, S. H. (2008). The impact of the September 11, 2001, attacks on the well-being of Arab Americans in New York City. *Journal of Muslim Mental Health*, *3*(2), 217–239.

Abu-Ras, W., Gheith, A., & Cournos, F. (2008). The imam's role in mental health promotion: A study at 22 mosques in New York City's Muslim community. *Journal of Muslim Mental Health*, *3*(2), 155–176.

Abu-Ras, W. M., & Suarez, Z. E. (2009). Muslim men and women's perception of discrimination, hate crimes, and PTSD symptoms post 9/11. *Traumatology*, *15*(3), 48–63.

Abu-Ras, W., Suárez, Z. E., & Abu-Bader, S. (2018). Muslim Americans' safety and well-being in the wake of Trump: A public health and social justice crisis. *American Journal of Orthopsychiatry*, *88*(5), 503.

Ahmed, S. R., Kia-Keating, M., & Tsai, K. H. (2011). A Structural Model of Racial Discrimination, Acculturative Stress, and Cultural Resources Among Arab American

Adolescents. *American Journal of Community Psychology*, *48*(3–4), 181–192. https://doi.org/10.1007/s10464-011-9424-3

Ai, A. L., Weiss, S. I., & Fincham, F. D. (2014). Family factors contribute to general anxiety disorder and suicidal ideation among Latina Americans. *Women's Health Issues*, *24*(3), e345–e352.

Al-Krenawi, A., & Graham, J. R. (2000). Culturally sensitive social work practice with Arab clients in mental health settings. *Health & Social Work*, *25*(1), 9–22.

Al-Meshhedany, A. A. H., & Al-Sammerai, N. S. M. (2010). Facing Finality: Cognitive and Cultural Studies on Death and Dying" Arabic Culture". *English Language Teaching*, *3*(1), 12–15.

Amer, M. M., & Awad, G. H. (2016). *Handbook of Arab American psychology*. Routledge.

Amer, M. M., & Hovey, J. D. (2007). Socio-demographic differences in acculturation and mental health for a sample of 2nd generation/early immigrant Arab Americans. *Journal of Immigrant and Minority Health*, *9*(4), 335.

Amer, M. M., & Hovey, J. D. (2012). Anxiety and depression in a post-September 11 sample of Arabs in the USA. *Social Psychiatry and Psychiatric Epidemiology*, *47*(3), 409–418.

Amer, M. M., Hovey, J. D., Fox, C. M., & Rezcallah, A. (2008). Initial development of the brief Arab religious coping scale (BARCS). *Journal of Muslim Mental Health*, *3*(1), 69–88.

Amer, M. M., & Kayyali, R. A. (2016). Religion and religiosity: Christian and Muslim faiths, diverse practices, and psychological correlates. In *Handbook of Arab American Psychology* (pp. 68–82). Routledge.

American-Arab Anti-Discrimination Committee, A.-A. A.-D. (2009). *Facts about Arabs and the Arab world*. http://www.adc.org/facts-about-arabs-and-the-arab-world/

Arab American Institute. (2014). *National Arab American Demographics*. http://www.aaiusa.org/demographics

Asi, M., & Beaulieu, D. (2013). Arab households in the United States: 2006–2010. *American Community Survey Briefs*, 10–20.

Assari, S., & Lankarani, M. M. (2017). Discrimination and Psychological Distress: Gender Differences among Arab Americans. *Frontiers in Psychiatry*, *8*. https://doi.org/10.3389/fpsyt.2017.00023

Assari, S., Smith, J., Caldwell, C., & Zimmerman, M. (2015). Gender Differences in Longitudinal Links between Neighborhood Fear, Parental Support, and Depression among African American Emerging Adults. *Societies*, *5*(1), 151–170. https://doi.org/10.3390/soc5010151

Awad, G. H. (2010). The impact of acculturation and religious identification on perceived discrimination for Arab/Middle Eastern Americans. *Cultural Diversity and Ethnic Minority Psychology*, *16*(1), 59.

Barnes, S. M., Bahraini, N. H., Forster, J. E., Stearns-Yoder, K. A., Hostetter, T. A., Smith, G., Nagamoto, H. T., & Nock, M. K. (2017). Moving beyond self-report: Implicit associations about death/life prospectively predict suicidal behavior among veterans. *Suicide and Life-Threatening Behavior*, *47*(1), 67–77.

Batty, G. D., Kivimäki, M., Bell, S., Gale, C. R., Shipley, M., Whitley, E., & Gunnell, D. (2018). Psychosocial characteristics as potential predictors of suicide in adults: An overview of the evidence with new results from prospective cohort studies. *Translational Psychiatry*, *8*(1), 22. https://doi.org/10.1038/s41398-017-0072-8

Bécares, L., Dewey, M. E., & Das-Munshi, J. (2018). Ethnic density effects for adult mental health: Systematic review and meta-analysis of international studies. *Psychological Medicine*, *48*(12), 2054–2072. https://doi.org/10.1017/S0033291717003580

Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology*, *56*(6), 893.

Beck, A. T., Steer, R. A., Brown, G. K., & others. (1996). Beck depression inventory-II. *San Antonio, TX: Psychological Corporation*, b9.

Beitin, B. K., & Allen, K. R. (2005). Resilience in Arab American couples after September 11, 2001: A systems perspective. *Journal of Marital and Family Therapy*, *31*(3), 251–267.

Britto, P. R., & Amer, M. M. (2007). An exploration of cultural identity patterns and the family context among Arab Muslim young adults in America. *Applied Development Science*, *11*(3), 137–150.

Brown, H., Guskin, E., & Mitchell, A. (2012, November 28). Arab-American Population Growth. *Pew Research Center's Journalism Project*. http://www.journalism.org/2012/11/28/arabamerican-population-growth/

Bushman, B. J., & Bonacci, A. M. (2004). You've got mail: Using e-mail to examine the effect of prejudiced attitudes on discrimination against Arabs. *Journal of Experimental Social Psychology*, *40*(6), 753–759.

Cainkar, L. A. (2009). *Homeland insecurity: The Arab American and Muslim American experience after 9/11*. Russell Sage Foundation.

Carter, R. T. (2007). Racism and psychological and emotional injury recognizing and assessing race-based traumatic stress. *The Counseling Psychologist*, *35*(1), 13–105.

Centers for Disease Control and Prevention. (2015). *Web-based Injury Statistics Query and Reporting System (WISQARS)*. www.cdc.gov/injury/wisqars/index. html

Centers for Disease Control and Prevention. (2018). *Rising suicide rates across the US*. https://www.cdc.gov/vitalsigns/pdf/vs-0618-suicide-H.pdf

Cheng, J. K. Y., Fancher, T. L., Ratanasen, M., Conner, K. R., Duberstein, P. R., Sue, S., & Takeuchi, D. (2010). Lifetime suicidal ideation and suicide attempts in Asian Americans. *Asian American Journal of Psychology*, *1*(1), 18–30. https://doi.org/10.1037/a0018799

Cheref, S., Lane, R., Polanco-Roman, L., Gadol, E., & Miranda, R. (2015). Suicidal ideation among racial/ethnic minorities: Moderating effects of rumination and depressive symptoms. *Cultural Diversity and Ethnic Minority Psychology*, *21*(1), 31–40. https://doi.org/10.1037/a0037139

Cheref, S., Talavera, D., & Walker, R. L. (2018). Perceived discrimination and suicide ideation: Moderating roles of anxiety symptoms and ethnic identity among Asian American, African American, and Hispanic emerging adults. *Suicide and Life-Threatening Behavior*.

Chesin, M. S., & Jeglic, E. L. (2012). Suicidal behavior among Latina college students. *Hispanic Journal of Behavioral Sciences*, *34*(3), 421–436.

Collier, J. E. (2020). *Applied Structural Equation Modeling using AMOS: Basic to Advanced Techniques*. Routledge.

Contrada, R. J., Ashmore, R. D., Gary, M. L., Coups, E., Egeth, J. D., Sewell, A., Ewell, K., Goyal, T. M., & Chasse, V. (2001). Measures of Ethnicity-Related Stress: Psychometric Properties, Ethnic Group Differences, and Associations With Well-Being 1. *Journal of Applied Social Psychology*, *31*(9), 1775–1820.

Deng, L., Yang, M., & Marcoulides, K. M. (2018). Structural Equation Modeling With Many Variables: A Systematic Review of Issues and Developments. *Frontiers in Psychology*, *9*. https://doi.org/10.3389/fpsyg.2018.00580

El-Sayed, A. M., Tracy, M., Scarborough, P., & Galea, S. (2011). Suicide among Arab-Americans. *PLoS ONE*, *6*(2). https://doi.org/10.1371/journal.pone.0014704

Fakih, R. R. (2013). *Ethnic identity among Arab Americans: An examination of contextual influences and psychological well-being*.

Federal Bureau of Investigation. (2002). *Hate crime statistics*, *2002*. Federal Bureau of Investigation Uniform Crime Reports Clarksburg, WV.

Franklin, J. C., Ribeiro, J. D., Fox, K. R., Bentley, K. H., Kleiman, E. M., Huang, X., Musacchio, K. M., Jaroszewski, A. C., Chang, B. P., & Nock, M. K. (2017). Risk factors for suicidal thoughts and behaviors: A meta-analysis of 50 years of research. *Psychological Bulletin*, *143*(2), 187–232. https://doi.org/10.1037/bul0000084

Fu, K., & Yip, P. S. (2007). Long-term impact of celebrity suicide on suicidal ideation: Results from a population-based study. *Journal of Epidemiology and Community Health*, *61*(6), 540–546.

Gardner, T. M., Krägeloh, C. U., & Henning, M. A. (2014). Religious coping, stress, and quality of life of Muslim university students in New Zealand. *Mental Health, Religion & Culture*, *17*(4), 327–338.

Glenn, J. J., Werntz, A. J., Slama, S. J., Steinman, S. A., Teachman, B. A., & Nock, M. K. (2017). Suicide and self-injury-related implicit cognition: A large-scale examination and replication. *Journal of Abnormal Psychology*, *126*(2), 199.

Gomez, J., Miranda, R., & Polanco, L. (2011). Acculturative stress, perceived discrimination, and vulnerability to suicide attempts among emerging adults. *Journal of Youth and Adolescence*, *40*(11), 1465–1476. https://doi.org/10.1007/s10964-011-9688-9

Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology*, *74*(6), 1464.

Gutiérrez, I. T., Rosengren, K. S., & Miller, P. J. (2015). Chapter Ten - Día de los Muertos: Learning About Death Through Observing and Pitching In. In M. Correa-Chávez, R. Mejía-Arauz, & B. Rogoff (Eds.), *Advances in Child Development and Behavior* (Vol. 49, pp. 229–249). JAI. https://doi.org/10.1016/bs.acdb.2015.08.004

Harrison, D. P., Stritzke, W. G., Fay, N., Ellison, T. M., & Hudaib, A.-R. (2014). Probing the implicit suicidal mind: Does the Death/Suicide Implicit Association Test reveal a desire to die, or a diminished desire to live? *Psychological Assessment*, *26*(3), 831.

Hassouneh, D. M., & Kulwicki, A. (2007). Mental health, discrimination, and trauma in Arab Muslim women living in the US: A pilot study. *Mental Health, Religion and Culture*, *10*(3), 257–262.

Hjern, A., & Allebeck, P. (2002). Suicide in first-and second-generation immigrants in Sweden A comparative study. *Social Psychiatry and Psychiatric Epidemiology*, *37*(9), 423–429.

Hong, J. H., Talavera, D. C., Odafe, M. O., Barr, C. D., & Walker, R. L. (2018). Does purpose in life or ethnic identity moderate the association for racial discrimination and suicide ideation in racial/ethnic minority emerging adults? *Cultural Diversity and Ethnic Minority Psychology*, No Pagination Specified-No Pagination Specified. https://doi.org/10.1037/cdp0000245

Hovey, J. D. (2000). Acculturative stress, depression, and suicidal ideation in Mexican immigrants. *Cultural Diversity and Ethnic Minority Psychology*, *6*(2), 134–151. https://doi.org/10.1037/1099-9809.6.2.134

Huynh, Q.-L., Devos, T., & Goldberg, R. (2014). The role of ethnic and national identifications in perceived discrimination for Asian Americans: Toward a better understanding of the buffering effect of group identifications on psychological distress. *Asian American Journal of Psychology*, *5*(3), 161–171. https://doi.org/10.1037/a0031601

J. Gaskin. (2016). *Separate Indirect Effects*.

Joe, S., Woolley, M. E., Brown, G. K., Ghahramanlou-Holloway, M., & Beck, A. T. (2008). Psychometric properties of the Beck Depression Inventory–II in low-income, African American suicide attempters. *Journal of Personality Assessment*, *90*(5), 521–523.

Johnson, J. (2015). Trump calls for 'total and complete shutdown of Muslims entering the United States.' *Washington Post*. https://www.washingtonpost.com/news/post-politics/wp/2015/12/07/donald-trump-calls-for-total-and-complete-shutdown-of-muslims-entering-the-united-states/

Joiner, T. (2005). *Why people die by suicide*. Harvard University Press.

Jurcik, T., Ahmed, R., Yakobov, E., Solopieieva-Jurcikova, I., & Ryder, A. G. (2013). Understanding the role of the ethnic density effect: Issues of acculturation, discrimination and social support. *Journal of Community Psychology*, *41*(6), 662–678.

Kakounda Muallem, H., & Israelashvilli, M. (2015). Religiosity as a buffer against suicidal ideation: A comparison between Christian and Muslim-Arab adolescents. *Mental Health, Religion & Culture*, *18*(10), 838–849.

Kessler, R. C., Berglund, P., Borges, G., Nock, M., & Wang, P. S. (2005). Trends in suicide ideation, plans, gestures, and attempts in the United States, 1990-1992 to 2001-2003. *Jama*, *293*(20), 2487–2495.

Kline, R. B. (2015). *Principles and practice of structural equation modeling*. Guilford publications.

Kwag, K. H., Jang, Y., & Chiriboga, D. A. (2012). Acculturation and depressive symptoms in Hispanic older adults: Does perceived ethnic density moderate their relationship? *Journal of Immigrant and Minority Health*, *14*(6), 1107–1111.

Lorant, V., Deliège, D., Eaton, W., Robert, A., Philippot, P., & Ansseau, M. (2003). Socioeconomic inequalities in depression: A meta-analysis. *American Journal of Epidemiology*, *157*(2), 98–112.

Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, *71*(3), 543–562.

Modir, S., & Kia-Keating, M. (2018). Exploring the Middle Eastern American College Student Experience: Discrimination, Adjustment, and Coping. *Journal of College Student Development*, *59*(5), 563–578. https://doi.org/10.1353/csd.2018.0053

Mohamed, B., & Sciupac, P. (2018). The share of Americans who leave Islam is offset by those who become Muslim. *Washington, DC: Pew Research Center*.

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.

Mościcki, E. K. (2014). Suicidal behaviors among adults. *The Oxford Handbook of Suicide and Self-Injury*, 82.

Naber, N. (2000). Ambiguous insiders: An investigation of Arab American invisibility. *Ethnic and Racial Studies, 23*(1), 37–61.

Nasseri, K., & Moulton, L. H. (2011). Patterns of death in the first and second generation immigrants from selected Middle Eastern countries in California. *Journal of Immigrant and Minority Health, 13*(2), 361–370.

Nock, M. K., & Banaji, M. R. (2007). Assessment of self-injurious thoughts using a behavioral test. *American Journal of Psychiatry, 164*(5), 820–823.

Nock, M. K., Park, J. M., Finn, C. T., Deliberto, T. L., Dour, H. J., & Banaji, M. R. (2010). Measuring the suicidal mind: Implicit cognition predicts suicidal behavior. *Psychological Science, 21*(4), 511–517.

Owens, D., Lacey, K., Rawls, G., & Holbert-Quince, J. A. (2010). First-generation African American male college students: Implications for career counselors. *The Career Development Quarterly, 58*(4), 291–300.

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.

Pascoe, E. A., & Smart Richman, L. (2009). Perceived discrimination and health: A meta-analytic review. *Psychological Bulletin, 135*(4), 531–554. https://doi.org/10.1037/a0016059

Payne, B. K., Krosnick, J. A., Pasek, J., Lelkes, Y., Akhtar, O., & Tompson, T. (2010). Implicit and explicit prejudice in the 2008 American presidential election. *Journal of Experimental Social Psychology, 46*(2), 367–374.

Perry, B. L., Stevens-Watkins, D., & Oser, C. B. (2013). The moderating effects of skin color and ethnic identity affirmation on suicide risk among low-SES African American women. *Race and Social Problems*, *5*(1), 1–14. https://doi.org/10.1007/s12552-012-9080-8

Persson, A. V., & Musher-Eizenman, D. R. (2005). College Students' Attitudes Toward Blacks and Arabs Following a Terrorist Attack as a Function of Varying Levels of Media Exposure1. *Journal of Applied Social Psychology*, *35*(9), 1879–1892. https://doi.org/10.1111/j.1559-1816.2005.tb02200.x

Pew Research Center. (2017). *US Muslims Concerned About Their Place in Society, but Continue to Believe in the American Dream*.

Phinney, J. S. (1992). The multigroup ethnic identity measure a new scale for use with diverse groups. *Journal of Adolescent Research*, *7*(2), 156–176.

Pieterse, A. L., Todd, N. R., Neville, H. A., & Carter, R. T. (2012). Perceived racism and mental health among Black American adults: A meta-analytic review. *Journal of Counseling Psychology*, *59*(1), 1–9. https://doi.org/10.1037/a0026208

Preacher, K. J., Curran, P. J., & Bauer, D. J. (2020). *Simple intercepts, simple slopes, and regions of significance in MLR 2-way interactions*.

Rausch, S. M., Auerbach, S. M., & Gramling, S. E. (2008). Gender and ethnic differences in stress reduction, reactivity, and recovery. *Sex Roles*, *59*(9–10), 726.

Reynolds, W. (1991). *ASIQ, Adult Suicidal Ideation Questionnaire: Professional Manual*. Psychological Assessment Resources, Incorporated.

Rippy, A. E., & Newman, E. (2006). Perceived religious discrimination and its relationship to anxiety and paranoia among Muslim Americans. *Journal of Muslim Mental Health*, *1*(1), 5–20.

Rodriguez Mosquera, P. M., Khan, T., & Selya, A. (2013). Coping with the 10th anniversary of 9/11: Muslim Americans' sadness, fear, and anger. *Cognition & Emotion, 27*(5), 932–941.

Rousseau, C., Hassan, G., Moreau, N., & Thombs, B. D. (2011). Perceived Discrimination and Its Association With Psychological Distress Among Newly Arrived Immigrants Before and After September 11, 2001. *American Journal of Public Health, 101*(5), 909–915. https://doi.org/10.2105/AJPH.2009.173062

Sakdapolrak, P., Butsch, C., Carter, R. L., Cojocaru, M. D., Etzold, B., Kishor, N., Lacambra, C., Reyes, M. L., & Sagala, S. (2008). The megacity resilience framework. *Resilience and Social Vulnerability*, 10.

Sareen, J. (2011). Anxiety disorders and risk for suicide: Why such controversy? *Depression and Anxiety*, *28*(11), 941–945. https://doi.org/10.1002/da.20906

Sayed, M. A. (2003). Conceptualization of mental illness within Arab cultures: Meeting challenges in cross-cultural settings. *Social Behavior and Personality: An International Journal*, *31*(4), 333–341.

Shaw, R. J., Atkin, K., Bécares, L., Albor, C. B., Stafford, M., Kiernan, K. E., Nazroo, J. Y., Wilkinson, R. G., & Pickett, K. E. (2012). Impact of ethnic density on adult mental disorders: Narrative review. *British Journal of Psychiatry, 201*(1), 11–19. https://doi.org/10.1192/bjp.bp.110.083675

Singh, A. (2002). We are not the enemy. *Hate Crimes against Arabs, Muslims, and Those Perceived to Be Arab or Muslim after September, 11*, 1–41.

Smart Richman, L., & Leary, M. R. (2009). Reactions to discrimination, stigmatization, ostracism, and other forms of interpersonal rejection: A multimotive model. *Psychological Review*, *116*(2), 365–383. https://doi.org/10.1037/a0015250

Steer, R. A., Ranieri, W. F., Beck, A. T., & Clark, D. A. (1993). Further evidence for the validity of the Beck Anxiety Inventory with psychiatric outpatients. *Journal of Anxiety Disorders*, *7*(3), 195–205.

Substance Abuse and Mental Health Services Administration. (2014). *Results from the 2013 National Survey on Drug Use and Health: Mental Health Findings* (NSDUH Series H-49, HHS Publication No. (SMA) 14-4887). https://www.samhsa.gov/data/sites/default/files/NSDUHmhfr2013/NSDUHmhfr2013.pdf

Tynes, B. M., Umaña-Taylor, A. J., Rose, C. A., Lin, J., & Anderson, C. J. (2012). Online racial discrimination and the protective function of ethnic identity and self-esteem for African American adolescents. *Developmental Psychology*, *48*(2), 343–355. https://doi.org/10.1037/a0027032

Veling, W., Susser, E., Van Os, J., Mackenbach, J. P., Selten, J.-P., & Hoek, H. W. (2008). Ethnic density of neighborhoods and incidence of psychotic disorders among immigrants. *American Journal of Psychiatry*, *165*(1), 66–73.

Wadsworth, T., & Kubrin, C. E. (2007). Hispanic suicide in U.S. metropolitan areas: Examining the effects of immigration, assimilation, affluence, and disadvantage. *American Journal of Sociology*, *112*(6), 1848–1885. https://doi.org/10.1086/512711

Walker, R., Francis, D., Brody, G., Simons, R., Cutrona, C., & Gibbons, F. (2017). A longitudinal study of racial discrimination and risk for death ideation in African American youth. *Suicide and Life-Threatening Behavior*, *47*(1), 86–102.

Walker, R. L., Salami, T. K., Carter, S. E., & Flowers, K. (2014). Perceived Racism and Suicide Ideation: Mediating Role of Depression but Moderating Role of Religiosity among African American Adults. *Suicide and Life-Threatening Behavior*, *44*(5), 548–559. https://doi.org/10.1111/sltb.12089

Walker, R. L., Wingate, L. R., Obasi, E. M., & Joiner Jr., T. E. (2008). An empirical investigation of acculturative stress and ethnic identity as moderators for depression and suicidal ideation in college students. *Cultural Diversity and Ethnic Minority Psychology*, *14*(1), 75–82. https://doi.org/10.1037/1099-9809.14.1.75

Wang, K. T., Wong, Y. J., & Fu, C.-C. (2013). Moderation effects of perfectionism and discrimination on interpersonal factors and suicide ideation. *Journal of Counseling Psychology*, *60*(3), 367–378. https://doi.org/10.1037/a0032551

Williams, D. R., & Mohammed, S. A. (2009). Discrimination and racial disparities in health: Evidence and needed research. *Journal of Behavioral Medicine*, *32*(1), 20–47.

Wolf, E. J., Harrington, K. M., Clark, S. L., & Miller, M. W. (2013). Sample size requirements for structural equation models: An evaluation of power, bias, and solution propriety. *Educational and Psychological Measurement*, *73*(6), 913–934.

Zogby, J. J. (2001). What Ethnic Americans Really Think. *Utica, NY: Zogby International*.

Table 1a

Means, Standard Deviations, and Correlations of Study Variables for Arab American Emerging Adults (N = 157)

	1	2	3	4	5	6	7	8	*M*	*SD*
1. Suicide Ideation	–								25.25	32.74
2. Suicide IAT	-.16*	–							0.47	0.43
3. Perceived Discrimination	.26**	-.11	–						59.45	28.67
4. Depressive Symptoms	.60**	-.06	.14	–					16.70	15.19
5. Anxiety Symptoms	.53**	.07	.46**	.53**	–				16.49	14.15
6. Religious Coping	-.04	.01	.21**	-.05	.14	–			21.39	12.18
7. Ethnic Identity	-.18*	.08	-.04	.03	.02	.32**	–		3.03	0.62
8. Ethnic Density	.01	-.12	.05	.06	.08	.18*	.04	–	2.17	0.65

Note. *SD* = Standard Deviation.

Table 1b

Means, Standard Deviations, and Correlations of Study Variables for Female Arab Americans (N = 117)

	1	2	3	4	5	6	7	8	*M*	*SD*
1. Suicide Ideation	–								24.61	32.04
2. Suicide IAT	-.27**	–							0.50	0.38
3. Perceived Discrimination	.22*	-.10	–						61.17	29.45
4. Depressive Symptoms	.60**	-.09	.06	–					18.10	15.54
5. Anxiety Symptoms	.49**	.04	.41**	.46**	–				17.47	14.10
6. Religious Coping	-.06	.00	.24**	-.08	.13	–			21.70	12.25
7. Ethnic Identity	-.05	.10	-.03	.05	.02	.35**	–		3.07	0.64
8. Ethnic Density	-.07	-.16	.11	.05	.13	.22*	.14	–	2.16	0.71

Note. *SD* = Standard Deviation.

Table 1c

Means, Standard Deviations, and Correlations of Study Variables for Male Arab Americans (N = 40)

	1	2	3	4	5	6	7	8	*M*	*SD*
1. Suicide Ideation	–								27.11	35.06
2. Suicide IAT	.05	–							0.38	0.55
3. Perceived Discrimination	.44**	-.18	–						54.43	25.93
4. Depressive Symptoms	.63**	-.05	.35*	–					12.61	13.49
5. Anxiety Symptoms	.68**	.09	.61**	.74**	–				13.63	14.09
6. Religious Coping	.02	.02	.10	.01	.12	–			20.50	12.07
7. Ethnic Identity	-.58**	-.03	-.14	-.13	-.03	.23	–		2.91	0.55
8. Ethnic Density	.33*	-.05	-.22	.13	-.12	.01	-.49**	–	2.17	0.45

Note. *SD* = Standard Deviation.

Table 2
Summary of Skewness and Kurtosis Indices (N = 153)

Study Variable	Skewness	Kurtosis
Gender	-1.14	-0.72
Religious Affiliation	-0.78	-0.48
Suicide Ideation	1.42	1.23
Perceived Discrimination	0.29	-1.10
Depressive Symptoms	0.79	-0.33
Anxiety Symptoms	0.70	-0.17
Religious Coping	0.00	-0.68
Ethnic Identity	-0.44	-0.27
Ethnic Density	0.86	2.31
Discrimination x Religious Coping	0.14	0.74
Discrimination x Ethnic Identity	0.55	0.78
Discrimination x Ethnic Density	0.37	-0.35

Table 3
Summary of Multicollinearity Statistics (N = 153)

Study Variable	Tolerance	Variance Inflation Factor
Gender	.95	1.05
Religious Affiliation	.93	1.08
Perceived Discrimination	.74	1.35
Depressive Symptoms	.62	1.62
Anxiety Symptoms	.53	1.90
Religious Coping	.66	1.52
Ethnic Identity	.79	1.27
Ethnic Density	.91	1.10
Discrimination x Religious Coping	.64	1.56
Discrimination x Ethnic Identity	.79	1.27
Discrimination x Ethnic Density	.87	1.15

Table 4
Summary of Unstandardized and Standardized Parameter Estimates for Full Sample (N = 153)

Variable		Variable	*b*	*β*	S.E.	*p*
Anxiety Symptoms	<---	Ethnic Identity	-.259	-.011	1.825	.887
Anxiety Symptoms	<---	Religious Coping	.117	.104	.092	.204
Anxiety Symptoms	**<---**	**Perceived Discrimination**	**.172**	**.339**	**.039**	*******
Anxiety Symptoms	**<---**	**Discrimination x Religious Coping**	**.011**	**.261**	**.003**	**.001**
Anxiety Symptoms	<---	Discrimination x Ethnic Identity	-.033	-.033	.077	.674
Anxiety Symptoms	<---	Gender	1.542	.049	2.267	.496
Anxiety Symptoms	<---	Religion	-.311	-.034	.677	.645
Depressive Symptoms	**<---**	**Religious Coping**	**-.232**	**-.187**	**.093**	**.013**
Depressive Symptoms	<---	Discrimination	-.014	-.025	.042	.737
Depressive Symptoms	<---	Discrimination x Religious Coping	-.001	-.029	.003	.699
Depressive Symptoms	<---	Discrimination x Ethnic Identity	.072	.066	.078	.356
Depressive Symptoms	**<---**	**Anxiety Symptoms**	**.663**	**.599**	**.081**	*******
Depressive Symptoms	**<---**	**Ethnic Identity**	**3.648**	**.141**	**1.831**	**.046**
Depressive Symptoms	<---	Gender	4.037	.115	2.278	.076
Depressive Symptoms	<---	Religion	.213	.021	.680	.754
Suicide Ideation	<---	Perceived Discrimination	.112	.095	.074	.131
Suicide Ideation	**<---**	**Anxiety Symptoms**	**.639**	**.272**	**.173**	*******
Suicide Ideation	**<---**	**Depressive Symptoms**	**1.024**	**.482**	**.147**	*******
Suicide Ideation	**<---**	**Gender**	**-8.644**	**-.116**	**4.256**	**.042**
Suicide Ideation	<---	Discrimination x Ethnic Identity	.072	.031	.134	.592
Suicide Ideation	**<---**	**Discrimination x Ethnic Density**	**-.207**	**-.114**	**.104**	**.046**
Suicide Ideation	<---	Ethnic Density	-6.330	-.112	3.224	.050
Suicide Ideation	**<---**	**Ethnic Identity**	**-7.564**	**-.138**	**3.181**	**.017**
Suicide Ideation	<---	Religion	-1.307	-.060	1.222	.285

Note. *** $p < .001$. b = Unstandardized regression coefficient, β = Standardized regression coefficient. *S.E.* = Standard Error.

Table 5
Summary of Unstandardized and Standardized Parameter Estimates for Female Participants (N = 114)

Variable		Variable	*b*	*β*	*S.E.*	*p*
Anxiety Symptoms	<---	Ethnic Identity	-.167	-.008	2.045	.935
Anxiety Symptoms	<---	Religious Coping	.116	.104	.113	.305
Anxiety Symptoms	<---	Ethnic Density	.893	.041	1.905	.639
Anxiety Symptoms	**<---**	**Perceived Discrimination**	**.135**	**.273**	**.046**	**.003**
Anxiety Symptoms	**<---**	**Discrimination x Religious Coping**	**.011**	**.282**	**.004**	**.004**
Anxiety Symptoms	<---	Discrimination x Ethnic Identity	.015	.017	.085	.861
Anxiety Symptoms	<---	Religion	-.427	-.046	.806	.597
Anxiety Symptoms	<---	Discrimination x Ethnic Density	.001	.001	.062	.989
Depressive Symptoms	**<---**	**Ethnic Identity**	**4.597**	**.186**	**2.174**	**.034**
Depressive Symptoms	**<---**	**Religious Coping**	**-.315**	**-.249**	**.121**	**.009**
Depressive Symptoms	<---	Ethnic Density	2.897	.117	2.027	.153
Depressive Symptoms	<---	Perceived Discrimination	-.003	-.005	.050	.952
Depressive Symptoms	<---	Discrimination x Ethnic Density	.083	.105	.066	.208
Depressive Symptoms	<---	Discrimination x Religious Coping	-.003	-.078	.004	.416
Depressive Symptoms	<---	Discrimination x Ethnic Identity	.124	.122	.090	.167
Depressive Symptoms	<---	Religion	.101	.010	.858	.906
Depressive Symptoms	**<---**	**Anxiety Symptoms**	**.597**	**.524**	**.100**	*******
Suicide Ideation	<---	Perceived Discrimination	.098	.086	.084	.243
Suicide Ideation	**<---**	**Anxiety Symptoms**	**.510**	**.218**	**.196**	**.009**
Suicide Ideation	**<---**	**Depressive Symptoms**	**1.105**	**.539**	**.162**	*******
Suicide Ideation	<---	Religion	-.829	-.038	1.476	.574
Suicide Ideation	**<---**	**Ethnic Density**	**-8.903**	**-.176**	**3.478**	**.010**
Suicide Ideation	<---	Discrimination x Ethnic Density	-.158	-.097	.112	.158

Note. *** $p < .001$. b = Unstandardized regression coefficient, β = Standardized regression coefficient. *S.E.* = Standard Error.

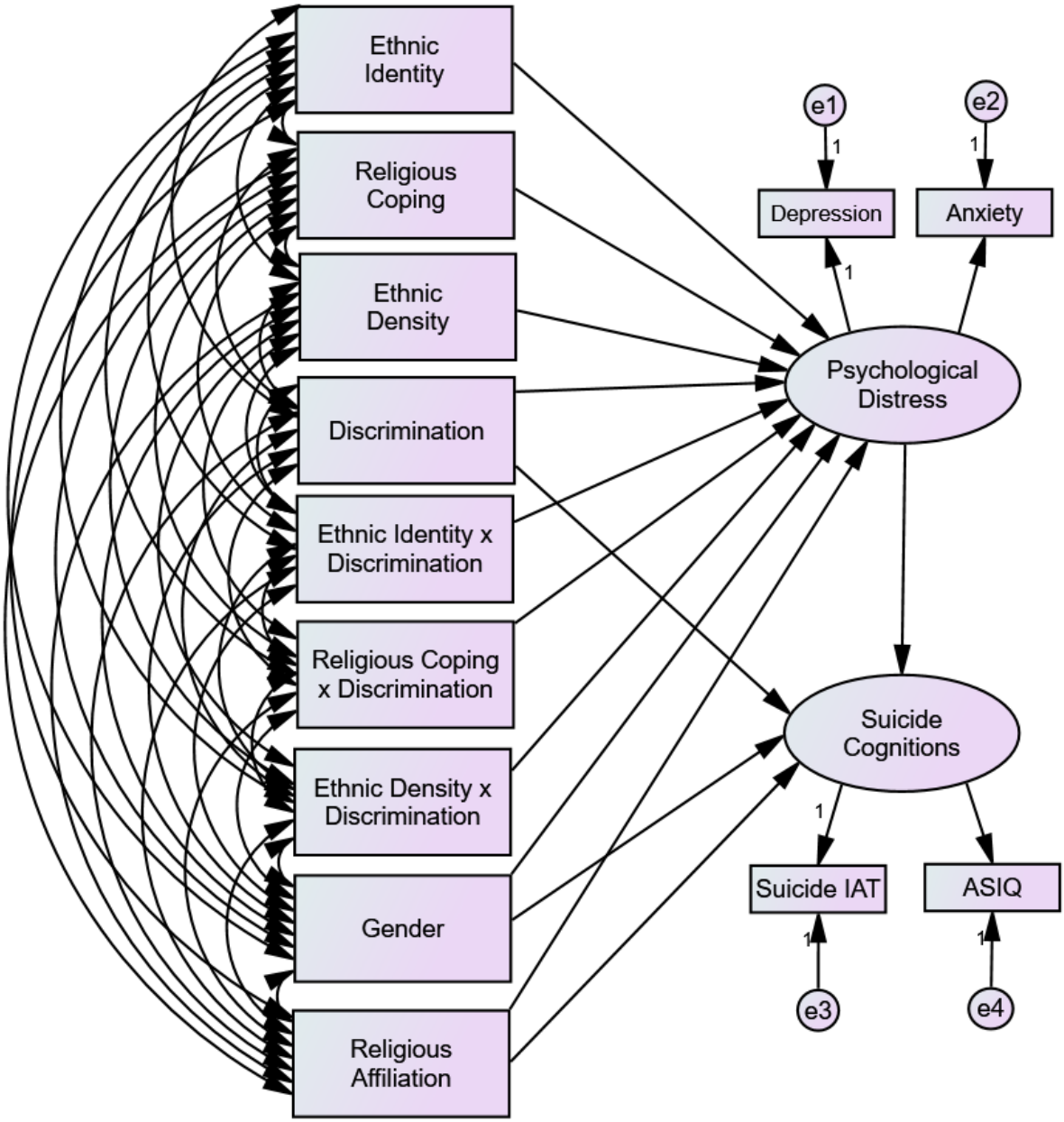

Figure 1. Hypothesized structural model of risk and protective factors of suicide cognitions for Arab American Emerging Adults and demographic covariates. Suicide IAT = Suicide/Death Implicit Association Test; ASIQ = Adult Suicidal Ideation Questionnaire.

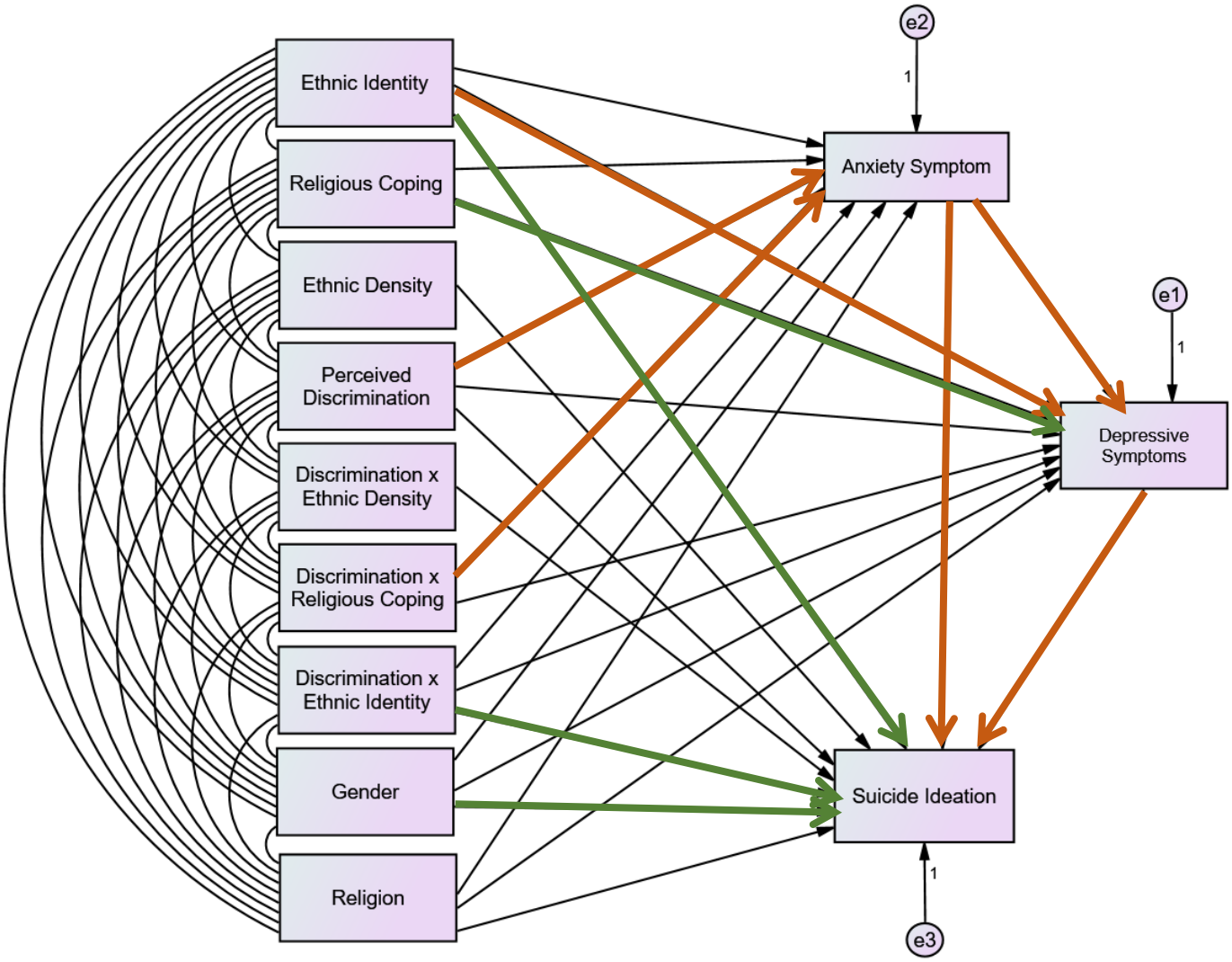

Figure 2. Path regression model for risk and protective factors of suicide ideations and demographic covariates for Arab American Emerging Adults.

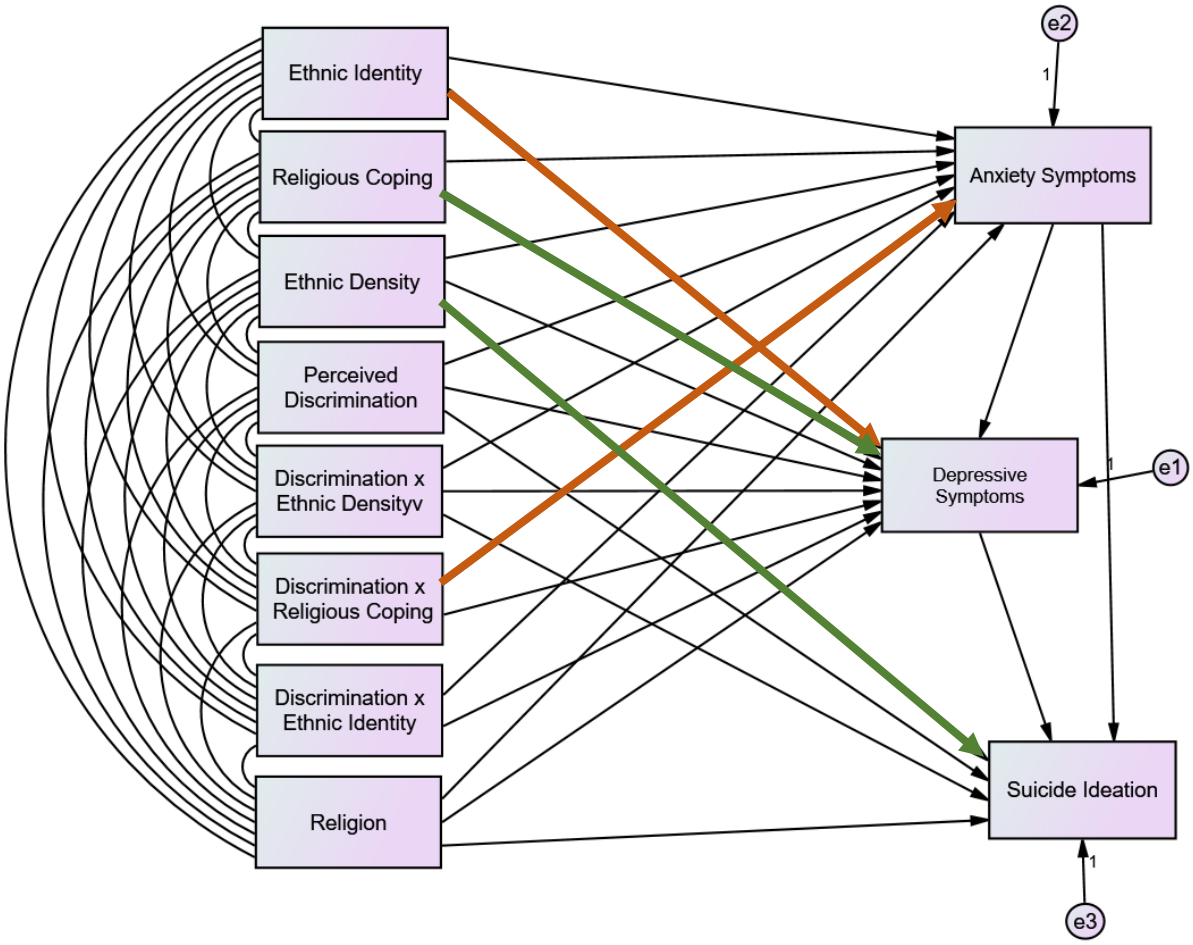

Figure 3. Final path regression model for risk and protective factors of suicide ideations for female Arab American Emerging Adults.

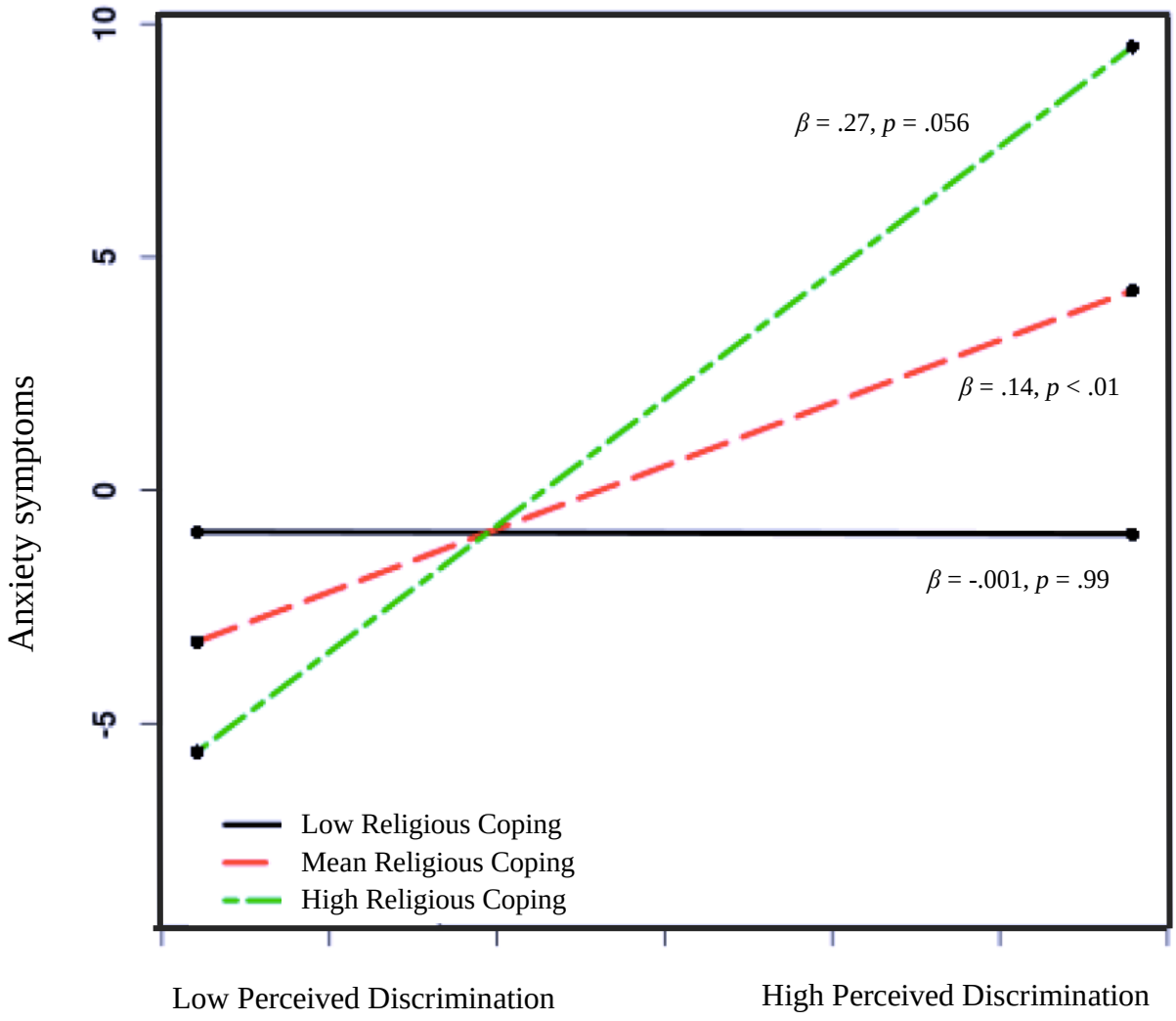

Figure 4. Interaction of perceived discrimination and religious coping predicting anxiety symptoms. Low perceived discrimination is plotted at 1 SD below the mean. High perceived discrimination is plotted at 1 SD above the mean.