Middle Eastern and North African (MENA) American Youth Reports of their Parenting Experiences: Associations with Mental and Physical Health

by

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ABSTRACT

Scant research examines the associations between parenting behaviors and the psychological health of Middle Eastern and North African (MENA) American youth. Developmental research consistently demonstrates that an authoritarian parenting style (often characterized by rejecting and controlling behaviors, and a common style among MENA parents) is maladaptive for offspring health; however, no study has empirically tested the associations of these behaviors from mothers and fathers with the health of MENA American youth. Using survey data from 314 MENA American young adults (M_{age} = 20 years, range 18 – 25 years, 56% female), the current study tested the associations between commonly studied parenting behaviors - acceptance, rejection, harsh parenting, and control - with the mental (stress, depression, and anxiety) and physical health (general health perceptions, pain, and somatization) of MENA American youth. Confirmatory factor analysis tested new items informed by preliminary focus groups with original items from the Child Report Parenting Behavior Inventory (CRPBI) to create culturally-informed parenting factors. Results indicated that youth-reported higher maternal acceptance was associated with fewer mental health symptoms, higher maternal harsh parenting with higher mental health symptoms, and higher maternal rejection with worse physical health; father rejection was associated with higher mental health symptoms and worse physical health. Further, the associations between parenting and physical health were moderated by youth Arabic orientation, such that those with higher Arabic orientation showed the best physical health at higher levels of acceptance, and the worst physical health at higher levels of rejection, harsh parenting, and control. Associations between parenting and health did not differ by youth gender. The current findings suggest cross-cultural similarities in the beneficial functions of parental acceptance, and detrimental functions of parental rejection and harsh

parenting, with MENA American youth. The associations between parenting and health were exacerbated, for better or for worse, for more Arabic-oriented youth, suggesting these youth may be more greatly impacted by perceptions of their parents' behaviors. Findings have implications for family interventions working with MENA populations.

TABLE OF CONTENTS

Page

Page

LIST OF TABLES

Table Page

Table Page

LIST OF FIGURES

Figure Page

The Middle Eastern and North African (MENA) population is one of the most misunderstood and under-researched ethnic minority groups in the U.S. (Erickson & Al-Timimi, 2001). MENA individuals have historically been categorized as Caucasian in the US Census Bureau and official forms; the lack of being recognized as a distinct ethnic group has led to pushback writings in the MENA community such as "Not Quite White" (Samhan, 1999), and forced MENA peoples to mark a range of ethnic categories including Caucasian, African American and Other (US Census Program Management Review, 2016). This dispersion among other ethnic categories has resulted in scant accurate national statistics, research, and understanding on the MENA population. For example, the 2010 US Census estimated the MENA American population to be 1.9 million, whereas the Arab American Institute (AAI; n.d.), adjusting for under-reporting, estimated the population to be about 3.7 million. Moreover, MENA individuals have increasingly become a target of negative news and media attention since September 11, 2001 and the rise of Islamophobia, putting them in the spotlight. The rate of MENA migrations to the US is also rapidly increasing: between 2000 and 2010 the MENA population grew more than 72% and continues to rise (AAI; n.d.). Research on MENA individuals' unique experiences in the U.S. is necessary and timely.

Who are MENA individuals?

MENA peoples include individuals who identify as Arab, Middle Eastern, and/or North African. Middle Easterners can include people who geographically originate from Middle Eastern regions that can stretch from Iran to the East, across Western Asia and the Arabian Peninsula to North Africa and Morocco in the West (Kayyali, 2006). The Middle East and North Africa is primarily made up of Arabs, but can also include Turks from Turkey, Persians from

Iran, and Jews from Israel (Kayyali, 2006). Arab individuals specifically are those whose family-of-origin traces back to one of the 22 Arab countries including: Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Kuwait, Jordan, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Syria, Sudan, Tunisia, United Arab Emirates, and Yemen. However, not all individuals from these countries consider themselves Arab (e.g., Maronite Lebanese who trace their heritage back to the Phoenicians or Coptic Egyptians who trace their heritage back to Pharaonic descent; Kayyali, 2006).

MENA individuals began immigrating to the U.S. as far back as the 1800s, with the first immigrants being primarily from Syria and Lebanon. A second large wave of MENA immigrants came post-World War II after changes in American immigration policy, and primarily consisted of Palestinians, Egyptians, Syrians, and Iraqis. In the 1960s, the U.S. received greater numbers of primarily Muslim immigrants and Muslim refugees; the 1990s and beyond is marked by unprecedent numbers of MENA immigrations to the U.S. from different national and religious backgrounds due to economic and political push factors in their countries of origin (Amer & Hovey, 2007; Kayyali, 2006).

The MENA world is diverse and contains people from different religious, ethnic, and cultural backgrounds, as well as skin colors that greatly vary both between and within countries (Harb, 2016). While there is significant variability between MENA countries, such as differences in each country's history, socioeconomic status, and sociopolitical environment, MENA individuals are a distinct ethnic group who share unique values and norms with commonalities in their culture. Arabic is the primarily language among Arab MENA countries, while Turkish is the primary language in Turkey, and Farsi in Iran (Kayyali, 2006). MENA culture tends to be highly collectivist and interdependent with a large emphasis on immediate and extended family

relationships, adherence to cultural norms, and putting needs of the group before the self (Ajami, Rasmi, & Abudabbeh, 2016). Religion also plays a major role in MENA history, culture, and traditions, and is integrated in several aspects of MENA daily life such as holidays, cuisine and food practices (e.g., fasting), and important daily rituals (e.g., prayer). A majority of the MENA population identifies as Muslim, while the remaining population mostly identifies as Christian; however, sizable numbers also adhere to Jewish and Hindu faiths (Harb, 2016).

Global surveys of world views that included countries from the Middle East and North Africa found that MENA countries, on average, tended to be higher on traditional values (emphasizing religion, family ties, and deference to authority) compared to European and English-speaking countries (e.g., U.S.) that were higher on secular and self-expressive concepts (concerns for participation in economic and political decision-making) (World Values Survey, 2014; Harb, 2016). In a later global survey, MENA countries tended to be high on cultural values of embeddedness (deriving meaning in life from social relationships, identifying with the group, participating in a shared way of life, and refraining from actions that would disrupt in-group solidarity) and hierarchy (valuing ascribed roles, social power, authority, and wealth), and tended to be lower on affective and intellectual autonomy (valuing pursuit of positive affective and intellectual experiences and directions for themselves) compared to Western countries like America which prioritize autonomy and the individual's needs (Schwartz, 2006). Criticisms of these global surveys, however, suggest that while a limited category of values may be universal, there are many important values within each culture that were not captured on the global scale. For example, morality, honor, humility, hospitality and generosity are also fundamental cultural values in the Arab world (Harb, 2016).

Cross-Cultural Parenting and Offspring Mental and Physical Health

Decades of developmental research indicate that parental relationships are pivotal influences in the development of offspring mental and physical health outcomes. Lack of supportive caregiving relationships and deficient nurturing has been consistently associated with a range of poor mental and physical health outcomes including depression, anxiety, dysregulation of physiological stress response systems (e.g., HPA and ANS systems), higher rates of illness, somatic complaints, chronic illnesses such as obesity and cardiovascular disease, and greater engagement in risk behaviors such as smoking, alcohol, and drug use (Repetti, Taylor, & Seeman, 2002; Luecken & Lemery, 2004). Conversely, positive caregiving, including parental responsivity, warmth, and acceptance, has been consistently associated with positive adjustment in youth such as higher self-esteem, coping efficacy, and fewer mental health symptoms. Positive caregiving provides children with the fundamental needs of feeling loved, cared for, and positively regarded, which increases their emotional security, confidence, ability to persistent and handle challenges, and enhances regulation of physiological stress responding associated with disease and illness. The presence of negative caregiving, such as neglect, criticism and harshness may have opposite and deleterious effects, leading to emotional insecurity, poorer regulation of stress response systems, and poorer mental health.

Baumrind's (1989) profiles of parenting styles have been widely used in developmental research to characterize parenting and predict offspring adjustment. They include an authoritative style (characterized by high levels of emotional support, appropriate autonomy granting with moderate levels of control, and bi-directional communication), an authoritarian style (characterized by high levels of control, demandingness and low emotional support), and a permissive style (characterized by low levels control and high acceptance and affirmation)

(Baumrind, 1989, 1991a). Cumulative evidence suggests an authoritative style is the most adaptive for offspring adjustment, while authoritarian and permissive styles are the least adaptive; however, these conclusions are limited as they result from research based on primarily Caucasian, middle class families (Darling & Steinberg, 1993).

Research with ethnic minority groups suggests that parenting behaviors typically considered as maladaptive, such as harsh discipline and rejection commonly associated with an authoritarian style, do not consistently predict maladjustment among ethnic minority groups. Baumrind (1972) found that while authoritarian parenting is associated with fear and timid behavior among European American children, it was associated with increased assertiveness among African-American girls (Baumrind, 1972; Darling & Steinberg, 1993). Hispanic parents tend to exhibit more authoritarian behaviors characterized by higher levels of rejection and harsher disciplinary behaviors than do European American families (Knight, Virdin, & Roosa, 1994; Varela et al., 2004; Cardona, Nicholson, & Fox, 2000). However, these behaviors do not translate into worse outcomes for Hispanic youth compared to their EA counterparts (Mahrer et al., 2019; Leidy et al., 2011; Hill, Bush, & Roosa, 2003).

There are several possibilities as to why an authoritarian parenting style may serve different functions across ethnic groups and not universally predict maladaptive outcomes. First, an authoritarian style may be culturally normative and serve to promote parents' cultural socialization goals (Darling & Steinberg 1993; Varela et al., 2004). Authoritarian parenting, which emphasizes obedience and compliance may be consistent with Latino culture and serve an adaptive function among Latino families that value respect for parents (Knight, Virdin, Roosa, 1994; Varela et al., 2004). For Chinese families, authoritarian parenting is synonymous with parental care and concern, and serves to maintain family cohesion (Chao, 2001). Chao (1994)

criticizes the stereotype that Chinese parents are often labeled as "controlling" or "authoritarian," emphasizing that authoritarian parenting does not hold the same meaning for Chinese and EA cultures.

Second, immigrants in the U.S. face challenges including segregation, discrimination, and pressures to assimilate, and immigrant parents may engage in strategies in response to these challenges. Several studies suggest that individuals who come from collectivist backgrounds (despite coming from different countries) and immigrate to an individualist country tend to show higher levels of parental control compared to parents in the mainstream culture (Rudy & Grusec, 2006; Chao, 1994; Knight et al., 1994). Other ethnic minority families in the U.S., such as Hispanics, uniquely display both accepting and harsh parenting behaviors in response to high stress conditions such as high levels of acculturative stress (White et al., 2013; Hill, Bush, & Roosa, 2003), and higher control may be more adaptive for less acculturated families living in unfamiliar environments and facing unique acculturative stressors (Chao & Otsuki-Clutter, 2011; Hill, Bush, & Roosa, 2003). These findings may generalize to MENA cultural groups as well: MENA parents may engage in more authoritarian parenting (e.g., high levels of control and harsh discipline) to protect offspring from devaluation and expected discrimination, as well as prevent youth from engaging in practices that conflict with MENA cultural values. In addition, MENA immigrant parents may experience high levels of uncertainty and potential trauma that may cause parents to exert more control over their children, socialize them with ethnic norms, and protect them from outside threats (Hofstede, 2001; Ajami, Rasmi, & Abudabbeh, 2016).

Third, research also suggests authoritarian behaviors such as harsh parenting and high levels of control are not mutually exclusive from expressions of acceptance and warmth among ethnic minority groups such as Hispanics (Hill, Bush, & Roosa, 2003; Varela et al., 2004), which

has also been suggested among MENA parents (Ajami, Rasmi, & Abudabbeh, 2016). Among MENA families, Rudy & Grusec (2001) found that higher parental authoritarianism was associated with lower warmth for Anglo-Canadian parents but not for Egyptian Canadian parents. Even though Egyptian Canadian parents scored higher than Anglo-Canadian parents on authoritarianism, both groups did not differ in their levels of warmth. Therefore, MENA youth may not be detrimentally affected because the authoritarian style is often accompanied with warm and caring treatment (Abudabbeh, 1996).

MENA Parenting and Offspring Adjustment

MENA culture remains highly collectivist and the family is the main source of support for MENA individuals over and above any other institution (Abudabbeh, 1996). Due to the emphasis on family support and religious traditions, MENA individuals are less likely to seek psychotherapy or mental health services (Abudabbeh, 1996), suggesting the importance of studying the impact of family relationships on the mental and physical health of MENA youth. However, little is understood regarding the parenting behaviors that MENA American youth experience, and the manner in which commonly studied parenting behaviors function in MENA American youth adjustment.

While there is great variability within MENA culture, MENA families share general trends in values and norms stemming from cross-cultural commonalities, such as a tendency towards hierarchical and autocratic relationships (Schwartz, 2006; Hofstede, 2001). To promote interdependence, cooperation, and compliance, MENA parents tend to be powerful authority figures and engage in parenting linked with an authoritarian style (Rudy & Grusec, 2001; Ajami, Rasmi, & Abudabbeh, 2016). For example, MENA parents tend to engage in vertical rather than

horizontal communication, and are more likely to use anger and punishment, as opposed to engaging in interactive discussion (Ajami, Rasmi, & Abudabbeh, 2016; Abudabbeh, 1996). MENA children are often socialized to be obedient and respectful to parents rather than explore independent ideas, and are encouraged to remain close to the family and not separate from parents. Parents also tend to be highly involved in children's lives, and many MENA young adults continue to live with their parents until marriage (Haboush, 2007).

Research conducted on families in the Middle East suggests some pancultural similarities in the effects of parenting on offspring adjustment. For example, a review of the effects of parental acceptance and rejection conducted in several MENA countries found that parental acceptance was associated with positive psychological adjustment (e.g., positive self-esteem), and parental rejection was associated with poor psychological adjustment across several dimensions including self-esteem, coping efficacy, depression, and anxiety (Ahmed, Rohner, Khaleque, Gielen, 2010). Also, Ahmad, Vansteenkiste, & Bart Soenens (2013) found that greater maternal responsiveness was associated with less teacher-rated behavior problems among Jordanian adolescents living in Jordan. A study by Dwairy (2004) compared the effects of authoritarian, authoritative, and permissive parenting styles on the mental health of Palestinian-Arab adolescents living in the Middle East and found that authoritarian parenting was not significantly related to psychological maladjustment. An authoritative parenting style was associated with better mental health outcomes, such as higher self-esteem, and lower internalizing and externalizing symptoms, and a permissive style was associated with the most psychological maladjustment such as higher levels of conduct disorder, anxiety, and depression. These studies suggest that the effects of some parenting behaviors on offspring adjustment may generalize across cultures, such as the positive effects of parental acceptance and responsiveness;

however, as found in Dwairy (2004), an authoritarian style may not be consistently associated with poor adjustment.

Research on parenting styles comparing samples in the Middle East and the West suggests that authoritarian parenting is not consistently associated with maladaptive outcomes for Middle Eastern youth (Ajami, Rasmi, & Abudabbeh, 2016; Rudy & Grusec, 2006). A study by Rasmi, Chuang, & Safdar (2012) examined the relation between perceived parental rejection and adjustment among university students who were either Arab youth in the Middle East, European Canadian youth, and first-generation Arab Canadian youth. Their results indicated that European Canadian youth who perceived parental rejection tended to have poorer psychological well-being and increased risky behaviors than their Arab Canadian and Arab counterparts; although Arab and Arab Canadian youth reported higher levels of parental rejection, parental rejection was not as strongly related to psychological maladjustment for Arabs and Arab Canadians as it was for European Canadians. Rudy & Grusec (2006) found that mothers from collectivist cultures (consisting of mostly Middle Eastern parents) were more likely to engage in an authoritarian style than mothers from individualist, Western European countries; despite collectivist moms being more authoritarian, collectivist youth did not have lower self-esteem than Western European children.

Additionally, preliminary work in the current study conducted several focus groups with MENA student organizations at Arizona State University (ASU; e.g., Lebanese Student Association, Omani Student Association, Saudi Students at ASU, Coptic Orthodox Christian Club) asking open-ended questions about their parents' behaviors from childhood through adolescence. Several young adults reported receiving harsh disciplinary behaviors, but these were not mutually exclusive from also receiving ample warmth and support. Their reports

support the notion that harsh and warm, supportive parenting behaviors often coincide among MENA parents. For example, an Omani male described his parents' style as:

> *Stick and honey. Tough and kind. They were tough, but at the end of the day, they do it because it's good for us.*

Additionally, MENA young adults tended to report that their parents set limits and engaged in controlling behaviors to socialize them with MENA culture and resist aspects of American culture that were not aligned with their values. For example, a Lebanese female reported:

> *I'd say our parents were strict just because they felt like they were combatting American culture. They wanted to keep us more involved with our own culture because American culture is all around us, and they want to keep our culture alive.*

Another Lebanese male reported:

> *I wasn't allowed to do American things. Once, I was at my friend's house and it was an hour away, and my mom could not find the house. It was getting really late and she couldn't find it; I feel like an American family might just be like, "Just sleep over. It's fine. We'll get you." But my mom was like, "No, you're coming home tonight," and I wasn't like allowed.*

Given the initial support from scant existing research and preliminary focus groups suggesting the function of commonly studied parenting behaviors such as rejection, harsh parenting, and control may not be harmful in MENA culture, these behaviors may impact MENA youth health differently than ethnic-majority youth. The scant existing studies on this topic come from samples in the Middle East or Canada, which was mostly comprised of first-generation individuals. No studies to date have examined how these parenting behaviors impact health for MENA American youth living in the U.S. at varying levels of immigration to Western culture.

MENA American Mental and Physical Health

Little is known about the rates of mental and physical health problems among MENA Americans, despite their experience of unique culturally-related stressors. MENA American health is important to study given budding research evidence suggesting MENA Americans experience significant discrimination and acculturative stress. Although they have historically been categorized as Caucasian in the U.S. Census and official forms, MENA American individuals report experiencing ethnic discrimination, prejudice, harassment, and hate crimes (Awad & Amayreh, 2016; Ahmed, Kia-Keating, & Tsai, 2011). Discrimination towards MENA individuals and incidents of racism markedly increased post-September 11, however, bias towards this group has existed before then (Awad & Amayreh, 2016). Research on the mental health of MENA American individuals post-September 11th demonstrated that they reported increased feelings of fear and feeling unsafe, as well as depression, anxiety, and PTSD as the most common mental health problems (Abu-Ras, 2016). In a national sample of Arab Americans post-September 11, Amer & Hovey (2012) found that Arab Americans reported higher rates of anxiety and depression compared to four other ethnic minority groups. The September 11, 2001 terrorist attacks and the expansion of Islamophobia has led to heightened scrutiny and mistrust of individuals that appear to be of MENA descent, regardless of their religious affiliation or background, which has negatively impacted MENA psychological adjustment in the U.S.

Fundamental differences between MENA and U.S. culture also pose unique acculturative stressors for MENA individuals living in the U.S. MENA Americans report experiencing stressors related to the tension of adhering to their own cultural traditions and meeting expectations to assimilate in American culture (Ahmed, Kia-Keating, & Tsai, 2011). This acculturative stress has been linked to family dysfunction, which in turn negatively impacts

MENA youth adjustment (Amer & Hovey, 2005). While studies show that both Muslim and Christian MENA individuals face discrimination and acculturative stress, MENA Muslims are particularly vulnerable as a visible minority given their traditional clothing and appearance (e.g., hijab among women), and religious and cultural observances that contrast from mainstream U.S. culture (Hakim-Larson & Menna, 2016). For some MENA individuals, stress may also stem from war and conflict in the home-countries of political asylees and refugees who may have been exposed to violence, torture, or other forms of trauma (Abu-Ras, 2016); these stressors come along with being displaced, resettling, and rebuilding social networks (Kira & Wrobel, 2016).

MENA Americans are also subject to physical health problems as they engage in a range of poor health behaviors, some of which are related to cultural norms and experiences. Tobacco use and waterpipe smoking is common among MENA individuals, especially among men (Haddad, Amer, & Johnson, 2016). Smoking tobacco is often viewed as a sign of maturity and masculinity for male users, and sharing cigarettes is often seen as a sign of hospitality and respect (Haddad, Amer, & Johnson, 2016). A representative survey conducted in Palestine found that tobacco use was the most common health risk behavior among youth: 45% of males and 22% of females ages 15 – 19 years, and 72% of males and 31% of females ages 20 – 24 years reported using tobacco (Glick et al., 2016). Waterpipe smoking (also known as *hookah* or *shisha*) is more common among Arabs than in other ethnicities (Haddad, Amer, & Johnson, 2016), which consists of using a waterpipe to inhale flavored tobacco, one session of which has been equated to smoking up to 50 cigarettes (Cobb et al., 2010). Despite the health risks, waterpipe smoking is often used in MENA social and familial gatherings.

Social expectations in the U.S. regarding drinking and drug use may also impact MENA Americans, and MENA youth may use drinking and drugs to cope with unique stressors that may

be culturally related (Haddad, Amer, & Johnson, 2016). While current surveys indicate lower alcohol and drug use among MENA individuals compared to non-Hispanic Whites, these are likely underestimations due to the stigma in MENA cultural and religious views surrounding reporting alcohol and drug use (Haddad, Amer, & Johnson, 2016).

MENA American individuals may also be more likely to report physical health or somatic symptoms associated with mental health disorders as it may be more culturally acceptable due to the stigma surrounding mental health (Abudabbeh, 1996). Alternatively, they may also report more physical symptoms due to the greater likelihood of experiencing somatic symptoms associated with mental health issues, which has been found in other ethnic minorities (Pina & Silverman, 2004). Arab culture may lack concepts or terminology to describe mental states that are distinct from physical health states (Erickson & Tamimi, 2001). Arab individuals have been characterized to express emotional pain such as depression or anxiety in terms of physical complaints such as aches or gastrointestinal concerns (Erickson & Tamimi, 2001), and often integrate information about their psychological states when describing their general physical health (Abdulrahim & Ajrouch, 2010). While physical symptoms may be related to emotional distress, MENA individuals may also report higher levels of physical health complaints such as poorer general health perceptions, pain, and somatic complaints due to significant amounts of stress.

Current study

Parenting experiences of MENA American youth are an important understudied link to mental and physical health problems. No studies to date have examined the relation between the parenting experiences of MENA American youth and their impact on MENA youth health.

Young adulthood is a particularly salient developmental period by which to study the long-term effects of early caregiving environments on mental and physical health (e.g., Luecken & Gress, 2010; Luecken, 2000). In the U.S., young adulthood is marked by unique stressors such as increased autonomy and independent decision making, identity exploration, profound academic and social stressors, which may result in increased risky behaviors such a smoking and alcohol use (Arnett, 2000). MENA young adults may be challenged between aligning with U.S. values (e.g., developing more autonomy, potentially leaving the home, making independent decisions), and remaining connected to their family ties (e.g., living at home, honoring parents' opinions, refraining from behaviors that conflict with cultural or religious values), especially as many MENA young adults continue to live with their parents until marriage (Hofstede, 2001). The unique stressors faced by the MENA population, combined with the stress of young adulthood, make MENA young adults in the U.S. an important population to study the effects of parenting on mental and physical health.

While culture-bound parenting practices may stem from a family's country-of-origin, parenting may change and adapt after immigrating to the U.S. Therefore, variations in immigration status and length of time in the U.S. may affect the parenting experiences of MENA American youth, and the relation between parenting experiences and health. Further, the association between parenting and adjustment among MENA American youth may differ based on youth acculturation and ethnic identification with their culture of origin. For example, "no-nonsense" parenting, characterized by high levels of harsh discipline, rejection, and acceptance, was exhibited more by Mexican American parents and related to positive adjustment among MA youth for those who adhered more strongly to traditional *familismo* values (Mahrer et al., 2019). Previous MENA studies that failed to find an association between authoritarian parenting and

maladjustment were based on samples in the Middle East or first-generation youth where an authoritarian style may be the norm and more culturally accepted (Dwairy, 2004; Rasmi, Chuang, & Safdar, 2012; Rudy & Grusec, 2006). The extent to which MENA youth become more acculturated to U.S. culture and less oriented to MENA culture may influence the effect of an authoritarian style on MENA youth mental and physical health. For example, while authoritarian parenting may be culturally normative for less acculturated youth, and therefore unrelated to maladjustment, authoritarian parenting may be more harmful for more acculturated youth, and associated with greater maladjustment.

In addition, the MENA culture tends to be more hierarchal and patriarchal than Western culture, and parents socialize their children in ways coinciding with their gender role beliefs. Therefore, there is a tendency to treat sons and daughters differently (Ajami, Rasmi, Abudabbeh, 2016). Cultural values socialize men to be leaders and authority figures in and outside the home, while women are viewed as more vulnerable, and emphasis is placed on protecting them and their honor (Ajami, Rasmi, Abudabbeh, 2016). Therefore, men tend to be provided more freedom and authority than women. Ajrouch (1999), as well as preliminary data from MENA focus groups in the current study, demonstrated that women and men both report that males are given greater social freedom than females, and parents exert greater control over females. Therefore, MENA American women are likely to report experiencing greater parental control than MENA American men; however, no research to date has examined the unique relation between authoritarian behaviors and adjustment across MENA American youth gender.

While the current literature provides important insight on MENA parenting behaviors and youth adjustment, there remain important gaps in the literature. First, current data on MENA parenting and offspring adjustment comes from research conducted in the Middle East and

Canada. More work is needed to understand how these effects translate for MENA youth living in the U.S. and consider varying levels of immigration and acculturation. No studies to date have examined how the relation between MENA American parenting behaviors on adjustment may be moderated by important within-group differences, such as youth American and Arabic orientation, as well as gender. Further, current studies focus on maternal parenting, and research is needed with both mothers and fathers (Rudy & Grusec, 2006; Ahmad, Vansteenkiste, & Bart Soenens, 2013). Finally, current research focuses on mental health outcomes and indicators, and does not assess how parenting may impact indicators of physical health.

While measures used with other ethnic minorities in the U.S. may be useful with a MENA sample as they may share commonalities, more work is needed to develop culturally sensitive parenting measures for the MENA population. A previous study validated the parental acceptance subscale of the Child Report of Parenting Behaviors Inventory (CRPBI) with a Palestinian sample in Palestine ($\alpha = .83$ and $\alpha = .84$ for mothers and fathers respectively; Barber et al., 2005); however, more measurement work is needed to validate the original CRPBI scales with a MENA sample in the U.S., as well as assess the varying ways in which MENA mothers and fathers parent their children. For example, MENA mothers and fathers may express acceptance, harsh parenting, and control in other forms not captured in the current CRPBI measure that was validated and developed with ethnic majority samples.

The current study had several aims. First, preliminary analyses consisted of measurement analysis of the original CRPBI items with new items informed by MENA focus groups to create more culturally-relevant mother and father parenting scales. Second, using the resulting parenting scales, the current study examined the relation between maternal and paternal parenting (i.e., acceptance, rejection, control, and harsh parenting) and MENA youth mental

health (stress, depression, and anxiety symptoms) and physical health (perceptions of general health, pain, and somatic symptoms). Higher levels of maternal and paternal acceptance were hypothesized to be associated with better mental and physical health outcomes; higher levels of rejection, harsh parenting, and control were hypothesized to be unrelated to mental and physical health outcomes given previous literature suggesting a weaker association between authoritarian parenting and maladjustment among Arab youth compared to Western youth (Rasmi, Chuang, & Safdar, 2012). Second, the current study assessed whether youth levels of American orientation and Arabic orientation moderated the relation between maternal and paternal parenting behaviors and youth mental and physical health. It was hypothesized that the relation between rejection, control, and harsh parenting and mental and physical health would be exacerbated and more negative for MENA youth with higher American orientation, and less exacerbated and less negative for youth with higher Arabic orientation. Third, the current study assessed whether youth gender moderated the relation between maternal and paternal parenting behaviors and youth mental and physical health. It was hypothesized that MENA females would report greater control than MENA males; however, due to scant research on the link between parenting on adjustment across MENA youth gender, exploratory analyses examined whether the relation between acceptance, rejection, control, and harsh parenting and mental and physical health differed between MENA males and females.

Method

Participants

Survey data was collected from a sample of 366 English-speaking MENA young adults. Eligibility included individuals who had at least one biological parent that ethnically identified as

MENA, and being 18-25 years. An a-priori decision was made to retain responses in which either the parenting predictors or mental and physical health outcome data was completed, resulting in 34 cases with partial data. Several cases were excluded for various reasons. Prior to the start of the study, pre-tests indicated that the minimum time required for valid completion of the electronic survey was at least 20 minutes. After about a third of data collection was completed, attention checks were implemented in the surveys by including two items at about a third and two-thirds of the way into the survey (e.g., "Please press 2 if you are reading this question.") An a-priori decision was made to retain the data if two quality criteria were met: survey responses were at least 20 minutes, and if participants passed both attention checks (for surveys that did not receive attention checks, data was retained if the survey was completed in at least 20 minutes). Fifty cases did not pass both quality criteria and were excluded from the analyses. In addition, one case was removed due to odd, eccentric answers to several open-ended survey questions, and one case was removed due to reporting both mother and father ethnicities that were not MENA.

The final sample consisted of 314 surveys from MENA young adults (56% female, M_{age} = 20 years, *SD* = 2 years). Surveys were sampled from states across the U.S., and included youth from Arizona, California, Texas, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Massachusetts, Michigan, Minnesota, Nevada, New York, South Carolina, Tennessee, and Washington. The sample consisted of youth with parents' family-of-origin from diverse areas in the Middle East (see Table 1). Demographic information of the sample including student status, current living arrangements, biracial/biethnic status, religious affiliation, perceived social class, birth country, and generational status are displayed in Table 2. For youth who reported they were born outside of the U.S., M_{age} of immigration to the U.S. was 8 years (*SD* = 5 years), ranging

from 1 to 18 years old. Youth reported a median annual household income of $75,001 - $100,000 per year (range between under $25,000 per year and greater than $1 million per year). On the MacArthur Scale of Subjective Social Status (Goodman et al., 2001), a measure of subjective social status in which 10 indicates the highest status (represented by people in the U.S. with the most education, money, and respected jobs) and 1 indicates the lowest status, most MENA youth (63%) ranked their family between a 5 to 7 out of 10 (reported range 1 - 10).

Measures

Demographics. Demographic information included participants' gender, age, ethnicity, university of attendance, international student status (as applicable), parents' ethnic identification, mother and father countries of origin, parents' country of birth and country of current residence, parents' marital status, participant country of birth, year of immigration to the U.S. (as applicable), medical conditions, current marital and employment status, current living arrangements, and objective and subjective socioeconomic indicators such as family's gross household income, parents' highest level of education, and subjective social status.

Parenting. Participants reported separately on mothers and fathers using adapted versions of Child Report of Parenting Behavior Inventory (CRPBI; Schaefer, 1965; Schludermann & Schludermann, 1970), and separately for parenting behaviors experienced in childhood (anchored by participants' "elementary school years, ages 6 – 11 years") and in adolescence (anchored by participants' "middle and high school years, ages 12 – 18 years"). The CRPBI measure included 8 items assessing acceptance (e.g., "Your mother made you feel better after talking over your worries with her"), 5 items assessing rejection (e.g., "Your mother criticized what you did"), 10 items assessing control (from the Schludermann & Schludermann, 1970,

abridged 30-item scale; e.g., “Your mother lets you go any place you please without asking” and “Your mother insists you must do exactly as you are told”), and 7 items assessing harsh parenting (e.g., “Your mother got so mad at you she called you names” and “Your mother hit or slapped you when you did something wrong.”). Participants responded on a 5-point Likert scale ranging from 1 = *Almost never or never* to 5 = *Almost always or always*.

The CRPBI has shown acceptable reliability and validity among other ethnic minority samples, such as with Latino youth (e.g., α = .84 for acceptance and α = .79 for rejection; Knight & Hill, 1998). White et al. (2009) also demonstrated that the acceptance subscale demonstrates adequate model fit for the measurement model, with items loading at 0.40 and above on a latent acceptance factor for both Spanish- and English-speaking Latino youth, suggesting adequate model fit across varying acculturation levels. The harsh parenting scale was developed from qualitative research on low-income Hispanic and African American samples (Dumka, Gonzales, Wood, & Formoso, 1998), and has been validated in previous research with a Hispanic sample (α ranging from.71 - .73 for mothers and fathers; Gonzales et al., 2011). Reliability of the subscales with the original CRPBI items was also adequate with the current sample (mother childhood scales α = .82 - .94, mother adolescence scales α = .84 - .95, father childhood scales α = .83 - .95, father adolescence scales α = .86 - .96).

In efforts to create a culturally sensitive parenting measure for the MENA population, new parenting items were included that were derived from preliminary focus groups consisting of MENA young adults answering open-ended questions on their parenting experiences. Examples of focus group questions included, “What did your [mother/father] do to show s/he cares about you?” and “What did your [mother/father] do when s/he was upset with you?” to coincide with the original CRPBI subscales. New items were reported on for both mothers and

fathers, as well as during childhood and adolescence (see Appendix A for new items). Initial reliability testing of the original and *all* newly included items demonstrated that all subscales had adequate reliability (mother childhood scales α = .82 - .95, mother adolescence scales α = .84 - .94, father childhood scales α = .87 - .95, and father adolescence scales α = .86 - .96). Combined scores of parenting subscales were created by taking the mean of the original and newly included items that resulted from measurement analysis, in which higher scores reflect higher levels of acceptance, rejection, harsh parenting, and control.

Mental health. Participants reported on their symptoms of stress, depression, anxiety in the past week using the Depression, Anxiety, and Stress Scale (DASS 21; Lovibond & Lovibond, 1995). The DASS is a self-report scale designed to measure the severity of a range of symptoms common to both Depression and Anxiety, which is relevant to capture the range of symptoms for a normative, non-clinical sample. Sample items for depression included, "I couldn't seem to experience any positive feeling at all," for anxiety included, "I was scared without any good reason," and for stress included, "I found it hard to wind down." Participants responded on a scale from 1 = *Never* to 4 = *Almost Always*. The DASS demonstrated adequate psychometric properties in a large, representative sample (α = .91 for Depression, α = .81 for Anxiety, and α = .89 for Stress), as well as adequate model fit for factor structures for each subscale using confirmatory factor analysis (Lovibond & Lovibond, 1995). Depression, anxiety, and stress subscales were created by taking the sum of the items, and higher scores reflect higher symptoms. Reliability of each subscale with the current sample was also adequate (stress α = .88, depression α = .91, and anxiety α = .84).

Physical Health. Participants completed the general health and bodily pain subscales from the Short Form Health Survey, a widely-used brief, reliable and valid instrument (SF-12;

Ware, Kosinski, & Keller, 1996). Prior analyses with a mixed ethnic young adult sample (Ibrahim et al., manuscript under review) found that two items ("Compared to one year ago, how would you rate your health in general now?" and "I expect my health to get worse") had poor loadings, and scale reliability increased when they were removed; thus, they were dropped from current analyses. The remaining four items assessed general health perceptions with 5-point response scales (e.g., for "In general, how would you describe your health right now?" responses ranged from 1 = *Excellent* to 5 = *Poor*). For bodily pain, young adults reported on two items measuring their frequency of bodily pain in the past 4 weeks (rated from 1 = *None* to 6 = *Very Severe*), and how much it interfered with their work both in and outside the home (rated from 1 = *Not at all* to 3 = *Quite a bit*). Items were recoded from 0 to 100 following instructions available at https://www.rand.org/health/surveys_tools/mos/36-item-short-form/scoring.html. Higher scores indicate better general health and fewer pain reports. General health perceptions and pain subscales were created by taking the mean of the items, and demonstrated adequate reliability with the current sample (general health $\alpha = .79$ and pain $\alpha = .77$).

Participants reported on their experiences of somatic symptoms using the somatization subscale from the Symptom Checklist 90-R (SCL-90-R; Derogatis, 1994), a widely-used, reliable and valid measure of perceptions of bodily dysfunction in the past seven days. Example items included, "In the past seven days, how much have you been bothered or distressed by headaches?" "Nausea or upset stomach?" "Soreness in your muscles?" with response scales ranging from 0 = *Not at all* to 4 = *Extremely*. Items were summed to create a combined somatization score, with higher scores indicating a higher frequency of somatic symptoms. Somatization also demonstrated adequate reliability with the current sample ($\alpha = .90$).

American and Arabic orientation. Participants reported on the 30-item Acculturation Rating Scale for Arab Americans (ARSAA-II), a modified version of the Acculturation Rating Scale for Mexican Americans (ARSMA-II; Cuellar, Arnold, & Maldonado, 1995) adapted for Arab Americans (Jadalla & Lee, 2013). Factor analysis of the ARSAA-II demonstrated a two factor-structure: Attraction to American Culture (AAmC), and Attraction to Arabic Culture (AArC), both of which showed adequate reliability (.89 and .85 respectively) among an Arab American sample (Jadalla & Lee, 2013). Items assess an individuals' behavioral engagement in activities associated with American culture (e.g., "I enjoy listening to music in English") and Middle Eastern culture ("I enjoy listening to music in Arabic"), as well as individuals' and their parents' ethnic identification (e.g., "My father identifies or identified himself as Arab"). Items were edited from the term "Arab" to "Arab, Middle Eastern or North African" to be more inclusive. Participants responded to items on a 5-point Likert scale ranging from 1 = *Not at all* to 5 = *Extremely often or almost always*. Combined scores were created by taking the mean of the items, and higher scores reflect higher orientation to American or Arabic culture. Both scales demonstrated adequate reliability in the current sample (AArC $\alpha = .92$ and AAmC $\alpha = .81$). The subscales also demonstrated appropriate construct validity as higher generational status (e.g., third- and fourth-generation immigrants) was associated with higher American orientation ($r = .15$, $p = .019$) and lower Arabic orientation ($r = -.35$, $p < .001$), and being born outside the U.S. was associated with lower American orientation ($r = -.15$, $p = .024$) and higher Arabic orientation ($r = .27$, $p < .001$). The two subscales, American orientation and Arabic orientation, had a weak negative correlation ($r = -.24$, $p < .001$).

Procedure

IRB approval was obtained from Arizona State University (ASU) before the start of data collection. Recruitment was primarily conducted through ASU by distributing the survey to relevant student organizations (e.g., Lebanese Student Association, Assyrian Student Association, Omani Student Association), through Arabic and Middle Eastern studies professors, posting advertisements on the university webpage, and using the ASU Introduction to Psychology subject pool. A snowball sampling strategy (Sadler, Lee, Lim, Fullerton, 2010) was used in which participants who had completed the survey were asked whether they consent to provide their emails to pass along the survey to other youth who may be eligible. To facilitate community recruitment, fliers were posted in Arabic restaurants, marketplaces, and religious organizations in Arizona, and the survey was distributed to mosques and Middle Eastern churches (e.g., Coptic, Chaldean, Antiochian) in Arizona and across the country either electronically, through personal contacts of the author, or through personal visits based on the organizations' preference. The survey was also distributed through the MENA-Psychology listserv, and posted on relevant Facebook pages (e.g., Network of Arab American Professionals, Southern Federation of Syrian Lebanese American Clubs, Arab American Associations).

The large sampling of students in the current sample aligns with statistics from the Arab American Institute (AAI) suggesting many MENA Americans pursue a college degree (e.g., 45% of Arab Americans have a college degree or higher compared to 27% of the general American population, and of the Arab school-aged population, 32% of youth were enrolled in college or undertaking graduate studies compared to the general American population average of 10%; AAI, n.d.). Also, the use of electronic surveys, and recruitment through colleges, student and professional organizations contributed to the high rates of the students in the current sample. Table 3 displays frequencies of the total sample that were recruited from each strategy; 34% of

the sample was recruited from community approaches (snowball sampling, fliers in the community, religious organizations, MENA psychology listserv, and Facebook groups), and 68% were recruited through ASU.

Upon agreeing to informed consent, participants were asked to complete surveys either online or on paper. Twelve surveys were completed on paper (4%), and the remaining were completed electronically. Surveys asked participants to report on demographic information, retrospectively recall their parents' behaviors, their own American and Arabic orientation, and current mental and physical health symptoms. Participants who completed the surveys in-person during student organization meetings were reimbursed with a provided meal; participants who completed electronic surveys were reimbursed with a $5 Starbucks or Amazon gift card of their choice, or with course credit for ASU Introduction to Psychology students.

Data Analysis

Preliminary analysis.

Preliminary analysis included the means, standard deviations, and skewness and kurtosis of the primary study variables. Zero-order correlations were conducted between mother and father parenting in childhood and adolescence, and between parenting, outcomes, and key demographic variables (income and religion) to identify potential confounds. Analysis of the correlations were used to determine combining scales; correlations that were statistically significant and had a correlation of $r \geq .40$ were combined into latent variables. Additionally, correlations and ANOVAs with post-hoc testing were conducted to assess whether important sample characteristics (e.g., reporting on a non-biological parent, recruitment method, and student status) were related to primary study variables and missing data.

Psychometric and primary data analyses were conducted with Mplus v. 8.2 (Muthén & Muthén, 2017). Measurement models of the parenting subscales were assessed using confirmatory factor analysis (CFA) to validate the factor structure and assess the item loadings of the original CRPBI parenting items on the MENA sample combined with the new added items informed by focus groups. Model fit statistics (RMSEA $\leq$ .08 and CFI $\geq$ .90) were used to determine the number of total factors, as well as the appropriate items within each factor (Hu & Bentler, 1999), along with an evaluation of the substantive content of the items. Due to the ordered-categorical nature of the parenting items which consisted of five response categories, modified weighted least squares mean/variance adjusted (WLSmv) estimation was used in the structural equation models (Wirth & Edwards, 2007). The final parenting factors resulting from the psychometric analyses were used in the structural equation models in the primary data analyses, and all preliminary analyses used combined parenting scales using items retained after final measurement analyses.

Primary data analysis.

Aim 1. In order to assess the main effects of MENA youth-reported maternal and parenting on mental and physical health, structural equation modeling was used to model the paths from acceptance, rejection, harsh parenting, and control latent factors separately for mothers and fathers to predict mental (stress, anxiety, and depression) and physical health (general health perceptions, pain, and somatization) latent factors.

Aim 2. In order to assess whether the associations between maternal and paternal parenting latent factors were moderated by youth levels of American orientation and Arabic orientation, structural equation modeling was used to model the paths from acceptance, rejection,

harsh parenting, and control latent factors separately by each parenting behavior and separately for mothers and fathers to predict mental and physical health latent outcomes including the main effects and latent by latent interaction terms for each parenting behavior with American and Arabic orientation latent factors. In the case of a significant interaction, post-hoc probing was conducted by examining the simple slopes at one *SD* above and below the means of the parenting, American orientation and Arabic orientation (Aiken & West, 1991). In addition, the Johnson-Neyman procedure was conducted to identify regions of significance on the moderator, i.e., the values of American or Arabic orientation, at which the simple slopes of the association between parenting and health were statistically significant (Preacher, Curran, & Bauer, 2006).

Aim 3. The third aim examined whether males and females reported significantly different mean levels of mother and father parenting tested by individual sample t-tests, as well as correlations between parenting and health within male and female subgroups; both t-tests and correlations used the combined parenting scales using items retained after measurement analyses. Additionally, a multigroup structural equation model assessed whether the paths from parenting latent factors to mental and physical health latent factors were significantly different from zero for each gender, separately for mothers and fathers. The model assumed measurement invariance across gender by constraining the unstandardized measurement models to be equal across males and females. Finally, this aim examined whether youth gender moderated the relation between maternal and paternal parenting and youth mental and physical health. Structural equation modeling was used to model the path from acceptance, rejection, harsh parenting, and control latent factors to predict mental and physical health latent outcomes using the multigroup method, and comparing model fit when constraining and unconstraining the estimates of the paths for males and females by examining the chi square difference test (Satorra & Bentler, 2001). In the

case of a significant chi square difference test, which would suggest males and females are statistically different from each other, estimates in the male versus female group would be plotted and compared.

Results

Preliminary Analysis.

Table 4 presents the means, standard deviations, skewness and kurtosis, and possible and actual ranges of the primary study variables. Skewness and kurtosis of all study variables fell within the acceptable range (skewness cut-off < 2 and kurtosis cut-off < 7; West, Finch, & Curran, 1995). In comparison to population norms of the DASS, values that fall within the mild to extremely severe ranges indicate scores that are higher than the population mean, and in which higher values indicate greater disturbance that may indicate risk for disorder (although the DASS is not a clinically diagnostic measure; Lovibond & Lovibond, 1995). Table 5 presents the frequencies of stress, depression, and anxiety of MENA young adults according to DASS 21 population norms.

Table 6 presents zero-order correlations between mother and father parenting subscales (acceptance, rejection, harsh parenting, and control) split by childhood and adolescence. Table 7 presents zero-order correlations between mother and father parenting, separated by childhood and adolescence, outcome variables (stress, anxiety, depression, general health perceptions, pain, somatization), moderators (American orientation, Arabic orientation, and gender), and key demographic variables (income and religion). Income and religion were both unrelated to the study outcomes, and therefore were not included in the primary analysis.

Most youth indicated they were reporting on either their biological mother or father; however, n = 10 (3%) and n = 12 (4%) reported on a different female figure that played the

primary role as their mother in childhood and adolescence (e.g., aunt, grandmother, stepmother). For fathers, n = 12 (4%) reported on a different male figure that played the primary role as their father in childhood and adolescence (e.g., stepfather, grandfather, or uncle). MENA youth who reported on a non-biological mother in adolescence were more likely to report less maternal acceptance in childhood (r = -.116, p = .047) and adolescence (r = -.175, p = .003), and more maternal rejection in adolescence (r = .163, p = .006). MENA youth who reported on a non-biological father in childhood were more likely to report less father acceptance in childhood (r = -.164, p = .007) and adolescence (r = -.173, p = .005), and more father rejection in childhood (r = .132, p = .032) and adolescence (r = .185, p = .003). MENA youth who reported on a non-biological father in adolescence were more likely to report more maternal rejection in adolescence (r = .129, p = .035) and less father acceptance in childhood (r = -.157, p = .011). Additionally, MENA youth who reported on a non-biological mother in childhood and adolescence reported less American orientation (r = -.121, p = .042, and r = -.187, p = .002, respectively). Reporting on a non-biological parent was unrelated to all mental and physical health outcomes.

In order to assess whether recruitment method and student status were associated with primary study variables, ANOVA and post-hoc tests, as well as correlations were conducted. Recruitment method was associated with reports of maternal control in adolescence, F(6, 273) = 3.53, p = .002, such that those who were recruited from religious organizations (M = 3.45, SD = .84) reported higher maternal control in adolescence than those recruited from the ASU Intro to Psychology subject pool (M = 2.95, SD = .89; p = .005) and student organizations (M = 2.78, SD = .79; p = .011). Recruitment method was also associated with Arabic orientation, F(6, 276) = 9.50, p < .001, such that those recruited from ASU Intro to Psychology (M = 2.95, SD = .98)

reported lower Arabic orientation than those recruited from Facebook (M = 3.80, SD = .82), religious organizations (M = 3.58, SD = .72), and student organizations (M = 3.63, SD = .68). In addition, those recruited from ASU professors/ASU advertising (M = 2.66, SD = .95) reported lower Arabic orientation than those recruited from Facebook, religious organizations, and student organizations. In general, student status was not associated with any of the primary study variables; however, ASU student status was associated with lower reported maternal harsh parenting (r = -.12, p = .045), less somatization (r = -.27, p < .001), and lower Arabic orientation (r = - .28, p < .001). Besides the association between ASU student status and somatization, recruitment method and student status were unrelated to mental and physical health subscales.

Analyses of missing data. MENA young adults were given the option to check whether they could not answer questions about each parent due to not having contact with that parent in childhood or adolescence. This resulted in 16 youth who did not report on mother parenting in childhood, 9 youth who did not report on mother parenting in adolescence, 18 youth who did not report on father parenting in childhood, and 22 youth who did not report on father parenting in adolescence. Furthermore, two youth with partial data left mother childhood items blank (resulting in 18 total cases without mother parenting in childhood data, n = 296), 24 youth with partial data left all mother adolescence items blank (resulting in 33 total cases without mother parenting in adolescence data, n = 281), 31 youth with partial data left father childhood items blank (resulting in 49 total cases without father parenting in childhood data, n = 265), and 32 youth with partial data left all the father adolescence items blank (resulting in 54 cases without father parenting in adolescence data, n = 260). Additionally, 30 of the partial cases were missing on all mental and physical health and acculturation items, resulting in n = 284 on these variables. In mother parenting and health models, 2 cases were missing on all variables and were excluded

from the analyses, and in father parenting and health models, 29 cases were missing on all variables and were excluded from analyses. Due to the ordered-categorical data nature of the parenting items, the remaining data was estimated using WLSmv estimation (Asparouhov & Muthen, 2010).

In order to assess whether recruitment method, student status, and other demographic variables were associated with missing data, ANOVA and post-hoc tests, as well as correlations were conducted. MENA young adults who indicated that they were not currently attending school were more likely to have missing data on mother parenting in adolescence (r = .12, p = .04). Recruitment method was associated with missing data on mother parenting in adolescence, $F(7, 206) = 3.81$, p = .001, father parenting in childhood, $F(7, 306) = 2.53$, p = .015, and father parenting in adolescence, $F(7, 306) = 2.40$, p = .021. Analyses of post-hoc comparisons showed that those recruited from snowball sampling (n = 3) were more likely to be missing on mother parenting in adolescence data than those recruited from all other recruitment methods (p's $\leq$ .05) except fliers and the AMENA Psychology listserv (p's > .1); none of the post-hoc contrasts for father parenting were statistically significant. Recruitment method was also associated with missing outcome data, $F(7, 306) = 5.80$, $p < .001$. Post-hoc comparisons showed that those recruited from Intro to Psychology subject pool were less likely to be missing on outcome data than those recruited from ASU professor/ads (p = .015), fliers (p = .048), snowball sampling (p = .002), and religious organizations (p = .002); additionally, those recruited from snowball sampling were more likely to have missing outcome data than those recruited from Intro to Psychology (p = .002), Facebook (p = .017), ASU professor/ads (p = .047), and student organizations (p = .005). Participants with missing data on primary study variables did not differ from those with complete data with respect to gender, income, and generational status.

Analyses of outliers. Two cases had values on anxiety, depression, and somatization that were 3 *SD* above the sample mean, two cases had values on anxiety and somatization only that were 3 *SD* above the sample mean, and one case had values on depression only that was 3 *SD* above the sample mean. Analyses was repeated removing these five cases: in the mother parenting model, the association between maternal acceptance to mental health became marginally significant ($p = .056$) when it was previously significant with those cases included ($p = .040$), and the association between maternal rejection to physical health became marginally significant ($p = .089$) when it was previously significant with those cases included ($p = .037$); however, the direction of parameter estimates and remaining pattern of results did not change. When these cases were removed in the father parenting model, all results remained the same except for the association between paternal acceptance to mental health, which became statistically significant ($p = .031$) when it was previously marginally significant when those cases were included ($p = .068$); the direction of parameter estimates and remaining pattern of results did not change. Given that the direction of estimates and pattern of results generally did not change, these five cases were retained in the analyses.

Measurement analysis.

Parenting. Psychometric analysis was conducted on the mother and father parenting measures separately for childhood and adolescence, including validation of the factor structure and assessment of item loadings using confirmatory factor analysis (CFA) of the original CRPBI parenting items including the newly added items informed by focus groups. Given the content discussed by the focus groups, newly added items were included in the acceptance, harsh parenting, and control subscales only; rejection consisted of only the original items.

Table 8 presents the final factor solutions for youth reports of mother parenting in childhood including both original CRPBI items and newly included items informed by focus groups. For reports of mother parenting in childhood, three reverse coded items (item 37 "Your mother was easy with you", item 38 "Your mother let you off easy when you did something wrong", and item 39 "Your mother let you do anything you liked to do") in the control subscale were removed due to relatively poor item loadings (0.5, 0.3, and 0.3 respectively), and item loadings for the remaining items significantly improved when these items were removed. In addition, item 36 ("Your mother gave hard punishment") loaded better onto the harsh parenting factor than the control factor, and was moved. The final factor solutions presented in Table 8 for youth reports of mother parenting in childhood had adequate model fit (RMSEA = .064, 90% CI [0.060, 0.069], CFI = 0.951).

Table 8 also presents the final factor solutions for youth reports of father parenting in childhood. Results of the father childhood factors were similar to the mother childhood factors (i.e., reverse coded items loaded relatively poorly at 0.6, 0.5, and 0.4 respectively, and item 36 "Your father gave harsh punishment" loading better onto harsh parenting than control); therefore, the same changes were made to the father childhood items as mother childhood. The final factor solution presented in Table 8 for youth reports of father parenting in childhood had adequate model fit (RMSEA = .073, 90% CI [0.068, 0.077], CFI = 0.956).

Table 9 presents the final factor solutions for youth reports of mother parenting in adolescence. Similar to the final mother childhood solutions, item 37 "Your mother gave hard punishment" loaded better on the harsh parenting factor than the control factor, and was moved. Reverse coded items on the control factor also tended to load relatively poorly (loadings 0.3 – 0.6), and when removed from the model, item loadings significantly improved. In addition, three

items on the control subscale (item 44 “Your mother was strict about who your friends were or who you spent time with,” item 46 “Your mother was strict about your interactions with the opposite sex,” and item 48 “Your mother had strict rules about dating and intimate relationships”) loaded relatively poorly (0.5, 0.6, 0.5, respectively). These three items also appeared to be substantively different from the remaining control items as they assessed parental control in specific areas (e.g., with friends and the opposite sex), whereas the remaining items assessed general strictness. Therefore, these three items were removed from the control subscale. The final factor solution presented in Table 9 for youth reports of mother parenting in adolescence had adequate model fit (RMSEA = .070, 90% CI [0.066, 0.075], CFI = 0.950).

Finally, Table 9 also presents the final factor solutions for youth reports of father parenting in adolescence. Results of the father adolescence factors were similar to the mother adolescence factors (i.e., reverse coded items loaded relatively poorly between 0.3 – 0.6, and item 37 “Your father gave harsh punishment” loading better onto harsh parenting than control); therefore, the same changes were made to the father adolescence model as mother adolescence. Once exception was that items 44, 46, and 48, which loaded relatively poorly in the mother adolescence control factor did not load poorly in the father adolescence control factor (.5, .8, .8, respectively); however, due to the substantively different content of these three items compared to the remaining items (i.e., assessing control in specific areas compared to general strictness), these items were also removed from the father adolescence control factor. The final factor solution presented in Table 9 for youth reports of father parenting in adolescence had adequate model fit (RMSEA = .082, 90% CI [0.077, 0.086], CFI = 0.944).

Reliability of the final CRPBI subscales combining the original and newly included items that were retained after measurement analyses remained acceptable (mother childhood scales α =

.80 - .94, mother adolescence scales α = .84 - .96, father childhood scales α = .83 - .95, and father adolescence scales α = .88 - .96).

Given that the analysis of the measurement models for mother childhood and mother adolescence, and father childhood and father adolescence, indicated each parent had the same four factor parenting solution and items loadings were similar across childhood and adolescence models, latent variables were created combining the mother childhood and adolescence items into mother parenting factors, and father childhood and adolescence items into father parenting factors. In addition, an a-priori decision was made to combine subscales with statistically significant correlations with $r \geq .40$; all correlations across childhood and adolescence within each parent were highly correlated (r's $\geq .7$, $p < .001$), providing further support to combine the childhood and adolescence items into the final four factor solution for mothers and fathers. The resulting measurement models combining childhood and adolescence items into the four factor solutions for mothers and fathers had adequate model fit (mother model: CFI = 0.927, RMSEA = .054, 90% CI [.052, .056], SRMR = .077; father model: CFI = 0.925, RMSEA = .064, 90% CI [.062, .066], SRMR = .081) and were used in all subsequent structural equation models for the primary analyses.

Mental and physical health. The combined scores of stress, depression, and anxiety were highly correlated (r's $\geq .8$, $p < .001$), and were included as indicators on a mental health latent factor. The resulting measurement model for mental health was a fully saturated model (RMSEA = .000, 90% CI [.000, .000], CFI = 1.00, SRMR = .000), and all three indicators loaded highly (0.8 and above) in the expected directions. The combined scores of general health perceptions, pain, and somatization were also correlated (r's $\geq .4$, $p < .001$), and were included as indicators on a physical health latent factor. The resulting measurement model for physical health was also

a saturated model, and all three indicators loaded highly (0.6 and above) in the expected directions.

American and Arabic orientation. A CFA was conducted to evaluate a two-factor solution for the ARSAA measure (American orientation and Arabic orientation), which was previously validated with an Arab sample by Jadalla & Lee (2013). Results of the measurement model for Arabic orientation had adequate model fit with the current sample (RMSEA = .097, 90% CI [0.087, .0108], CFI = 0.973, SRMR = .061), and all items loaded highly (0.5 and above) in the expected directions. Analysis of the measurement model for American orientation indicated that item 29 ("You identify as Anglo-American," loading = 0.4) was significantly affecting model fit, and model fit significantly improved when this item was removed. Further, this item loaded poorly (0.14) in previous findings by Jadalla & Lee (2013). The authors provided recommendations for future studies to avoid using the terms "Anglo-American" as it may not be widely understood among the Arab and MENA community, and recommended using "Caucasian/White American," which was more widely understood in their pilot testing among an Arab community (Jadalla & Lee, 2013). After removing this item, the resulting measurement model for American orientation had adequate model fit (RMSEA = .092, 90% CI [.077, .107], CFI = .940, SRMR = .062), and all items loaded well (0.4 and above) in the expected directions.

Primary Analyses.

Aim 1. To assess the main effects of maternal and paternal parenting on mental and physical health, structural equation modeling was used to model the relation between the latent factors of acceptance, rejection, harsh parenting, and control and latent factors of mental and physical health, separately for mothers and fathers. Figure 1 presents the model for mother

parenting, which had adequate model fit (χ^2 (3144) =5578.64, $p < .001$, CFI = .925, RMSEA = .050, 90% CI [0.048, 0.052], SRMR = 0.074). Higher youth-reported maternal acceptance was associated with lower mental health symptoms (β = -.143, p = .036), and higher maternal harsh parenting was associated with higher mental health symptoms (β = .292, p = .011); maternal rejection and control did not have a statistically significant association with mental health. Higher maternal rejection was associated with poorer physical health (β = -.204, p = .033), and maternal acceptance, harsh parenting, and control did not have a statistically significant association with physical health.

Figure 2 presents the model for father parenting, which had adequate model fit (χ^2 (3144) =6198.47, $p < .001$, CFI = .921, RMSEA = .058, 90% CI [0.056, 0.061], SRMR = 0.079). Higher father rejection was associated with higher mental health symptoms (β = .264, p = .033) and poorer physical health (β = -.306, p = .003), and higher father acceptance was marginally associated with lower mental health symptoms (β = -.111, p = .067); paternal harsh parenting and control did not have a statistically significant association with mental or physical health, and paternal acceptance did not have a statistically significant association with physical health.

Aim 2. To assess whether the association between maternal and paternal parenting on mental and physical health was moderated by youth levels of American orientation, structural equation modeling was used to model the relation between latent factors of acceptance, rejection, harsh parenting, and control and latent outcomes of mental and physical health, separately for mothers and fathers, and separately for each parenting behavior, by including the main effects of each parenting behavior latent factor, American orientation latent factor, and the interaction of parenting and American orientation latent factors. None of the interactions between maternal and

paternal acceptance, rejection, harsh parenting, and control and American orientation on mental and physical health were statistically significant (p's > .10) (results presented in Table 10).

To assess whether the association between maternal and paternal parenting on mental and physical health was moderated by youth levels of Arabic orientation, structural equation modeling was used to model the relation between latent factors of acceptance, rejection, harsh parenting, and control and latent outcomes of mental and physical health, separately for mothers and fathers, and separately for each parenting behavior, by including the main effects of each patenting behavior latent factor, Arabic orientation latent factor, and the interaction between parenting and Arabic orientation latent factors (results presented in Table 11).

The interaction of maternal acceptance and Arabic orientation on physical health was statistically significant (β = .173, p = .006), and the interaction was marginally significant on mental health (β = -.093, p = .076). Post hoc probing was conducted by evaluating the simple slopes at the means of maternal acceptance and Arabic orientation at 1 *SD* above and below the means of the two variables (Aiken & West, 1991). The simple slopes of the effect of maternal acceptance on physical health were significant for above average Arabic orientation, (b = 0.022, p < .001), at the mean of Arabic orientation, (b = 0.015, p < .001), and for below average Arabic orientation, (b = 0.007, p = .041). As shown in Figure 3, MENA young adults who had above average Arabic orientation showed the best physical health at higher levels of maternal acceptance, and the worst physical health at lower levels of maternal acceptance. MENA young adults who had below average Arabic orientation showed the best physical health at lower levels of maternal acceptance, and the worst physical health at higher levels of maternal acceptance. Analyses of the regions of significance indicated that the association between maternal acceptance and physical health was positive and statistically significant at above -4 *SD* on the

Arabic orientation latent factor (see Figure 4). Based on the distribution of the Arabic orientation factor scores, no one in the current sample fell below this range, indicating that at all values of Arabic orientation, there was a positive and statistically significant association between maternal acceptance and physical health.

The interaction of maternal control and Arabic orientation on physical health was also statistically significant (β = -0.002, p = .010). The simple slopes of the effects of maternal control on physical health were statistically significant for above average (b = -0.037, p < .001) and average Arabic orientation, (b = -0.021, p < .001), but not for below average Arabic orientation, (b = -0.005, p = .478). As shown in Figure 5, MENA young adults who had above average Arabic orientation showed the best physical health at lower levels of maternal control and the worst physical health at high levels of maternal control. Analyses of the regions of significance indicated that the association between maternal control and physical health was positive and statistically significant at extremely low levels of the Arabic orientation latent factor (below -4.2 *SD* on Arabic orientation), a level not represented in the current sample. In contrast the association between maternal control and physical health was negative and statistically significant at average and higher levels of Arabic orientation (above -0.6 *SD* of Arabic orientation) (see Figure 6). Based on the distribution of the Arabic orientation factor scores, about 78% of the sample was above -0.6 *SD* on Arabic orientation.

For fathers, all four paternal parenting behaviors (acceptance, rejection, harsh parenting, and control) showed a statistically significant interaction with Arabic orientation in the association with physical health. The interaction between father acceptance and Arabic orientation on physical health was statistically significant (β = -.002, p = .049). The simple slopes of the effect of father acceptance on physical health were significant for above average

Arabic orientation, (b = 0.027, p < .001), and average Arabic orientation, (b = 0.016, p = .002), but not for below average Arabic orientation, (b = 0.006, p = .440). As shown in Figure 7, MENA young adults who had above average Arabic orientation showed the best physical health at higher levels of father acceptance, and the worst physical health at lower levels of father acceptance. Analyses of the regions of significance indicated that the association between father acceptance and physical health was positive and statistically significant at above -0.4 *SD* of Arabic orientation (see Figure 8); based on the distribution of the Arabic orientation factor scores, 71% of the sample was above this range.

The interactions between father rejection (β = -.003, p = .027), father harsh parenting (β = -.003, p = .003), and father control (β = -.002, p = .013), and Arabic orientation on physical health were also statistically significant. The simple slopes of the effect of father rejection on physical health were significant for above average Arabic orientation, (b = -0.050, p < .001), average Arabic orientation, (b = -0.034, p < .001), and below average Arabic orientation, (b = -0.018, p = .014). As shown in Figure 9, MENA young adults who had above average Arabic orientation showed the worst health at higher levels of father rejection, and the best health at lower levels of father rejection. In contrast, MENA young adults who had below average Arabic orientation showed the best health at higher levels of father rejection, and the worst health at lower levels of father rejection. Analyses of the regions of significance indicated that the association between father rejection and physical health was negative and statistically significant at above about -1 *SD* of the Arabic orientation latent factor (see Figure 10); based on the distribution of the Arabic orientation factor scores, about 86% of the sample was in this range.

The simple slopes of the effect of father harsh parenting on physical health were statistically significant at above average (b = -0.039, p < .001) and average Arabic orientation (b

= -0.023, $p < .001$), but not below average Arabic orientation (b = -0.007, p = 0.351). The simple slopes of the effect of father control on physical health were also statistically significant at above average (b = -0.029, p = .001), and average Arabic orientation (b = -0.014, $p < .001$), but not below average Arabic orientation (b = 0.000, p = 0.959). As shown in Figures 11 and 13, MENA young adults who had above average Arabic orientation showed the worst health at higher levels of father harsh parenting and control, and the best health at lower levels of father harsh parenting and control. Analyses of the regions of significance indicated that the association between father harsh parenting and physical health was positive and statistically significant at extremely low levels of Arabic orientation (below -4.2 *SD* of the Arabic orientation latent factor), and negative and statistically significant at above about -0.6 *SD* of Arabic orientation (see Figure 12); based on the distribution of the Arabic orientation factor scores, no one in the current sample was below -4.2 *SD* on Arabic orientation (as described above), and about 76% of the sample was above -0.6 *SD* of Arabic orientation. Further, analyses of the regions of significance indicated that the association between father control and physical health was positive and statistically significant at very low levels of Arabic orientation (below -3.6 *SD* of the Arabic orientation latent factor), and negative and statistically significant at above about -0.2 *SD* of Arabic orientation (see Figure 14). Based on the distribution of the Arabic orientation factor scores, no one in the current sample was below -3.6 *SD*, and about 61% of the sample was above -0.2 *SD* on Arabic orientation.

Aim 3. T-tests were used to assess mean level differences in the combined scores of maternal and paternal parenting between males and females (results presented in Table 12). Males reported higher mean levels of maternal rejection than females, $t(306) = 2.38$, $p = .018$, and females reported higher mean levels of maternal control than males, $t(305) = -2.22$, $p = .027$.

Males also reported higher mean levels of father rejection than females, $t(267) = 2.392$, $p = .017$, and higher mean levels of father harsh parenting than females, $t(267) = 2.53$, $p = .012$.

Table 13 presents the correlations between parenting and health combined scores separately for males and females. A multi-group structural equation model was used to evaluate the associations between all four parenting latent factors with health latent factors within each gender, separately for mothers and fathers (results for each gender subgroup, and the full sample for comparison, are presented in Table 14). For males, higher maternal harsh parenting was associated with higher mental health symptoms ($b = 1.41$, $p = .014$), and higher maternal rejection was marginally associated with poorer physical health ($b = -2.80$, $p = .086$). For females, maternal rejection was marginally associated with poorer physical health ($b = -2.78$, $p = .076$). In terms of fathering, for males, higher father rejection was marginally associated with worse physical health ($b = -2.52$, $p = .054$), and father acceptance ($b = -.64$, $p = .092$), rejection ($b = .76$, $p = .084$), and harsh parenting ($b = .91$, $p = .089$) had marginal associations with mental health. For females, higher father rejection was significantly associated with higher mental health symptoms ($b = 1.24$, $p = .044$), and poorer physical health ($b = -2.99$, $p = .042$).

To evaluate whether males and females differed from each other in the associations between parenting and health, a chi square difference test was used to compare model fit when beta estimates of the path between parenting and health were constrained and unconstrained across gender. Results from the chi square difference test suggest there was no significant difference in model fit in the constrained versus unconstrained models for both mother parenting ($p = .632$) and father parenting ($p = .703$), which suggests the associations between maternal and paternal parenting on mental and physical health do not significantly differ between males and females.

Discussion

Scant literature suggests a weaker association between authoritarian parenting behaviors (e.g., rejection, harsh parenting and control) and maladjustment among MENA youth compared to youth from Western cultures (Rasmi, Chuang, & Safdar, 2012; Rudy & Grusec, 2006). No studies to date have examined the association between authoritarian parenting and MENA youth adjustment with MENA youth living in the U.S. The current study examined the associations between MENA young adult self-reports of mother and father parenting (acceptance, rejection, harsh parenting, and control) and mental (stress, anxiety, and depression) and physical health (general health perceptions, pain, and somatization). As hypothesized, higher youth-reported maternal acceptance was associated with fewer reports of mental health symptoms. Contrary to hypotheses, maternal rejection was associated with worse reports of physical health, and maternal harsh parenting was associated with more mental health symptoms; paternal rejection was also associated with more mental health symptoms and worse reports of physical health. Further, it was hypothesized that American orientation would exacerbate the effect of negative parenting on health, however, the opposite was found. Arabic orientation, but not American orientation, moderated the association between maternal and paternal parenting on physical health such that those with higher Arabic orientation reported the worst physical health at lower levels of acceptance, and higher levels of rejection, harsh parenting, and control, and the best physical health at higher levels of acceptance, and lower levels of rejection, harsh parenting, and control. The associations between parenting and health did not differ between males and females. Results suggest cross-cultural similarities in the relation of acceptance and rejection, as well as harsh parenting, to youth adjustment between MENA American youth and previously studied

groups; however, the associations between parenting and physical health differ based on MENA youth Arabic orientation.

First, the current study developed a culturally-sensitive measure of MENA parenting that included new items to the original Child Report of Parenting Behavior Inventory (CRPBI) in order to fully capture MENA mothers' and fathers' parenting behaviors. Results from confirmatory factor analysis indicated that the new items, informed by MENA focus groups, loaded well with the original CRPBI items, suggesting that the proposed parenting behaviors align with MENA youth perceptions of parental acceptance, harsh parenting, and control as more traditionally measured by the CRPBI. For example, several MENA young adults in the preliminary focus groups reported that making meals and food was often a means of showing care and love for them, as well as when parents bragged about their accomplishments to others; new items such as these items loaded well with original CRPBI items tapping into acceptance and warm parenting. Contrary to hypotheses, however, the correlations between acceptance with rejection, harsh parenting, and control were large and negative, suggesting that MENA youth who reported higher acceptance also reported less rejection, harsh parenting, and control. These correlations contrast to previous studies and theory on MENA families suggesting warm and rejecting behavior may not be separate, mutually exclusive constructs, and the presence of high warmth may protect against the harmful effects of negative, authoritarian parenting (Rudy & Grusec, 2006; Ajami, Rasmi, & Abudabbeh, 2016). The current results do not support this hypothesis among MENA American youth as those who reported higher levels of rejection, harsh parenting and control also perceived less acceptance, which aligns more with findings from ethnic majority youth in the U.S. (Rudy & Grusec, 2006).

Aim 1: Main Effect of MENA Parenting on Offspring Health

The current results using a MENA American sample converge with prior work showing consistent associations between parental acceptance with better offspring adjustment and parental rejection with worse offspring adjustment. When compared with rejection, harsh parenting, and control, maternal acceptance was associated with fewer reported mental health symptoms. Paternal acceptance showed a similar trend, although the relation did not reach statistical significance. Similarly, maternal and paternal rejection were associated with worse reported physical health, and paternal rejection was associated with more reports of mental health symptoms. These results are contrary to the hypothesis that rejection and harsh parenting, due to being more culturally normative, would not be significantly associated with MENA youth adjustment. A similar relation of acceptance and rejection with adjustment has been consistently demonstrated with youth from different ethnic groups in the U.S. (Hill, Bush, & Roosa, 2003; Gonzales et al., 2011; see Rohner & Britner, 2002, for review), as well youth from countries around the world, including the Middle East (see Khaleque & Rohner, 2012 for review), and appear to function similarly for MENA American youth. In addition, maternal harsh parenting was associated with higher reports of mental health symptoms, also converging with evidence from other ethnic groups in the U.S. (e.g., Gonzales et al., 2011; Chang, Schwartz, Dodge, & McBride-Chang, 2003).

There may be several explanations for why the current findings aligned with findings from previous research with other ethnic minority and majority youth in the U.S. First, previous scant research on MENA parenting and youth adjustment was based on MENA youth living in the Middle East and first-generation youth in Canada. The current sample consisted of first-, second-, third- and fourth- generation MENA youth in the U.S. who may be more acculturated

than youth in previous studies. More acculturated ethnic minority youth may face acculturative stress, which has been shown to lead to increased family conflict and greater emotional separation from parents (McQueen, Getz, & Bray, 2003), especially when there is an acculturation gap between parents and children (Ajami, Rasmi, & Abudabbeh, 2016). Therefore, MENA American youth in the current sample may be more affected by parents engaging in harsh and rejecting parenting styles as these youth may not adhere as closely to MENA cultural norms. Second, MENA American youth may also live in a more stressful environment and experience acculturative and discrimination stress (Awad, 2010; Ahmed, Kia-Keating, & Tsai, 2011), which may have cumulative negative impacts on youth adjustment when combined with negative parenting and the lack of a supportive home environment (Chao & Otsuki-Clutter, 2011). Third, results may be due to a negativity bias from respondents who may be systematically reporting both worse parenting and worse health, which may explain the consistent finding in studies with other groups also relying on youth-reports (Tein, Roosa, & Michaels, 1994). In general, however, the current results support previous findings suggesting consistent positive effects of acceptance and negative effects of rejection and harsh parenting cross-culturally.

Notably, results differed between mothers and fathers when comparing the relation of parenting behaviors with health. The association between harsh parenting and worse adjustment appeared for youth reports of mothers' parenting but not fathers', which may reflect cultural norms for mothers to be primary caregivers, spend more time in child rearing, and engage in more disciplinary behaviors than fathers (Ajami, Rasmi, & Abudabbeh, 2016). In Middle Eastern culture, fathers are expected to be providers, spend less time at home and more time at work (although these trends are changing as more MENA American women are entering the

workforce). Regardless, youths' perceptions of maternal harsh parenting may reflect a cumulative exposure to harsh disciplinary behaviors, whereas father harsh parenting may have a weaker association due fathers engaging in discipline and harsh parenting less often.

In a similar vein, only youth-reported maternal acceptance was associated with significantly fewer mental health symptoms. The positive association of acceptance with mental health may be especially salient from mothers who, again, may be the primary caregivers and spend the most time in child rearing. In a review of the literature which included studies of both mother and father parenting on youth adjustment, results suggested that although fathers have a significant impact on youth mental health and health behaviors, their association was more variable compared to mothers who had a more consistent effect (Hanna, *unpublished manuscript*). Additionally, in comparison to the other behaviors, only youth-reported father rejection emerged to be significantly associated with more mental health symptoms and poorer physical health, suggesting the salience of father rejection for this cultural group over and above the other father behaviors. Since MENA culture tends to be more hierarchal and patriarchal compared to Western societies (Schwartz, 2006; Ajami, Rasmi, & Abudabbeh, 2016), approval and acceptance from fathers may be especially important for MENA youth adjustment, and more threatening when it is not present. Previous research suggests youth who do not feel they matter to their fathers show poor mental health outcomes (Schenck et al., 2011), and these effects may be especially salient for MENA youth living in a culture in which fathers are typically the ultimate authority, and their opinions are highly regarded (Ahmed, 2013).

Aim 2: Effects of MENA Parenting on Offspring Health Moderated by American and Arabic Orientation

Contrary to study hypotheses, the effects of parenting on MENA youth adjustment differed based on youths' levels of Arabic orientation, but not American orientation. More Arabic-oriented youth reported the best physical health at higher levels of parental acceptance and the worst health at higher levels of rejection, harsh parenting, and control. Thus, Arabic orientation functioned more similarly to a susceptibility factor (in which more Arabic-oriented youth were more greatly impacted by parenting for better and for worse) rather than as a protective factor as hypothesized. These results suggest the heightened importance of family and parenting for more Arabic-oriented youth, which coincides with the notion that Arabic culture places high emphasis on family and parental bonds over and above any other institution (Ajami, Rasmi, & Abudabbeh, 2016).

Statistical possibilities may explain the consistent moderations between parenting and physical health for Arabic-oriented youth, and lack of moderations by American orientation. First, there was greater variability in Arabic orientation compared to American orientation in the current sample, increasing the ability to detect a moderation effect of Arabic orientation. Also, American orientation was correlated with several parenting behaviors (more acceptance, less rejection and harsh parenting), which may have increased the difficulty of finding a moderation for American orientation as there may not have been many individuals reporting high American orientation and low acceptance and high rejection and harsh parenting. A closer look at the data indicated that at high values of American orientation (+1 *SD* from the mean), only three to five people endorsed low maternal and paternal acceptance (- 1 *SD* from the mean), and high maternal and paternal rejection and harsh parenting (+1 *SD* from the mean). This data supports the statistical possibility that higher American-oriented individuals did not report more extreme

values of negative parenting and less acceptance, potentially decreasing the ability to detect a moderation by American orientation.

Beyond potential statistical explanations, the heightened impact of both positive and negative parenting for more Arabic-oriented youth may be due to MENA cultural norms for children to stay close to parents even into adulthood (Haboush, 2007). A closer look at the current sample of MENA young adults showed a significant correlation between more Arabic-oriented individuals being more likely to still live with their parents and have more constant contact with them, highlighting that more Arabic youth tend to remain closely connected to their parents in young adulthood (Ajami, Rasm, & Abudabbeh, 2016). While a high sense of embeddedness may be protective when parents are engaging in adaptive behaviors, such as acceptance, it may also suggest potential enmeshment and have detrimental impacts when parents are engaging in more negative behaviors. Enmeshment is described as the extreme of family cohesion (although distinct from cohesion) in which there is a lack of healthy self-other differentiation (Green & Warner, 1996), and has been associated with parental intrusiveness and control, as well as youth internalizing symptoms (Barber & Buehler, 1996). Enmeshment may explain the exacerbated effect of mother control, and father rejection, harsh parenting and control on poorer youth-reported physical health among more Arabic-oriented youth. Previous studies have also shown that enmeshment (or entangled) family relationships were predominant among Arab communities (Simadi, Fatayer, & Athamneh, 2003), and describe these relationships as having a lack of healthy borders between parents and children, each family member knowing the thoughts and feelings of the others, high parental involvement in children's issues, and high child involvement in parents' issues (Ahmed, 2013). Alternatively, more Arabic-oriented youth in the current sample were also more likely to be born outside the U.S., which may suggest the

heightened importance of family and parental bonds for newly immigrated youth who may not have developed strong social ties beyond the family.

Results of the analyses examining the moderation by Arabic orientation also showed that only mother acceptance and control were moderated by Arabic orientation, whereas all four father behaviors were moderated by Arabic orientation in the association with physical health. The negative associations of mother rejection with physical health and harsh parenting with mental health appear to be generalized across youth levels of Arabic orientation, which are evident in the significant main effects. Further, the association between maternal acceptance with better physical health was significant at all levels of Arabic orientation (low, average, and high) but was stronger for those with higher Arabic orientation, and father acceptance was associated with better health only for average and high levels of Arabic orientation. Acceptance from both parents appears to have positive associations with the physical health of MENA youth, and is especially beneficial for more Arabic-oriented youth. As previous research has consistently demonstrated a beneficial association between parental acceptance and youth adjustment, these positive effects may be even more beneficial for more Arabic families who may be highly embedded, interdependent and potentially rely more on family ties than outside relationships, making the support from parents even more important for more Arabic-oriented youth.

All four father behaviors were moderated by Arabic orientation, and thus the impact of both positive and negative fathering appears to be consistently salient for more Arabic-oriented youth. These results support a review by Ahmed (2013) of previous research on fathering in the Middle East that showed consistent associations between youths' perceptions of both positive and negative fathering behaviors on youths' outcomes. The associations of more Arabic-oriented MENA youths' perceptions of fathers with youths' reports of worse perceived physical health

emphasizes the cultural norms that more traditional, Arabic families may place on fathers as the authority figures. More Arabic MENA children may especially seek, and be impacted by, the perceived approval from their fathers. Previous findings from ethnic majority and minority youth in the U.S. suggest the importance of youth feeling like they matter to their father (Schenck et al., 2011), which may be especially important for Arabic-oriented MENA youth who may be negatively impacted by their fathers being rejecting and harsh, and positively impacted by having an accepting father.

In addition, results suggest that high control from both mothers and fathers is negatively associated with physical health for more Arabic-oriented youth. Previous research has shown that control may have protective effects on ethnic minority youth who may be exposed to high-risk contexts (Mason et al., 1996). However, it appears that control seems to function negatively for more Arabic-oriented youth but have less impact on reported health for less Arabic-oriented youth. When more Arabic-oriented MENA youth are exposed to American culture, there may be more opportunities for parents to engage in controlling behaviors in order to socialize children with MENA cultural norms. Heightened parental control may negatively impact the health of Arabic-oriented youth who may be seeking to assimilate to American culture (or embrace both American and Arabic cultures), and may lead to an acculturation gap between parents and children as children may be acculturating more quickly than parents. In addition, the effects of control should be considered in the context of risk in MENA youth's environments in the U.S. Mason et al. (1996) found that higher levels of control were more optimal when African American youth were around more problematic peers, but when control was *too* high, youth had greater behavior problems. For Arabic-oriented MENA youth, the levels at which control may negatively impact health may depend on the level of stress or risk they are exposed to in their

environment – such as experienced or expected discrimination, exposure to deviant peers, or behaviors that do not align with MENA cultural values. Recent research suggests the MENA population is subject to significant discrimination and microaggressions, in addition to experiencing acculturative stress, and struggles with identity and recognition (Awad, Kia-Keating, & Amer, 2019). Therefore, the function of MENA parental control should be examined within the context of their environmental risk.

Aim 3: Effects of MENA Parenting on Offspring Health Moderated by Youth Gender

As hypothesized, MENA females reported higher levels of maternal control (reflecting general strictness with rules) compared to MENA males. Males reported higher levels of mother harsh parenting, and father rejection and harsh parenting, than females, which corroborates with previous studies in the Middle East also suggesting that males report harsher treatment than females, especially from fathers (Ahmed, 2013). Males may receive harsher treatment from parents possibly due to high expectations of males to be leaders and supporters of the family, or due to perceptions that males can possibly tolerate harsher treatment. In the preliminary focus groups, several males reported being treated more harshly by fathers who were perceived to be socializing and preparing them for real-world challenges, and reported that females did not receive similar harsh treatment due to parents protecting females' value and honor. An alternative explanation may be that MENA American males receive greater social freedom than females, and may engage in behaviors that do not align with MENA cultural values and elicit harsher parenting from parents.

Analysis of the models assessing parenting and health separately for males and females indicated that maternal harsh parenting had a statistically significant association with more

mental health symptoms for males, and father rejection had a statistically significant association with more mental health symptoms and worse physical health for females. Previous research with American samples including both mothers and fathers have found cross-gendered effects between mother behaviors and sons' adjustment and father behaviors and daughters' adjustment (e.g., Stolz, Barber, & Olsen, 2005). In addition, cross-gender associations have been replicated among countries around the world, including Middle Eastern countries, as demonstrated in a review by Ali, Khaleque, & Rohner (2015). They found that, across cultures, the perception of maternal acceptance in childhood had stronger associations with adult sons' psychological adjustment, and the perception of paternal acceptance in childhood had stronger associations with adult daughters' psychological adjustment. Studies conducted in the Middle East also suggest cross-gendered effects: a study by Ahmed, Rohner, and Carrasco (2012) with Kuwaiti adolescents suggested that the most important influence on females' adjustment was fathers' acceptance, followed by siblings and teachers, whereas father acceptance accounted for less variance in males' psychological adjustment, although was still significant. However, cross-gendered and same-gendered parent-child effects are inconsistent in the American and Middle Eastern literature, and future studies should replicate these results. Additionally, several fathering behaviors for males neared statistical significance, but the statistical relation may have been weakened due to a reduced sample size.

While there could be potential specific parent effects within each child gender, the overall associations between parenting and health did not differ between males and females. Analysis of the chi square difference test of model fit when constraining and unconstraining the beta estimates of parenting to health suggested that males and females were not statistically different

from each other. Therefore, the aforementioned associations between acceptance, rejection and harsh parenting and adjustment appear to generalize across MENA males and females.

Strengths, Limitations, and Future Directions

The current study had several strengths. First, the study recruited a highly underrepresented, ethnic minority sample in the U.S. that is in the spotlight but under-researched. MENA populations tend to be challenging to recruit, likely due to the lack of a distinct ethnic category for Middle Eastern/North African on most official forms, as well as mistrust and lack of knowledge on the research process (Timraz et al., 2016). While previous studies on parenting and youth adjustment have been conducted with Hispanic, African American, and Asian minority groups, much less research evaluates Middle Eastern groups, who are a growing population in the U.S. (AAI; n.d). Comparing research on multiple ethnic and cultural groups helps answer the broader question of how commonly studied parenting behaviors, such as those in the current study, function similarly or differently across cultures. Second, measures included youths reports of both mothers and fathers to examine the influence of each parent within the cultural context, and how they both contribute to child development. Third, the current study conducted preliminary focus groups asking MENA youth to report on their parenting experiences in the U.S., the results of which were used to inform culturally-relevant parenting measures including items to capture a greater breadth of MENA parenting behaviors. Using culturally-relevant parenting measures may have made it more likely to detect effects of parenting with health for this population. Fourth, the current study included both mental and physical health symptoms, which is relevant for this culture.

Several things should be noted, however, regarding the physical health outcome variable used in the study. The study is based on a normative, healthy sample, and the physical health variable reflects somatic and physical symptoms that may be associated with mental health. A closer look at the physical health latent variable shows that pain and somatization loaded the highest in both mother and father parenting models (.7 and .9, and .8 and .9 respectively), while the general health perceptions indicator loaded relatively poorer in mother and father models (.6 and .5), suggesting the underlying physical health latent captured more pain and somatization than general physical health perceptions. In addition, mental and physical health latent variables were highly correlated across all models ($r \geq 0.6$). Therefore, the current findings may not generalize to objective physical health or diagnosable conditions. However, previous research has shown associations between perceived health with objective physical health outcomes (Hertzman, Power, Matthews, & Manor, 2001), and a relation between pain and somatization with increased doctor visits, seeking medical care and health-related quality of life (Barsky, Orav, & Bates, 2005; Mantyselka et al., 2001).

The current study found that the moderations of Arabic orientation with parenting were only present in the associations with physical health. It is possible that higher Arabic-oriented youth have a negativity bias in which they report worse parenting and worse physical health in general. It may also be that higher Arabic-oriented youth also experience greater physical health problems, possibly due to greater experiences of acculturative or discrimination stress (Abdulrahim & Baker, 2009). Another possibility, however, is that these findings are a result of measurement bias. For example, youth with higher Arabic orientation may have systematically different response styles in reporting physical health, i.e., more Arabic-oriented youth may tend to report at the more extreme ends of physical health whereas more American-oriented youth

may report more moderate levels. However, no studies to date have examined whether more or less acculturated Middle Eastern samples show systematically different response styles of physical health. Abdulrahim & Baker (2009) found that Arab immigrants tended to report poorer general health perceptions than later generations of Arabs the U.S., suggesting less acculturated Arabs may report poorer health in general. This coincides with previous literature suggesting that Middle Eastern individuals are more likely to endorse physical symptoms, possibly due to experiencing greater somatic symptoms associated with mental health, or due to increased comfort in rating worse physical health than mental health because of reduced stigma (Erickson & Tamimi, 2001). Future research is needed to determine whether less accultured, higher Arabic-oriented populations report on physical health in systemically different ways than other populations that have used the current SF-12 and SCL-90 scales.

There are several additional limitations to the study. First, the study was cross-sectional and associations between parenting and health were correlational; thus, the direction of causality cannot be determined. For example, it may be that more Arabic-oriented youth who have greater somatic complaints also elicit less parental acceptance and more harsh parenting. The current data can only posit an association between parenting and health factors, and future research should use prospective, longitudinal designs to help determine causality. Second, the current sample was primarily MENA college students (93% of the sample reported they were currently attending school, college or university) despite efforts to recruit from community methods; therefore, the current results may not generalize to MENA young adults who are not in school. Third, the current study used MENA young adults' retrospective reports of parenting experiences. Studies show that youth's perspectives on their parents and family environment are associated with youth health outcomes in adulthood (e.g., Luecken et al., 2016; Khaleque &

Rohner, 2012), and a recent study showed a moderate association between prospective and retrospective reports of childhood family environments, both of which were associated with midlife outcomes (Reuben et al., 2016). However, retrospective reports may be subject to current biases and overestimate associations with current outcomes (Reuben et al., 2016), which may be especially true for more Arabic MENA young adults in the current study who were more likely to live with their parents. Therefore, future research should use prospective data or include objective measures with retrospective reports (Reuben et al., 2016). Fourth, the large, negative correlations between generally positive parenting items and generally negative parenting items may be a byproduct of the survey method in which participants responded to the positive or negative valence of the items rather than individual item content; however, the parenting behaviors were differentially associated with health, and although significantly correlated (*r*'s between .3 and .7), were not perfectly correlated, implying they captured nuanced differences in parenting. Fifth, the current study did not conduct measurement invariance analyses on the parenting or health subscales. Although the measurement models in the gender moderations were constrained to be equal, invariance of parenting across gender was not determined. Therefore, the current study cannot definitively rule out measurement biases in parenting or health scales based on sample characteristics such as youth gender or cultural orientation. Future studies should determine whether parenting factors are invariant across youth gender, Arabic and American orientation, as well as for mothers and fathers, and whether health scales are invariant across MENA cultural orientation. Sixth, moderations were based on youth's own American and Arabic orientation, and the orientation of their parents was unknown; parents' orientation may lead to different results on youth health, especially if parents' cultural orientation is discrepant from youths' cultural orientation. Finally, although the current study tested the independent effects of

each parenting behavior on mental and physical health, future studies should examine the interaction effects of these parenting behaviors on health (e.g., acceptance by rejection) as they likely do not operate in a vacuum independent of one another. In addition, while the current study conducted moderations of cultural orientation and gender independently, future work should assess potential 2-way interactions between American and Arabic orientation and gender in the associations between parenting and health.

Conclusion

Despite these limitations, the current study is the first to document the associations between parenting and mental and physical health outcomes for MENA American youth, including both mothers and fathers, and creating and testing culturally-relevant parenting scales. The current results corroborate with previous findings on ethnic majority populations suggesting that parental acceptance is associated with positive adjustment, and rejection and harsh parenting with negative adjustment for MENA American youth. These results stand in contrast to the scant literature and theory proposing that rejecting and harsh behaviors may not as negatively impact MENA youth as much as they do youth from Western cultures. Furthermore, the positive associations of acceptance and the negative associations of rejection, harsh parenting, and control with health were exacerbated for better and for worse among more Arabic-oriented youth, highlighting the high value and emphasis on familial bonds and parent-child relationships for youth who are more oriented with Arabic culture. Despite gender differences in the levels of parenting behaviors perceived by males and females, the impact of these behaviors on mental and physical health did not differ across MENA males and females.

The current findings have important implications for cross-cultural interventions working with MENA American families. Interventions should be sensitive to the high value and importance of family and parental relationships on MENA youth mental and physical well-being, and even more so for more Arabic-oriented youth. For more Arabic-oriented youth, the beneficial impacts of positive parenting may be especially adaptive, while the detrimental impacts of negative parenting may be especially harmful due to the high interconnectedness and closeness in parent-child bonds. Interventions should aim to be inclusive of MENA families and reduce potential stigma and barriers to mental health for this population since promoting positive parenting and reducing harsh and rejecting parenting may be especially beneficial for MENA American youth.

REFERENCES

Abdulrahim, S., & Ajrouch, K. (2010). Social and cultural meanings of self-rated health: Arab immigrants in the United States. *Qualitative Health Research*, *20*(9), 1229-1240.

Abdulrahim, S., & Baker, W. (2009). Differences in self-rated health by immigrant status and language preference among Arab Americans in the Detroit Metropolitan Area. *Social Science & Medicine*, *68*(12), 2097-2103.

Abudabbeh, N. (1996). Arab families. In M. McGoldrick, J. Giordano, & J. K. Pearce (Eds.), *Ethnicity and Family Therapy* (2nd ed., pp. 333–346). New York: Guilford Press.

Abu-Ras, W. (2016). Psychological wellbeing: Understanding risk and protective factors. In M. M. Amer & G.H. Awad (Eds.), *Handbook of Arab American Psychology* (pp. 63-75). New York, NY: Routledge.

Ahmad, I., Vansteenkiste, M., & Soenens, B. (2013). The relations of Arab Jordanian adolescents' perceived maternal parenting to teacher-rated adjustment and problems: The intervening role of perceived need satisfaction.*Developmental Psychology*,*49*(1),177-183.

Ahmed, R. (2013). The father's role in the Arab world: Cultural perspectives. In D. Shwalb, B. Shwalb, M.E. Lamb (Eds.), *Fathers in Cultural Context: Cross-Cultural Perspectives* (pp. 122 – 147). New York, NY: Routledge.

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), 181-192.

Ahmed, R. A., Rohner, R. P., & Carrasco, M. A. (2012). Relations between psychological adjustment and perceived parental, sibling, best friend, and teacher acceptance among Kuwaiti adolescents. In K. Ripoll-Nunez, A. L. Comunian, & C. M. Brown (Eds.), *Expanding horizons: Current research on interpersonal acceptance* (pp. 1-10). Boca Raton, FL: Brown Walker Press

Ahmed, R. A., Rohner, R. P., Khaleque, A., & Gielen, U. P. (2016). Interpersonal acceptance and rejection in the Arab world: How do they influence children's development? In U. P. Gielen, & J. L. Roopnarine (Eds.), *Childhood and Adolescence: Cross-Cultural Perspectives and Applications* (2nd ed., pp. 121-149). Santa Barbara: Praeger.

Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. New York: Sage.

Ajami, J., Rasmi, S., Abudabbeh, N. (2016). Marriage and family: Traditions and practices throughout the family life cycle. In M. M. Amer & G.H. Awad (Eds.), *Handbook of Arab American Psychology* (pp. 63-75). New York, NY: Routledge.

Ajrouch, K.J. (1999). Family and ethnic identity in an Arab American community. In M. Suleiman (Ed.), *Arabs in American: Building a New Future* (pp. 129-139). Philadelphia, PA: Temple University Press.

Ali, S., Khaleque, A., & Rohner, R. P. (2015). Pancultural gender differences in the relation between perceived parental acceptance and psychological adjustment of children and adult offspring: A meta-analytic review of worldwide research. *Journal of Cross-Cultural Psychology*, *46*(8), 1059-1080.

Amer, M. M., & Hovey, J. D. (2005). Examination of the impact of acculturation, stress, and religiosity on mental health variables for second-generation Arab Americans. *Ethnicity & Disease*, *15*(1), 111-112.

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), 335-347.

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.

Aroian, K. J. (2012). Discrimination against Muslim American adolescents. *The Journal of School Nursing*, *28*(3), 206-213.

Arab American Institute. (n.d.). *The U.S. Census and Arab Americans.* Retrieved from http://www.aaiusa.org/demographics

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, *55*(5), 469-480.

Asparouhov, T., & Muthen, B. (2010). Weighted least squares estimation with missing data. Retrieved from http://www .statmodel.com/download/GstrucMissingRevision.pdf

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), 59-67.

Awad, G. H., & Amayreh, W. M. (2016). Discrimination: heightened prejudice post 9/11 and psychological outcomes. In M. M. Amer & G.H. Awad (Eds.), *Handbook of Arab American Psychology* (pp. 63-75). New York, NY: Routledge.

Barber, B. K., & Buehler, C. (1996). Family cohesion and enmeshment: Different constructs, different effects. *Journal of Marriage and the Family*, 433-441.

Barber, B. K., Stolz, H. E., & Olsen, J. A. (2005). Parental support, psychological control, and behavioral control: Assessing relevance across time, culture, and method: Assessing

relevance across culture: Cross-national replications. *Monographs of the Society for Research in Child Development, 70*(4), 58-72.

Barsky, A. J., Orav, E. J., & Bates, D. W. (2005). Somatization increases medical utilization and costs independent of psychiatric and medical comorbidity. *Archives of general psychiatry, 62*(8), 903-910.

Baumrind, D. (1972). An exploratory study of socialization effects on black children: Some black-white comparisons. *Child Development*, 261-267.

Baumrind, D. (1989). Rearing competent children. In W. Damon (Ed.), *Child Development Today and Tomorrow* (pp. 349-378). San Francisco: Jossey-Bass.

Baumrind, D. (1991). Parenting styles and adolescent development. *The Encyclopedia of Adolescence, 2*, 746-758.

Cardona, P., Nicholson, B., & Fox, R. (2000). Parenting among Hispanic and Anglo-American mothers with young children. *The Journal of Social Psychology*, *140*(3), 357-365.

Chang, L., Schwartz, D., Dodge, K. A., & McBride-Chang, C. (2003). Harsh parenting in relation to child emotion regulation and aggression. *Journal of Family Psychology*, *17*(4), 598 – 606.

Chao, R. K. (1994). Beyond parental control and authoritarian parenting style: Understanding Chinese parenting through the cultural notion of training. *Child Development*, *65*(4), 1111-1119.

Chao, R. K. (2001). Extending research on the consequences of parenting style for Chinese Americans and European Americans. *Child Development*, *72*(6), 1832-1843.

Chao, R. K., & Otsuki-Clutter, M. (2011). Racial and ethnic differences: Sociocultural and contextual explanations. *Journal of Research on Adolescence*, *21*(1), 47-60.

Cobb, C., Ward, K.D., Maziak, W., Shihadeh, A.L., & Eisenberg, T. (2010). Waterpipe tobacco smoking: An emerging health crisis in the United States. *American Journal of Health Behavior, 34*, 275-285.

Cuellar, I., Arnold, B., & Maldonado, R. (1995). Acculturation rating scale for Mexican Americans-II: A revision of the original ARSMA scale. *Hispanic journal of behavioral sciences*, *17*(3), 275-304.

Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological Bulletin*, *113*(3), 487-496.

Derogatis, L. R. (1994). SCL-90-R Symptom Checklist-90-R administration, scoring and procedures manual. Minneapolis, MN: National Computer Systems.

Dumka, L. E., Gonzales, N. A., Wood, J. L., & Formoso, D. (1998). Using qualitative methods to develop contextually relevant measures and preventive interventions: An illustration. *American journal of community psychology*, *26*(4), 605-637.

Dwairy, M. (2004). Parenting styles and mental health of Palestinian–Arab adolescents in Israel. *Transcultural Psychiatry*, *41*(2), 233-252.

Erdfelder, E., Faul, F., & Buchner, A. (1996). GPower: A general power analysis program. *Behavior research methods, instruments, & computers*, *28*(1), 1-11.

Erickson, C. D., & Al-Timimi, N. R. (2001). Providing mental health services to Arab Americans: Recommendations and considerations, *Cultural Diversity & Ethnic Minority Psychology, 7,* 308–327.

Glick, P., Kammash, U., Shaheen, M., Brown, R.A., Goutam, P., Karam, R., Linnemayr, S., Massad, S. (2016). Prevalence and Patterns of Health Risk Behaviors of Palestinian Youth, *RAND Working Paper Series WR-1119-1*.

Green, R. J., & Werner, P. D. (1996). Intrusiveness and closeness-caregiving: Rethinking the concept of family "enmeshment", *Family Process*, *35*(2), 115-136.

Gonzales, N. A., Coxe, S., Roosa, M. W., White, R., Knight, G. P., Zeiders, K. H., & Saenz, D. (2011). Economic hardship, neighborhood context, and parenting: prospective effects on Mexican–American adolescent's mental health. *American journal of community psychology*, *47*(1-2), 98-113.

Goodman, E., Adler, N. E., Kawachi, I., Frazier, A. L., Huang, B., & Colditz, G. A. (2001). Adolescents' perceptions of social status: development and evaluation of a new indicator. *Pediatrics*, *108*(2), 1-8.

Haboush, K. L. (2007). Working with Arab American families: Culturally competent practice for school psychologists. *Psychology in the Schools, 44,* 183–189.

Haddad, L.G., Amer, M.M., & Johnson, E.R. (2016). Tobacco use: Cultural influences on consumption and considerations for intervention. In M. M. Amer & G.H. Awad (Eds.), *Handbook of Arab American Psychology* (pp. 63-75). New York, NY: Routledge.

Hakim-Larson, J. & Menna, R. (2016). Acculturation and enculturation: Ethnic identity socialization processes. In M. M. Amer & G.H. Awad (Eds.), *Handbook of Arab American Psychology* (pp. 63-75). New York, NY: Routledge.

Hanna, M. A. (2016). The Relative Contribution of Fathers on Youth Psychopathology: A Holistic Perspective to Fathering, *unpublished manuscript.*

Harb, C. (2016). The Arab region: Cultures, values, and identities. In M. M. Amer & G.H. Awad (Eds.), *Handbook of Arab American Psychology* (pp. 63-75). New York, NY: Routledge.

Hertzman, C., Power, C., Matthews, S., & Manor, O. (2001). Using an interactive framework of society and life course to explain self-rated health in early adulthood. *Social Science & Medicine, 53*(12), 1575-1585.

Hill, N. E., Bush, K. R., & Roosa, M. W. (2003). Parenting and family socialization strategies and children's mental health: Low–Income Mexican–American and Euro–American mothers and children. *Child Development, 74*(1), 189-204.

Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations* (2nd ed.). Thousand Oaks, CA: Sage.

Horowitz, M., Wilner., & Alvarez, W. (1979). Impact of Event Scale: A measure of subjective stress. *Psychosomatic Medicine, 41*, 209–218.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal*, *6*(1), 1-55.

Ibrahim, M.H., Luecken, L.J., Jewell, S.L., Somers, J.A., Wolchik, S.A. (*manuscript under review*). Nonresidential father psychosocial support and offspring physical health perceptions: Mediation by child-level protective resources.

Jadalla, A., & Lee, J. (2015). Validation of Arabic and English versions of the ARSMA-II acculturation rating scale. *Journal of immigrant and minority health*, *17*(1), 208-216.

Kayyali, R.A. (2006). The Arab world: The geography, history, people, and cultures. In R.H. Bayor (Series Ed.) *The Arab Americans* (pp. 1-22). Westport, CT: Greenwood Press.

Kayyali, R.A. (2006). Coming to the United States. In R.H. Bayor (Series Ed.) *The Arab Americans* (pp. 23-44). Westport, CT: Greenwood Press.

Khaleque, A., & Rohner, R. P. (2012). Pancultural associations between perceived parental acceptance and psychological adjustment of children and adults: A meta-analytic review of worldwide research. *Journal of Cross-Cultural Psychology*, *43*(5), 784-800.

Kim, J., Jones, N., Konya, S. (October, 2017). 2020 Census Content Updates, Retrieved November 15, 2017 from https://www.census.gov/content/dam/Census/programs-surveys/decennial/2020-census/PMR102816/Content_PMR_102816.pdf

Kira, I.A. & Wrobel, N.H. (2016). Trauma: Stress, coping, and emerging treatment models. In M. M. Amer & G.H. Awad (Eds.), *Handbook of Arab American Psychology* (pp. 63-75). New York, NY: Routledge.

Knight, G. P., & Hill, N. E. (1998). Measurement equivalence in research involving minority adolescents. In V.C. McLoyd & L. Steinberg (Eds.) *Studying minority adolescents:*

Conceptual, methodological, and theoretical issues (pp. 183-210). Mahwah, NJ: Lawrence Erlbaum Associates.

Knight, G. P., Virdin, L. M., & Roosa, M. (1994). Socialization and Family Correlates of Mental Health Outcomes among Hispanic and Anglo-American Children: Consideration of Cross-Ethnic Scalar Equivalence. *Child Development*, *65*(1), 212-224.

Leidy, M. S., Schofield, T. J., Miller, M. A., Parke, R. D., Coltrane, S., Braver, S., Cookston, J., Fabricius, W., Saenz, D. & Adams, M. (2011). Fathering and adolescent adjustment: Variations by family structure and ethnic background. *Fathering*, *9*(1), 44-68.

Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour research and therapy*, *33*(3), 335-343.

Luecken, L. (2000). Attachment and loss experiences during childhood are associated with adult hostility, depression, and social support. *Journal of Psychosomatic Research*, *49*(1), 85-91.

Luecken, L. J., & Gress, J. L. (2010). Early adversity and resilience in emerging adulthood. In J. W. Reich, A. J. Zautra, & J. S. Hall (Eds.), *Handbook of adult resilience* (pp. 238–257). New York: Guilford Press.

Luecken, L. J., Hagan, M. J., Wolchik, S. A., Sandler, I. N., & Tein, J. Y. (2016). A longitudinal study of the effects of child-reported maternal warmth on cortisol stress response 15 years after parental divorce. *Psychosomatic medicine*, *78*(2), 163 – 170.

Luecken, L. J., & Lemery, K. S. (2004). Early caregiving and physiological stress responses. *Clinical Psychology Review*, *24*(2), 171-191.

Mahrer, N., Holly, L., Luecken, L., Wolchik, S., & Fabricius, W. (2019). Parenting Style, Familism, and Youth Adjustment in Mexican American and European American Families. *Journal of Cross-Cultural Psychology*, 1-17.

Mäntyselkä, P., Kumpusalo, E., Ahonen, R., Kumpusalo, A., Kauhanen, J., Viinamäki, H., ... & Takala, J. (2001). Pain as a reason to visit the doctor: a study in Finnish primary health care. *Pain*, *89*(2-3), 175-180.

Mason, C. A., Cauce, A. M., Gonzales, N., & Hiraga, Y. (1996). Neither too sweet nor too sour: Problem peers, maternal control, and problem behavior in African American adolescents. *Child Development*, *67*(5), 2115-2130.

McQueen, A., Getz, G., & Bray, J. H. (2003). Acculturation, substance use, and deviant behavior: Examining separation and family conflict as mediators. *Child Development*, *74*(6), 1737-1750.

Muthén, L.K. and Muthén, B.O. (1998-2017). Mplus User's Guide. Eighth Edition. Los Angeles, CA: Muthén & Muthén

Pina, A. A., & Silverman, W. K. (2004). Clinical phenomenology, somatic symptoms, and distress in Hispanic/Latino and European American youths with anxiety disorders. *Journal of Clinical Child and Adolescent Psychology*, *33*(2), 227-236.

Preacher, K. J., Curran, P. J., & Bauer, D. J. (2006). Computational tools for probing interactions in multiple linear regression, multilevel modeling, and latent curve analysis. *Journal of Educational and Behavioral Statistics*, *31*(4), 437-448.

Rasmi, S., Chuang, S. S., & Safdar, S. (2012). The relationship between perceived parental rejection and adjustment for Arab, Canadian, and Arab Canadian youth. *Journal of Cross-Cultural Psychology*, *43*(1), 84-90.

Reuben, A., Moffitt, T., Caspi, A., Belsky, D., Harrington, H., Schroeder, F., Hogan, S., Ramrakha, S., Poulton, R., & Danese, A. (2016). Lest we forget: comparing retrospective and prospective assessments of adverse childhood experiences in the prediction of adult health. *Journal of Child Psychology and Psychiatry*, *57*(10), 1103-1112.

Repetti, R. L., Taylor, S. E., & Seeman, T. E. (2002). Risky families: family social environments and the mental and physical health of offspring. *Psychological bulletin*, *128*(2), 330.

Rohner, R. P., & Britner, P. A. (2002). Worldwide mental health correlates of parental acceptance-rejection: Review of cross-cultural and intracultural evidence. *Cross-Cultural Research*, *36*(1), 16-47.

Rudy, D., & Grusec, J. E. (2001). Correlates of authoritarian parenting in individualist and collectivist cultures and implications for understanding the transmission of values. *Journal of Cross-Cultural Psychology*, *32*(2), 202-212.

Rudy, D., & Grusec, J. E. (2006). Authoritarian parenting in individualist and collectivist groups: Associations with maternal emotion and cognition and children's self-esteem. *Journal of Family Psychology*, *20*(1), 68-78.

Sadler, G. R., Lee, H. C., Lim, R. S. H., & Fullerton, J. (2010). Recruitment of hard-to-reach population subgroups via adaptations of the snowball sampling strategy. *Nursing & health sciences*, *12*(3), 369-374.

Samhan, H. H. (1999). Not quite white: Race classification and the Arab-American experience. In M.W. Sullivan (Ed.), *Arabs in America: Building a new future* (pp. 209 226). Philadelphia: Temple University Press.

Santos, H. C., Varnum, M. E. W., & Grossmann, I. (2017). Global increases in individualism. *Psychological Science*, *28*(9), 1228-1239.

Satorra, A., & Bentler, P. M. (2001). A scaled difference chi-square test statistic for moment structure analysis. *Psychometrika*, *66*(4), 507-514.

Schaefer, E. S. (1965). A configurational analysis of children's reports of parent behavior. *Journal of consulting psychology*, *29*(6), 552-557.

Schenck, C. E., Braver, S. L., Wolchik, S. A., Saenz, D., Cookston, J. T., & Fabricius, W. V. (2009). Relations between mattering to step-and non-residential fathers and adolescent mental health. *Fathering, 7*(1), 70 – 90.

Schludermann, E., & Schludermann, S. (1970). Replicability of factors in children's report of parent behavior (CRPBI). *The Journal of Psychology*, *76*(2), 239-249.

Schwartz, S. H. (2006). A theory of cultural value orientations: Explication and applications. *Comparative sociology*, *5*(2), 137-182.

Simadi, F. A., Fatayer, J. A., & Athamneh, S. (2003). The Arabian family in the light of Minuchin's Systematic Theory: An analytical approach, *Social Behavior and Personality, 31*, 467–482.

Stolz, H. E., Barber, B. K., & Olsen, J. A. (2005). Toward disentangling fathering and mothering: An assessment of relative importance. *Journal of Marriage and Family*, *67*(4), 1076-1092.

Tein, J. Y., Roosa, M. W., & Michaels, M. (1994). Agreement between parent and child reports on parental behaviors. *Journal of Marriage and the Family, 56*(2), 341-355.

Timraz, S. M., Alhasanat, D. I., Albdour, M. M., Lewin, L., Giurgescu, C., & Kavanaugh, K. (2017). Challenges and strategies for conducting sensitive research with an Arab American population. *Applied Nursing Research*, *33*, 1-4.

Varela, R.E., Vernberg, E.M., Sanchez-Sosa, J.J., Riveros, A., Mitchell, M., & Mashunkashey, J. (2004). Parenting style of Mexican, Mexican American, and Caucasian-non-Hispanic families: social context and cultural influences. *Journal of Family Psychology*, *18*(4), 651-657.

Ware Jr, J. E., Kosinski, M., & Keller, S. D. (1996). A 12-Item Short-Form Health Survey: construction of scales and preliminary tests of reliability and validity. *Medical care, 34*(3), 220-233.

West, S. G., Finch, J. F., & Curran, P. J. (1995). Structural equation models with nonnormal variables: Problems and remedies. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 56-75). Thousand Oaks, CA.

White, R., Roosa, M. W., Weaver, S. R., & Nair, R. L. (2009). Cultural and contextual

influences on parenting in Mexican American families. *Journal of Marriage and Family*, *71*(1), 61-79.

White, R., Zeiders, K. H., Gonzales, N. A., Tein, J. Y., & Roosa, M. W. (2013). Cultural values, US neighborhood danger, and Mexican American parents' parenting. *Journal of Family Psychology*, *27*(3), 365-375.

Wirth, R. J., & Edwards, M. C. (2007). Item factor analysis: current approaches and future directions. *Psychological methods*, *12*(1), 58.

World Values Survey. (2014). Findings and insights. Retrieved from http://www.worldvaluessurvey.org/WVSContents.jsp?CMSID=Findings

Table 1

MENA young adult reports of mothers' and fathers' family country-of-origin

	Mothers' family country-of-origin *n* (%)	Fathers' family country-of-origin *n* (%)
Algeria	3 (1)	5 (2)
Bahrain	1 (.3)	1 (.3)
Comoros	1 (.3)	1 (.3)
Djibouti	1 (.3)	1 (.3)
Egypt	69 (22)	70 (22)
Iraq	20 (6)	24 (8)
Iran	19 (6)	21 (7)
Israel	9 (3)	9 (3)
Kuwait	2 (.6)	2 (.6)
Jordan	11 (4)	8 (3)
Lebanon	16 (5)	22 (7)
Morocco	3 (1)	5 (2)
Oman	11 (4)	13 (4)
Palestine	16 (5)	16 (5)
Qatar	2 (.6)	1 (.3)
Saudi Arabia	22 (7)	24 (8)
Somalia	3 (1)	3 (1)
Syria	17 (5)	15 (5)
Turkey	8 (3)	4 (1)
Tunisia	2 (.6)	--
UAE	10 (3)	12 (4)
Yemen	4 (1)	6 (2)
Other (non-MENA country)	47 (15)	28 (9)

Table 2

Demographic information on MENA young adults

	n	%
Attending school, college, or university	293	93
Attending Arizona State University	215	73
International Students	49	17
Current Living arrangements		
Living with parents	180	57
Living with roommates	77	25
Living alone	32	10
Living with romantic partner	15	5
Living with other relatives	8	3
Monoracial/Monoethnic MENA	248	79
Biracial/biethnic MENA	66	21
Religion		
Christian	130	41
Muslim	126	40
Other religion (e.g., Jewish, Buddhist, etc.)	15	4
No religion	40	12
Perceived Socioeconomic Status		
Upper class	13	4
Upper-middle class	105	33
Middle class	137	44
Lower-middle class	40	13
Working class	16	5
Birth Country		
Born in the U.S.	190	61
Born outside of the U.S.	123	39
Generational Status		
First generation	74	24
Second generation	119	38
Third generation	48	15
Fourth generation	24	8

Note. International students were excluded from generational status variable

Table 3

Number and percent of the sample recruited from each method

	n	%
ASU Student organizations	30	10
ASU Arabic and Middle Eastern studies professor / ad on ASU webpage	63	20
ASU Intro to Psychology subject pool	119	38
Snowball sampling	3	1
Fliers in Arabic community	5	2
Religious organizations in community	68	22
MENA Psychology listserv	2	1
MENA Facebook groups	24	8

Table 4

Means, standard deviations, skewness, and kurtosis of primary study variables.

	M (SD) *n*	Skewness	Kurtosis	Possible Range	Reported Range
MC Acceptance	4.15 (.77) 296	-0.88	0.12	1 – 5	1.57 – 5.00
MC Rejection	2.07 (.82) 296	0.90	0.81	1 – 5	1.00 – 5.00
MC Harsh Parenting	2.17 (.89) 296	0.68	-0.26	1 – 5	1.00 – 4.86
MC Control	2.87 (.99) 296	0.16	-0.54	1 – 5	1.00 – 5.00
MA Acceptance	4.00 (.87) 282	-0.76	-0.13	1 – 5	1.07 – 5.00
MA Rejection	2.11 (.89) 282	0.82	0.32	1 – 5	1.00 – 5.00
MA Harsh Parenting	2.01 (.91) 282	1.15	1.07	1 – 5	1.00 – 5.00
MA Control	2.69 (1.15) 281	0.34	-0.78	1 – 5	1.00 – 5.00
FC Acceptance	3.68 (.99) 265	-0.49	-0.48	1 – 5	1.00 – 5.00
FC Rejection	2.16 (.94) 265	0.62	-0.35	1 – 5	1.00 – 4.80
FC Harsh Parenting	2.06 (.93) 265	0.91	0.13	1 – 5	1.00 – 5.00
FC Control	3.01 (1.16) 265	0.10	-1.01	1 – 5	1.00 – 5.00
FA Acceptance	3.61 (1.02) 260	-0.41	-0.55	1 – 5	1.00 – 5.00
FA Rejection	2.19 (.97) 261	0.71	-0.04	1 – 5	1.00 – 5.00
FA Harsh Parenting	2.033 (.92) 261	0.97	0.56	1 – 5	1.00 – 5.00
FA Control	2.85 (1.22) 261	0.27	-0.96	1 – 5	1.00 – 5.00
Depression	5.50 (4.96) 284	1.22	1.10	0 – 21	0 – 21.00
Anxiety	5.28 (4.41) 284	0.92	0.63	0 – 21	0 – 21.00
Stress	7.42 (4.94) 284	0.64	-0.05	0 – 21	0 – 21.00
General Health Perceptions	66.97 (20.39) 284	-0.39	-0.33	0 – 100	12.50 – 100
Pain	79.58 (18.47)	-0.99	0.75	0 – 100	12.50 – 100

	284				
Somatization	9.02 (8.53) 283	1.42	2.09	0 – 45	0 – 45
American Orientation	3.95 (.61) 284	-.867	.145	1 – 5	1.00 – 5.00
Arabic Orientation	3.15 (.96) 284	-.027	.145	1 – 5	1.00 – 5.00

Note. MC = mother parenting in childhood, MA = mother parenting in adolescence, FC = father parenting in childhood, FA = father parenting in adolescence. Parenting and acculturation subscales are the combined scores consisting of the mean of the original and newly included items resulting from measurement analyses.

Table 5

Frequencies of MENA young adults' psychological adjustment based on DASS population norms

	Mild *n* (%)	Moderate *n* (%)	Severe *n* (%)	Extremely Severe *n* (%)	Total Mild or Above *n* (%)
Stress	39 (12)	43 (14)	23 (7)	19 (6)	124 (39)
Depression	42 (13)	59 (19)	13 (5)	25 (8)	139 (45)
Anxiety	47 (15)	35 (11)	34 (11)	46 (15)	162 (52)

Note: Mild sum scores were in the following ranges: stress = 8 – 9, depression = 5 – 6, anxiety = 4 – 5.

Moderate sum scores were in the following ranges: stress = 10 – 12, depression = 7 – 10, anxiety = 6 – 7.

Severe sum scores were in the following ranges: stress = 13 – 16, depression = 11 – 13, anxiety = 8 – 9.

Extremely severe sum scores were in the following ranges: stress = 17+, depression = 14+, and anxiety = 10+.

Values in mild categories and above indicate scores that are higher than the population mean based on DASS 21 norms.

Table 6

Pearson (*r*) correlations between mother parenting and father parenting subscales separated by childhood and adolescence.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. MC Acceptance	1															
2. MC Rejection	-.367**	1														
3. MC Harsh Parenting	-.489**	.613**	1													
4. MC Control	-.276**	.242**	.556**	1												
5. MA Acceptance	.831**	-.396**	-.516**	-.307**	1											
6. MA Rejection	-.416**	.676**	.589**	.248**	-.549**	1										
7. MA Harsh Parenting	-.516**	.471**	.808**	.479**	-.616**	.664**	1									
8. MA Control	-.343**	.196**	.522**	.791**	-.453**	.336**	.621**	1								
9. FC Acceptance	.435**	-.261**	-.311**	-.149*	.409**	-.211**	-.272**	-.218**	1							
10. FC Rejection	-.229**	.483**	.397**	.141*	-.234**	.491**	.397**	.182*	-.516**	1						
11. FC Harsh Parenting	-.331**	.356**	.488**	.247**	-.329**	.374**	.504**	.343**	-.572**	.615**	1					
12. FC Control	-.208**	.081	.271**	.476**	-.207**	.105	.273**	.473**	-.461**	.310**	.587**	1				
13. FA Acceptance	.492**	-.260**	-.314**	-.201**	.534**	-.255**	-.348**	-.293**	.847**	-.463**	-.582**	-.456**	1			
14. FA Rejection	-.295**	.510**	.465**	.232**	-.344**	.621**	.536**	.313**	-.496**	.791**	.665**	.351**	-.542**	1		
15. FA Harsh Parenting	-.357**	.407**	.569**	.319**	-.405**	.536**	.659**	.430**	-.477**	.579**	.877**	.510**	-.580**	.736**	1	
16. FA Control	-.257**	.141*	.395**	.568**	-.308**	.215**	.415**	.615**	-.356**	.270**	.565**	.816**	-.443**	.381**	.622**	1

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed). *Note*. MC = mother parenting in childhood, MA = mother parenting in adolescence, FC = father parenting in childhood, FA = father parenting in adolescence. Parenting subscales are the combined scores consisting of the mean of the original and newly included items resulting from measurement analyses.

Table 7

Pearson (*r*) correlations between primary study variables, American and Arabic orientation, income, religion, and gender

	Stress	Depression	Anxiety	General Health	Pain	Somatization	American Orientation	Arabic Orientation	Income	Gender	Religion
MC Acceptance	-.294**	-.388**	-.285**	.198**	.212**	-.267**	.175**	0.07	0.01	-0.01	0.04
MC Rejection	.187**	.330**	.260**	-.195**	-.124*	.288**	-.168**	0.07	-0.03	-.152**	.197**
MC Harsh Parenting	.338**	.393**	.363**	-.128*	-.167**	.344**	-0.12	0.11	0.06	-0.10	0.11
MC Control	.243**	.222**	.236**	-0.02	-0.09	.178*	0.06	-0.05	0.004	0.11	-0.07
MA Acceptance	-.303**	-.407**	-.270**	.227**	.244**	-.301**	.202**	0.09	-0.05	-0.02	-0.02
MA Rejection	.265**	.371**	.317**	-.215**	-.232**	.414**	-.199**	0.02	0.06	-.132*	.174**
MA Harsh Parenting	.404**	.449**	.418**	-.195**	-.249**	.457**	-.174**	0.00	0.10	-0.04	0.09
MA Control	.250**	.262**	.256*	-0.09	-.176**	.214*	0.03	-0.01	-0.02	0.11	-0.06
FC Accept	-.327**	-.335**	-.234**	.141*	.255**	-.217**	0.08	0.11	-0.03	0.05	-0.08
FC Reject	.265**	.313**	.310**	-.137*	-.191**	.342**	-.147*	-0.05	.156*	-.171**	.187**
FC Harsh Parenting	.325**	.370**	.324**	-0.06	-.246**	.355**	-0.08	-0.01	0.09	-.162**	0.05
FC Control	.230**	.202**	.187**	0.02	-.167*	0.11	0.05	-0.10	-0.06	0.07	-0.07
FA Acceptance	-.305**	-.354**	-.215**	0.12	.270**	-.239**	.165*	0.10	-0.05	0.04	-.153*
FA Rejection	.347**	.418**	.420**	-.165**	-.289**	.466**	-.174**	0.02	0.09	-0.08	.170*
FA Harsh Parenting	.358**	.422**	.366**	-0.05	-.274**	.429**	-.199**	0.01	0.10	-0.11	.139*
FA Control	.259**	.253**	.255**	0.04	-.188*	.200*	0.03	-0.002	0.003	0.08	0.001
Stress	1	.804**	.755**	-.360**	-.388**	.559**	-0.05	-0.07	0.02	0.10	0.04
Depression	.804**	1	.766**	-.400**	-.448**	.580**	-0.11	0.00	-0.04	0.01	0.01
Anxiety	.755**	.766**	1	-.378**	-.429**	.629**	-0.09	0.03	0.00	0.05	0.06
General Health	-.360**	-.400**	-.378**	1	.443**	-.421**	0.06	0.09	-0.01	-0.07	0.03
Pain	-.388**	-.448**	-.429**	.443**	1	-.623**	0.05	-0.02	-0.04	-.141*	-0.03
Somatization	.559**	.580**	.629**	-.421**	-.623**	1	-.159**	0.03	0.09	0.05	0.08

**Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).

Note. MC = mother parenting in childhood, MA = mother parenting in adolescence, FC = father parenting in childhood, FA = father parenting in adolescence. Gender coded 0 = Male, 1 = Female. Religion coded 1 = Christian, 2 = Muslim. Parenting subscales are the combined scores consisting of the mean of the original and newly included items resulting from measurement analyses.

Table 8

Standardized loadings of the Four-Factor Parenting Model for Mother and Father Parenting in Childhood

Item	Acceptance		Rejection		Harsh Parenting		Control	
	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers
Your (M/F) made you feel better after talking about your worries with her/him.	.8	.9						
Your (M/F) saw your good points more than your faults.	.9	.9						
Your (M/F) spoke with you in a warm and friendly voice.	.8	.9						
Your (M/F) understood your problems and worries.	.9	.9						
Your (M/F) was able to make you feel better when you were upset.	.9	.9						
Your (M/F) cheered you up when you were sad.	.9	.9						
Your (M/F) had a good time with you.	.9	.9						
Your (M/F) told or showed you that s/he liked you just the way you were.	.9	.9						
Your (M/F) made you food or your favorite meals to show her/his care for you.	.7	.6						
Your (M/F) was affectionate with you (e.g., hugged you, kissed you, patted you on the back).	.7	.8						
Your (M/F) bought you things to please you or show her/his care for you.	.7	.7						
Your (M/F) bragged about you or your accomplishments to others.	.7	.7						
Your (M/F) complimented you or praised you.	.9	.8						
Your (M/F) joked around with you or was playful with you.	.8	.8						
Your (M/F) forgot to get you things that you needed.			.5	.6				
Your (M/F) criticized what you did.			.8	.8				
You had to ask your (M/F) over and over to get you something that you needed.			.7	.7				
Your (M/F) didn't know that you needed something.			.9	.8				
Your (M/F) acted as if you were in the way.			.9	.9				
Your (M/F) hit or slapped you when you did something wrong.					.8	.8		
Your (M/F) got so mad at you s/he called you names.					.8	.8		
Your (M/F) got angry when you were noisy around the house.					.7	.7		
Your (M/F) screamed at you when you did something wrong.					.9	.9		

Your (M/F) bothered you until you did what s/he wanted you to do.	.8	.8		
When you did something wrong, your (M/F) punished you in front of others.	.7	.8		
When you did something wrong, your (M/F) said s/he was disgusted with you.	.9	.8		
Your (M/F) gave hard punishment.	.7	.9		
Your (M/F) shouted or yelled at you when you did something wrong.	.9	.9		
Your (M/F) criticized you when you did something wrong.	.9	.9		
Your (M/F) spoke to you in an angry and harsh voice when you did something wrong.	.9	.9		
Your (M/F) threatened you.	.8	.9		
Your (M/F) isolated you for a period of time to punish you.	.7	.7		
Your (M/F) used sticks or other objects to hit you when you did something wrong.	.8	.7		
Your (M/F) believed in having a lot of rules and sticking with them.			.8	.8
Your (M/F) insisted that you must do exactly as you were told.			.9	.9
Your (M/F) was very strict with you.			.8	.9
Your (M/F) made you do things without explanation (e.g., would say you must do things because s/he said so, or because s/he is your parent.)			.6	.8

Note. Italicized items are new items informed by focus groups. (M/F) = mother or father. All items were statistically significant ($p < .05$). Correlations for mother childhood model: Acceptance with rejection = -.5, acceptance with harsh parenting = -.5, acceptance with control = -.3, rejection with harsh parenting = .7, rejection with control = .6, harsh parenting with control = .6. Correlations for father childhood model: Acceptance with rejection = -.6, acceptance with harsh parenting = -.6, acceptance with control = -.5, rejection with harsh parenting = .7, rejection with control = .7, harsh parenting with control = .7.

Table 9

Standardized loadings of the Four-Factor Parenting Model for Mother and Father Parenting in Adolescence

Item	Acceptance		Rejection		Harsh Parenting		Control	
	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers
Your (M/F) made you feel better after talking about your worries with her/him.	.9	.9						
Your (M/F) saw your good points more than your faults.	.9	.9						
Your (M/F) spoke with you in a warm and friendly voice.	.9	.9						
Your (M/F) understood your problems and worries.	.8	.9						
Your (M/F) was able to make you feel better when you were upset.	.9	.9						
Your (M/F) cheered you up when you were sad.	.9	.9						
Your (M/F) had a good time with you.	.9	.9						
Your (M/F) told or showed you that s/he liked you just the way you were.	.9	.9						
Your (M/F) made you food or your favorite meals to show her/his care for you.	.7	.6						
Your (M/F) was affectionate with you (e.g., hugged you, kissed you, patted you on the back).	.8	.8						
Your (M/F) bought you things to please you or show her/his care for you.	.7	.7						
Your (M/F) bragged about you or your accomplishments to others.	.7	.7						
Your (M/F) complimented you or praised you.	.9	.8						
Your (M/F) joked around with you or was playful with you.	.8	.8						
Your (M/F) made it a priority to maintain regular communication with you.	.8	.8						
Your (M/F) forgot to get you things that you needed.			.6	.7				
Your (M/F) criticized what you did.			.9	.9				
You had to ask your (M/F) over and over to get you something that you needed.			.8	.8				
Your (M/F) didn't know that you needed something.			.8	.8				
Your (M/F) acted as if you were in the way.			.9	.9				
Your (M/F) hit or slapped you when you did something wrong.					.9	.9		
Your (M/F) got so mad at you s/he called you names.					.9	.8		

Your (M/F) got angry when you were noisy around the house.	.7	.8		
Your (M/F) screamed at you when you did something wrong.	.9	.9		
Your (M/F) bothered you until you did what s/he wanted you to do.	.8	.8		
When you did something wrong, your (M/F) punished you in front of others.	.8	.8		
When you did something wrong, your (M/F) said s/he was disgusted with you.	.9	.8		
Your (M/F) gave hard punishment.	.8	.8		
Your (M/F) shouted or yelled at you when you did something wrong.	.9	.9		
Your (M/F) criticized you when you did something wrong.	.9	.9		
Your (M/F) spoke to you in an angry and harsh voice when you did something wrong.	.9	.9		
Your (M/F) threatened you.	.9	.9		
Your (M/F) isolated you for a period of time to punish you.	.8	.8		
Your (M/F) used sticks or other objects to hit you when you did something wrong.	.8	.8		
Your (M/F) believed in having a lot of rules and sticking with them.			.9	.8
Your (M/F) insisted that you must do exactly as you were told.			.9	.9
Your (M/F) was very strict with you.			.9	.9
Your (M/F) made you do things without explanation (e.g., would say you must do things because s/he said so, or because s/he is your parent.)			.7	.8

Note. Italicized items are new items informed by focus groups. (M/F) = mother or father. All items were statistically significant ($p < .05$). Correlations for mother adolescence model: acceptance with rejection = -.7, acceptance with harsh parenting = -.7, acceptance with control = -.5; rejection with harsh parenting = .8, rejection with control = .4, harsh parenting with control = .7. Correlations for father adolescence model: acceptance with rejection = -.6, acceptance with harsh parenting = -.6, acceptance with control = -.5, rejection with harsh parenting = .5, rejection with control = .5, harsh parenting with control = .7.

Table 10

Aim 2 results of the main effects and interactions between maternal and paternal parenting latent factors with American orientation latent factor to predict mental and physical health latent factors.

	Mental Health β (SE)	Physical Health β (SE)
Mother Parenting Models		
Model 1		
Mother Acceptance	-0.39 (.06)**	0.30 (.06)**
American Orientation	0.009 (.08)	0.13 (.08)
Mother Acceptance X American Orientation	-0.02 (.07)	-0.09 (.08)
Model 2		
Mother Rejection	0.38 (.07)**	-0.39 (.07)**
American Orientation	0.03 (.07)	0.07 (.07)
Mother Rejection X American Orientation	-0.03 (.07)	0.07 (.08)
Model 3		
Mother Harsh Parenting	0.45 (.06)**	-0.42 (.06)**
American Orientation	-0.01 (.06)	0.12 (.07)
Mother Harsh Parenting X American Orientation	-0.04 (.08)	0.13 (.09)
Model 4		
Mother Control	0.34 (.07)**	-0.26 (.08)**
American Orientation	-0.11 (.07)	0.21 (.08)*
Mother Control X American Orientation	-0.01 (.10)	0.08 (.11)
Father Parenting Models		
Model 1		
Father Acceptance	-0.35 (.07)**	0.25 (.08)*
American Orientation	-0.04 (.07)	0.16 (.07)*
Father Acceptance X American Orientation	0.009 (.11)	-0.11 (.16)
Model 2		
Father Rejection	0.41 (.07)**	-0.40 (.07)**
American Orientation	0.01 (.08)	0.08 (.07)
Father Rejection X American Orientation	-0.05 (.08)	0.12 (.08)
Model 3		
Father Harsh Parenting	0.37 (.08)**	-0.36 (.08)**

American Orientation	-0.04 (.07)	0.14 (.07)*
Father Harsh Parenting X American Orientation	-0.07 (.11)	0.12 (.12)
Model 4		
Father Control	0.28 (.08)**	-0.21 (.08)*
American Orientation	-0.08 (.07)	0.18 (.07)*
Father Control X American Orientation	0.09 (.08)	-0.03 (.08)

** $p < .001$ * $p < .05$

Table 11

Aim 2 results of the main effects and interactions between maternal and paternal parenting latent factors with Arabic orientation latent factor to predict mental and physical health latent factors.

	Mental Health β (SE)	Physical Health β (SE)
Mother Parenting Models		
Model 1		
Mother Acceptance	-0.40 (.06)**	0.34 (.06)**
Arabic Orientation	0.03 (.06)	-0.07 (.07)
Mother Acceptance X Arabic Orientation	-0.09 (.05) †	0.17 (.06)*
Model 2		
Mother Rejection	0.37 (.07)**	-0.40 (.07)**
Arabic Orientation	-0.03 (.06)	0.01 (.07)
Mother Rejection X Arabic Orientation	-0.04 (.05)	-0.03 (.08)
Model 3		
Mother Harsh Parenting	0.45 (.06)**	-0.43 (.06)**
Arabic Orientation	-0.04 (.05)	0.009 (.07)
Mother Harsh Parenting X Arabic Orientation	0.09 (.06)	-0.14 (.08)
Model 4		
Mother Control	0.35 (.07)**	-0.26 (.08)**
Arabic Orientation	0.02 (.06)	-0.06 (.07)
Mother Control X Arabic Orientation	0.11 (.07) †	-0.20 (.08)*
Father Parenting Models		
Model 1		
Father Acceptance	-0.36 (.07)**	0.27 (.08)*
Arabic Orientation	0.02 (.06)	-0.05 (.07)
Father Acceptance X Arabic Orientation	-0.08 (.07)	0.18 (.08)*
Model 2		
Father Rejection	0.42 (.07)**	-0.44 (.07)**
Arabic Orientation	-0.03 (.06)	0.02 (.07)
Father Rejection X Arabic Orientation	0.08 (.05) †	-0.20 (.08)*
Model 3		
Father Harsh Parenting	0.37 (.08)**	-0.36 (.08)**
Arabic Orientation	-0.02 (.06)	-0.01 (.07)
Father Harsh Parenting X Arabic Orientation	0.08 (.07)	-0.26 (.08)*
Model 4		

Father Control	0.29 (.08)**	-0.20 (.08)*
Arabic Orientation	0.01 (.06)	-0.05 (.07)
Father Control X Arabic Orientation	0.07 (.07)	-0.20 (.08)*

** $p < .001$ * $p < .05$ $^{\dagger} p < .10$

Table 12

Mean level differences in mother and father parenting for MENA males and females

	Males *M* (SD)	Females *M* (SD)	*t*	*p*
Mother Acceptance	4.11 (.74)	4.05 (.84)	.663	.508
Mother Rejection	2.20 (.81)	1.99 (.75)	2.38	.018
Mother Harsh Parenting	2.13 (.85)	2.05 (.87)	.893	.372
Mother Control	2.63 (.92)	2.89 (1.08)	-2.22	.027
Father Acceptance	3.58 (.90)	3.70 (1.03)	-1.00	.317
Father Rejection	2.32 (.83)	2.06 (.94)	2.39	.017
Father Harsh Parenting	2.20 (.87)	1.92 (.91)	2.53	.012
Father Control	2.83 (.97)	2.98 (1.25)	-1.12	.265

Note. Parenting subscales represent combined scores based on final measurement models combining childhood and adolescence items.

Table 13

Pearson (*r*) correlations between parenting and health for male and female subgroups.

	Stress		Depression		Anxiety		General Health		Pain		Somatization	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Mother Acceptance	-.307**	-.299**	-.355**	-.435**	-.269**	-.267**	.227*	.207**	.274**	.197*	-.333**	-.254**
Mother Rejection	.264**	.274**	.317**	.441**	.349**	.308**	-.266**	-.216**	-.267**	-.183*	.436**	.365**
Mother Harsh Parenting	.392**	.404**	.383**	.481**	.415**	.396**	-.247**	-0.131	-.273**	-.208**	.441**	.404**
Mother Control	.187*	.305**	.223*	.284**	.243**	.262**	-0.115	-0.029	-0.161	-0.120	.203*	.211**
Father Acceptance	-.307**	-.353**	-.363**	-.348**	-.185*	-.263**	0.068	.179*	.328**	.256**	-.239**	-.233**
Father Rejection	.330**	.344**	.328**	.419**	.413**	.386**	-0.059	-.237**	-.287**	-.272**	.465**	.418**
Father Harsh Parenting	.363**	.371**	.362**	.435**	.293**	.410**	-0.007	-0.100	-.312**	-.279**	.445**	.390**
Father Control	0.164	.303**	.204*	.251**	0.071	.305**	0.000	-0.010	-.209*	-0.158	0.166	0.156

** $p < .001$ * $p < .05$.

Note. Parenting subscales represent combined scores based on final measurement models combining childhood and adolescence items.

Table 14

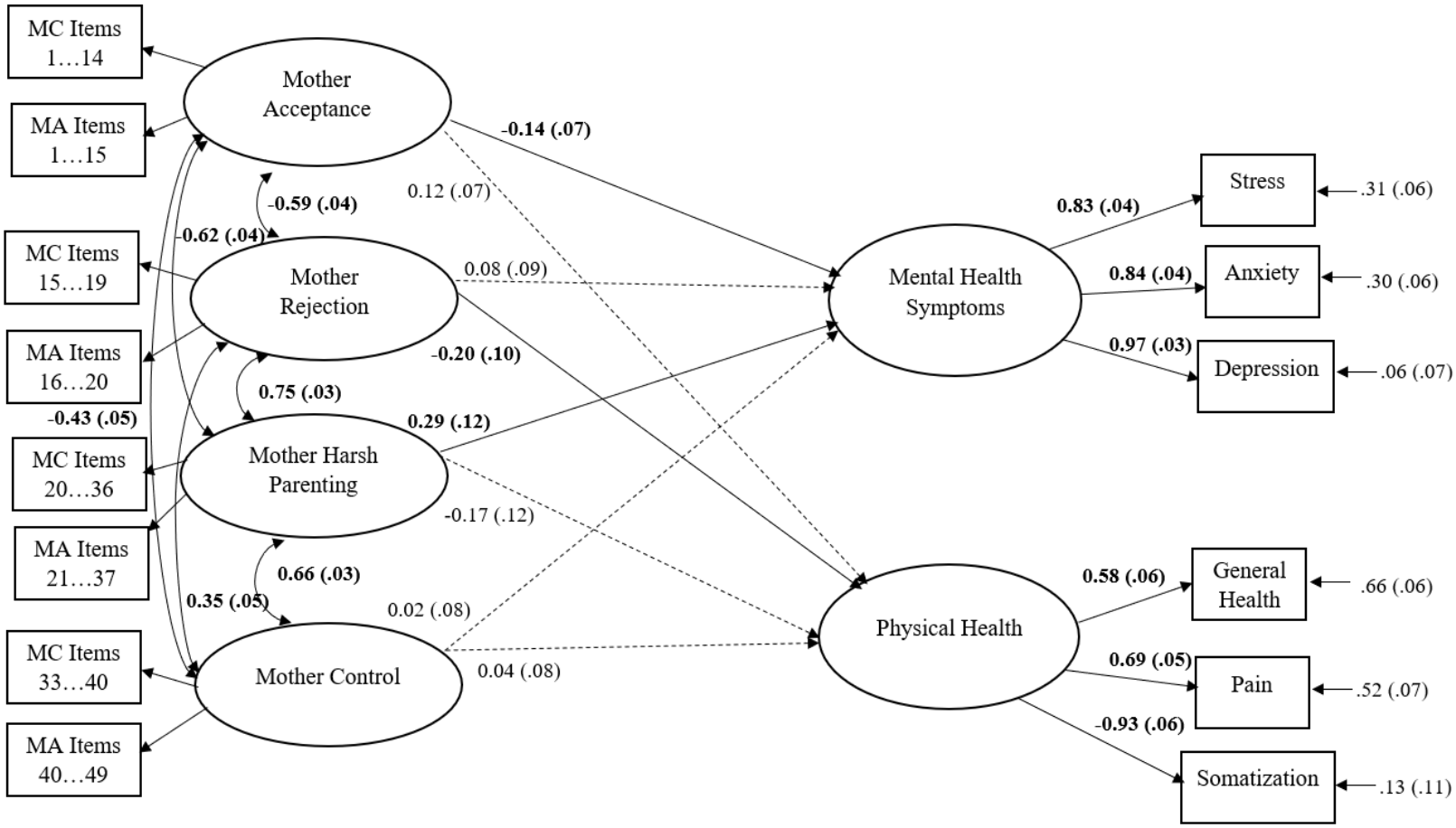
The association between maternal and paternal parenting latent factors with mental and physical health latent factors for males, females, and full sample.

	Male Model *b* (SE) *n* = 138	Female Model *b* (SE) *n* = 176	Full Sample *b* (SE) *n* = 314
Prediction of Mental Health			
Mother Acceptance	-0.49 (.38)	-0.57 (.39)	-0.58 (.28)*
Mother Rejection	0.18 (.43)	0.60 (.57)	0.33 (.37)
Mother Harsh Parenting	1.41 (.56)*	1.08 (.71)	1.20 (.49)*
Mother Control	-0.40 (.37)	0.27 (.50)	0.06 (.31)
Father Acceptance	-0.64 (.38) †	-0.43 (.35)	-0.48 (.26) †
Father Rejection	0.76 (.44) †	1.24 (.62)*	1.13 (.41)*
Father Harsh Parenting	0.91 (.54) †	0.27 (.69)	0.37 (.47)
Father Control	-0.60 (.46)	0.52 (.54)	0.21 (.35)
Prediction of Physical Health			
Mother Acceptance	1.49 (1.07)	1.05 (1.26)	1.42 (.93)
Mother Rejection	-2.80 (1.63) †	-2.78 (1.57) †	-2.42 (1.16)*
Mother Harsh Parenting	-2.18 (1.74)	-2.20 (1.98)	-2.02 (1.39)
Mother Control	1.31 (1.21)	0.57 (1.56)	0.43 (.99)
Father Acceptance	1.08 (1.02)	0.54 (.79)	0.67 (.68)
Father Rejection	-2.52 (1.31) †	-2.99 (1.47)*	-3.05 (1.11)*
Father Harsh Parenting	-0.84 (1.51)	-1.77 (1.63)	-0.83 (1.22)
Father Control	0.31 (1.10)	1.24 (1.20)	0.37 (.83)

* $p \leq .05$ † $p < .1$. *Note:* The unstandardized measurement model was constrained to be equal in male and female groups. Each model includes the association between all four parenting latent factors with mental and physical health, separately for mothers and fathers

Figure 1

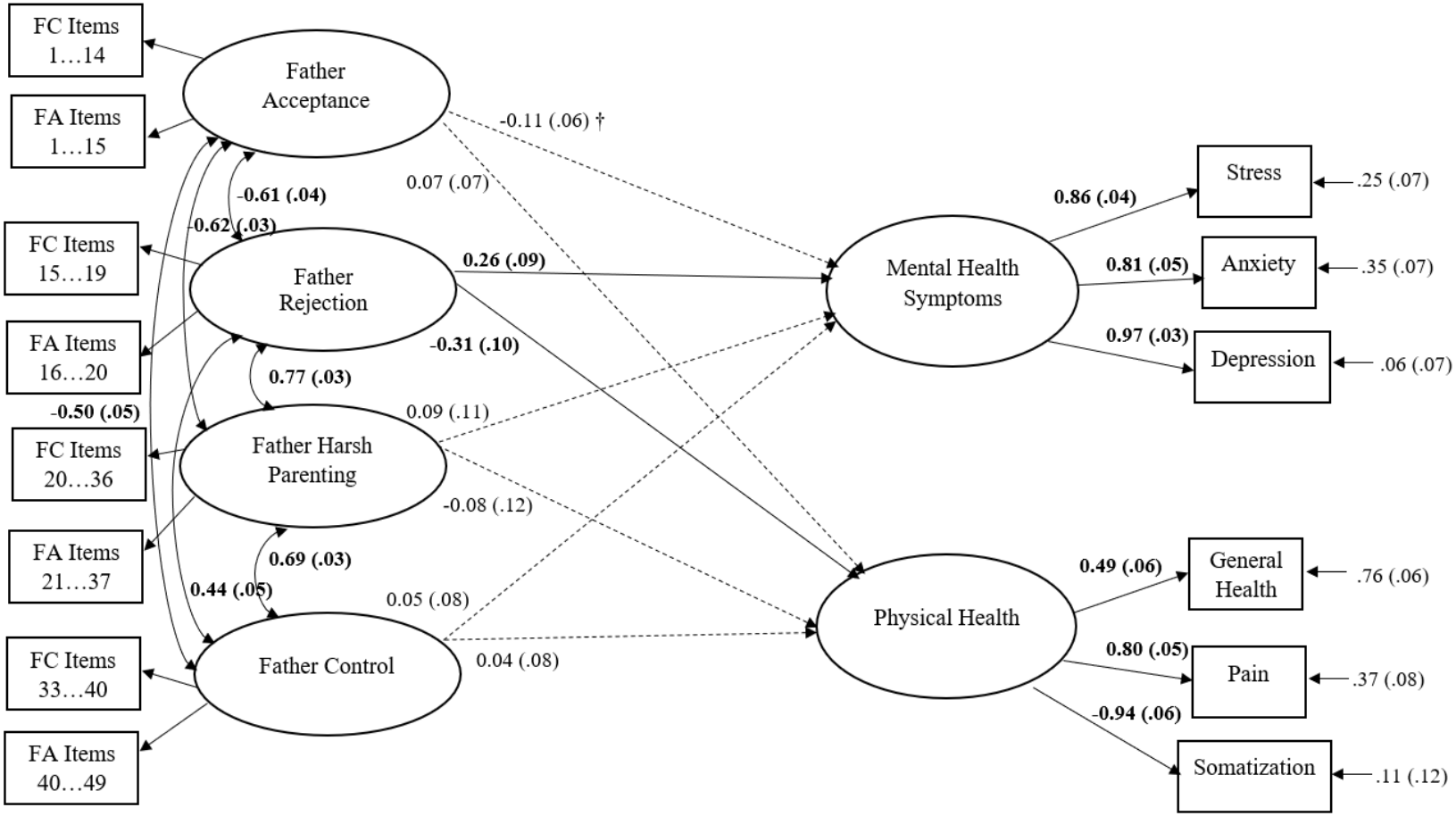
Association between mother parenting and mental and physical health.



Note. MC = mother parenting in childhood. MA = mother parenting in adolescence. Item loadings for mother parenting latent factors not depicted; all loadings ≥ 0.6, except item MC15 loading = 0.5. Standardized model results are shown: estimates (standard errors). Statistically significant estimates and paths are in bold font, dashed lines are not statistically significant.

Figure 2

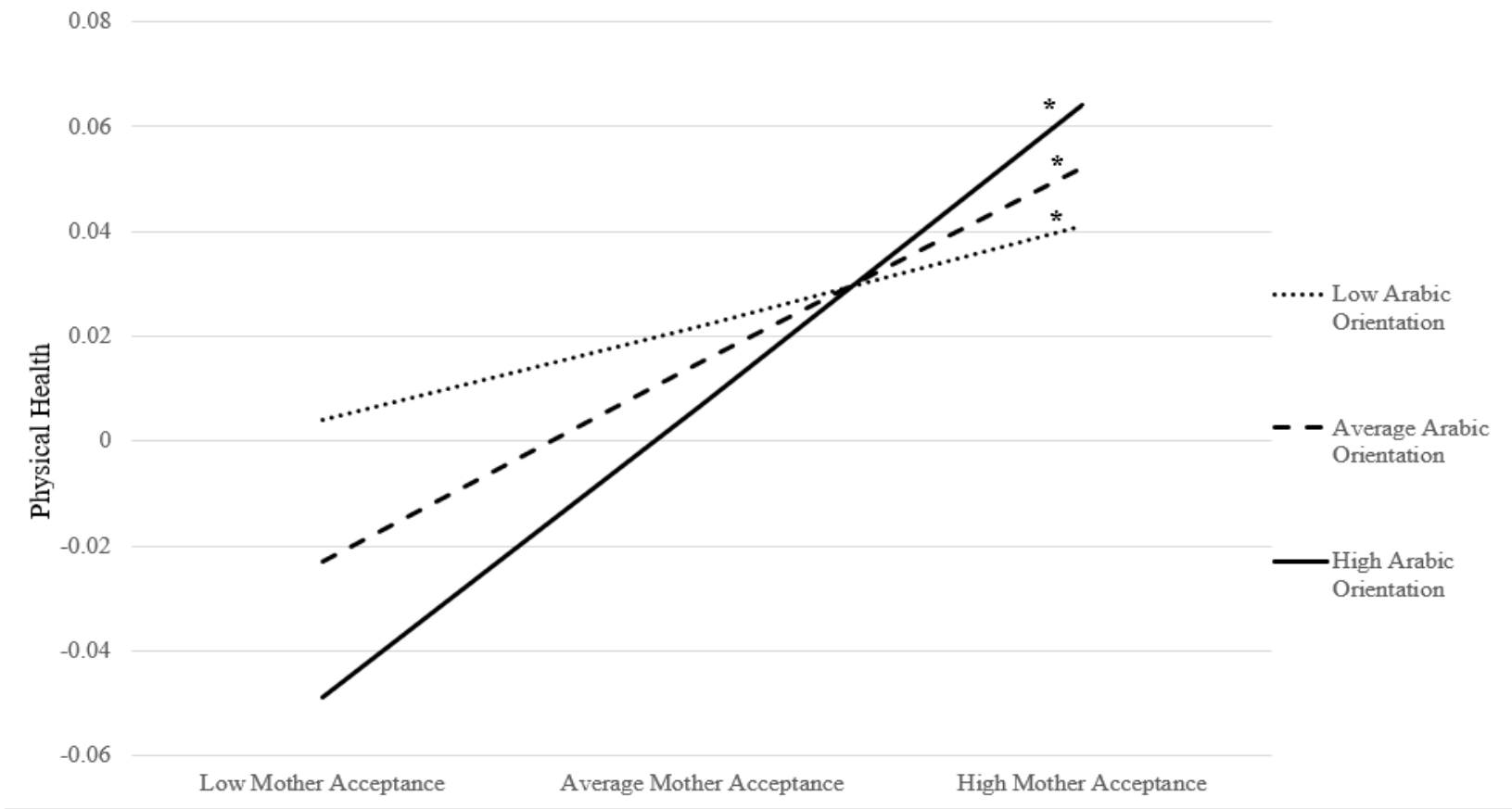
Association between father parenting and mental and physical health.



Note. FC = father parenting in childhood. FA = father parenting in adolescence. Item loadings for father parenting latent factors not depicted; all loadings ≥ 0.6. Standardized model results are shown: estimates (standard errors). Statistically significant estimates and paths are in bold font, dashed lines are not statistically significant. † indicates marginal significance ($p < .1$)

Figure 3

Mother acceptance X Arabic orientation on physical health.



Note. Low = 1 *SD* below mean; Average = mean; High = 1 *SD* above the mean. Higher values of physical health indicate better health. * indicates simple slope is significant

Figure 4

Regions of significance indicating the values of the Arabic orientation latent in which the simple slopes of maternal acceptance on physical health were statistically significant (i.e., where the confidence interval, indicated by the blue lines, does not contain zero).

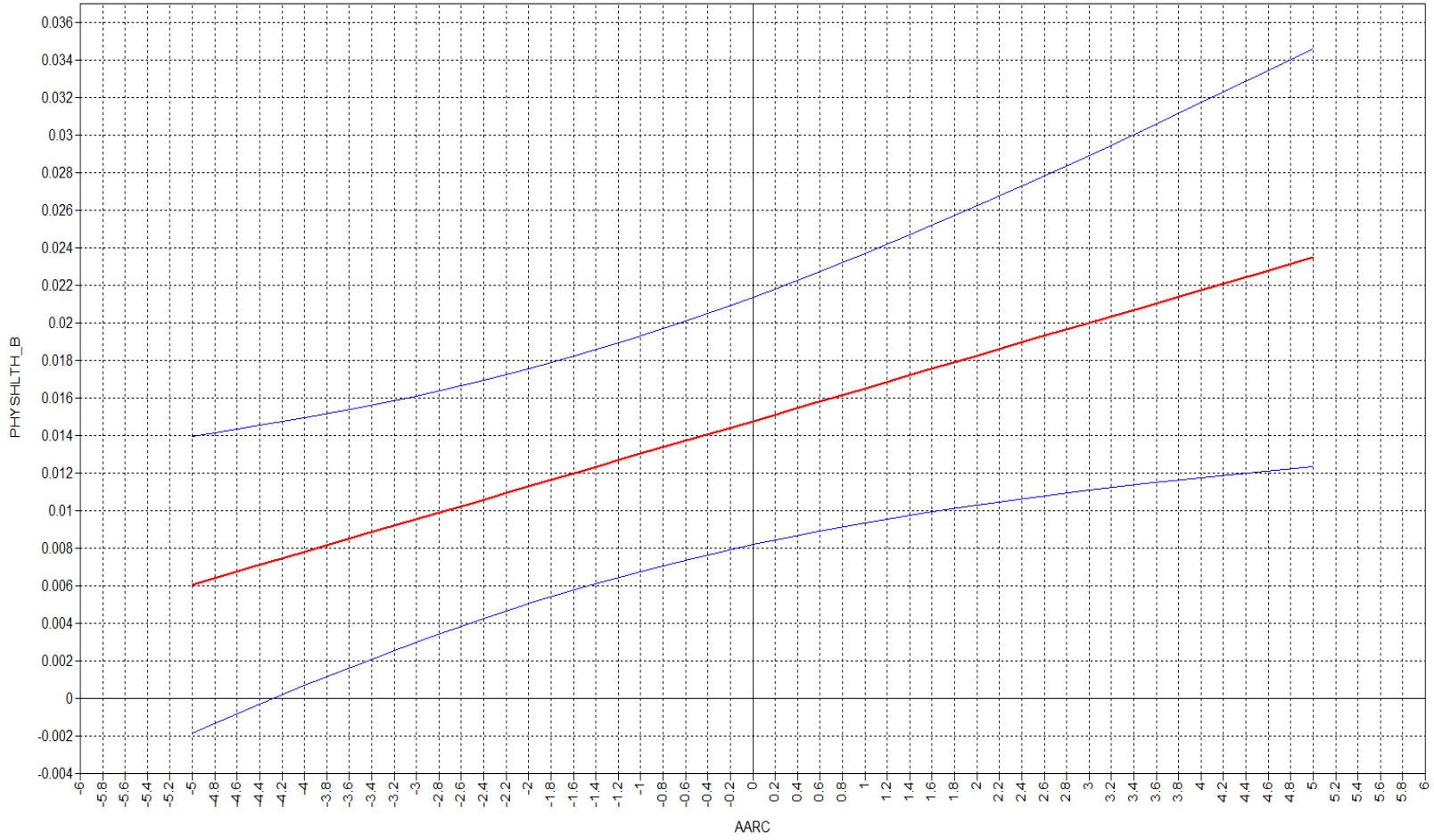
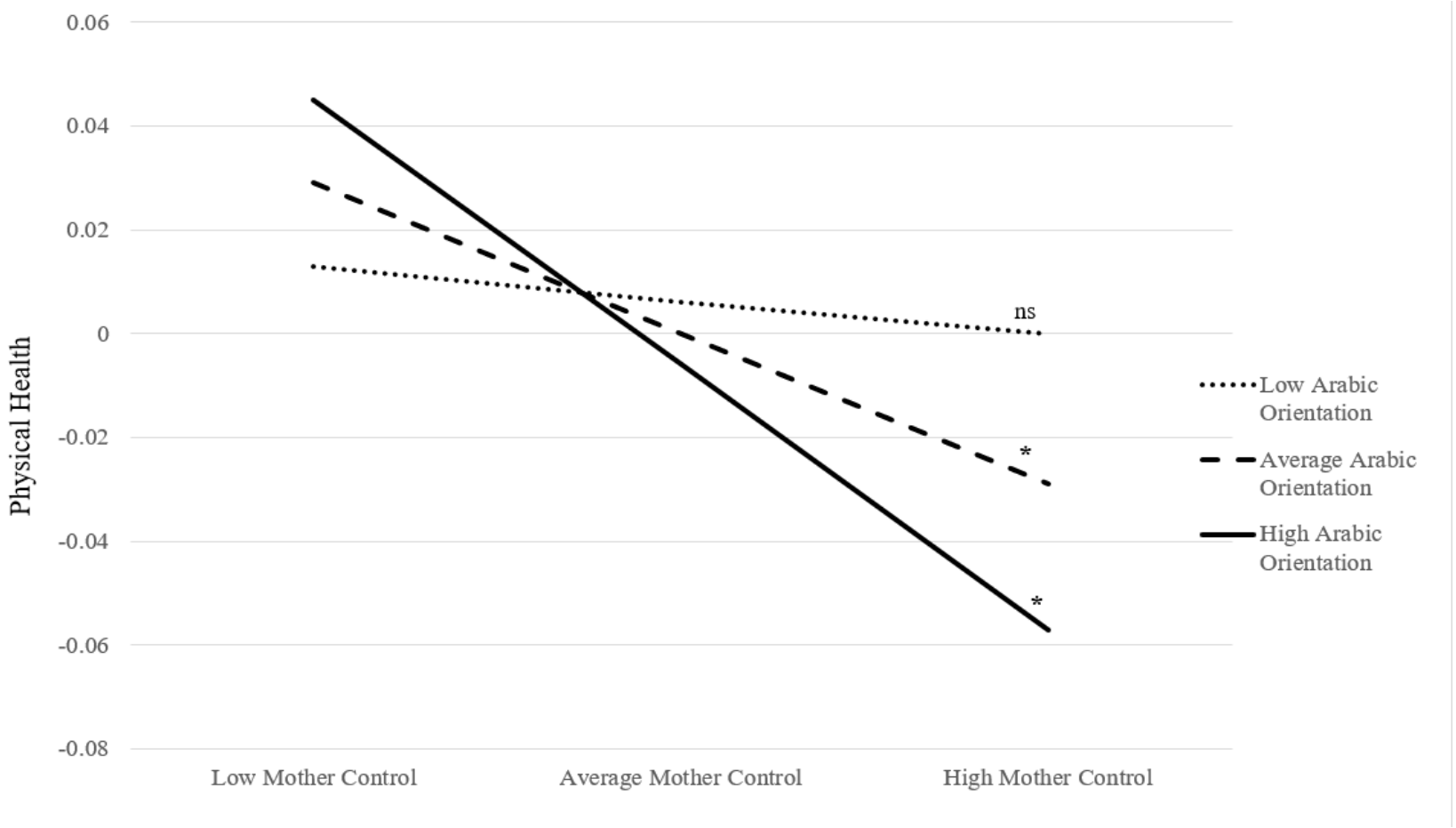


Figure 5

Mother control X Arabic orientation on physical health.



Note. Low = 1 *SD* below mean; Average = mean; High = 1 *SD* above the mean. Higher values of physical health indicate better health. * indicates simple slope is significant

Figure 6

Regions of significance indicating the values of the Arabic orientation latent in which the simple slopes of maternal control on physical health were statistically significant (i.e., where the confidence interval, indicated by the blue lines, does not contain zero).

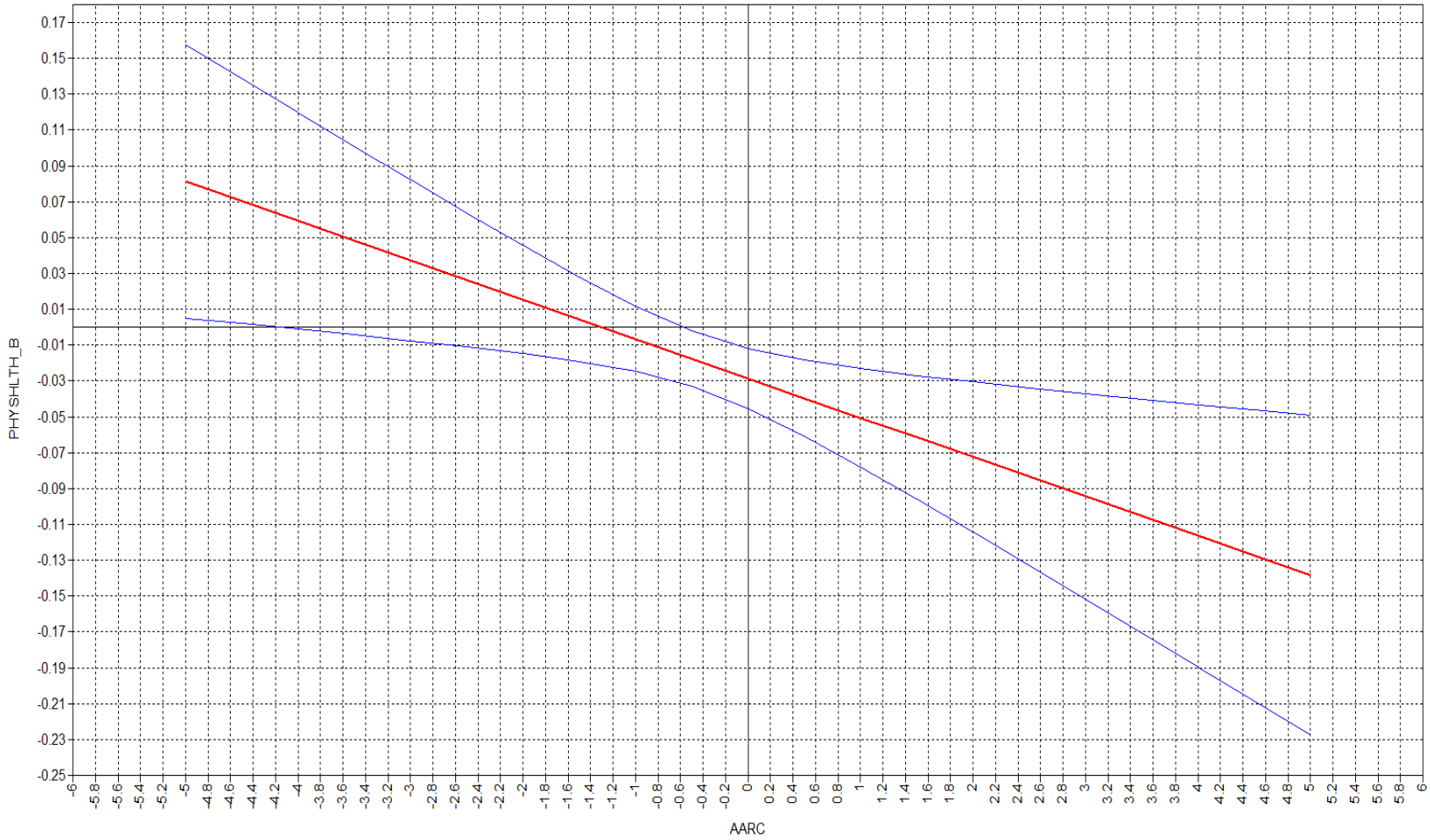
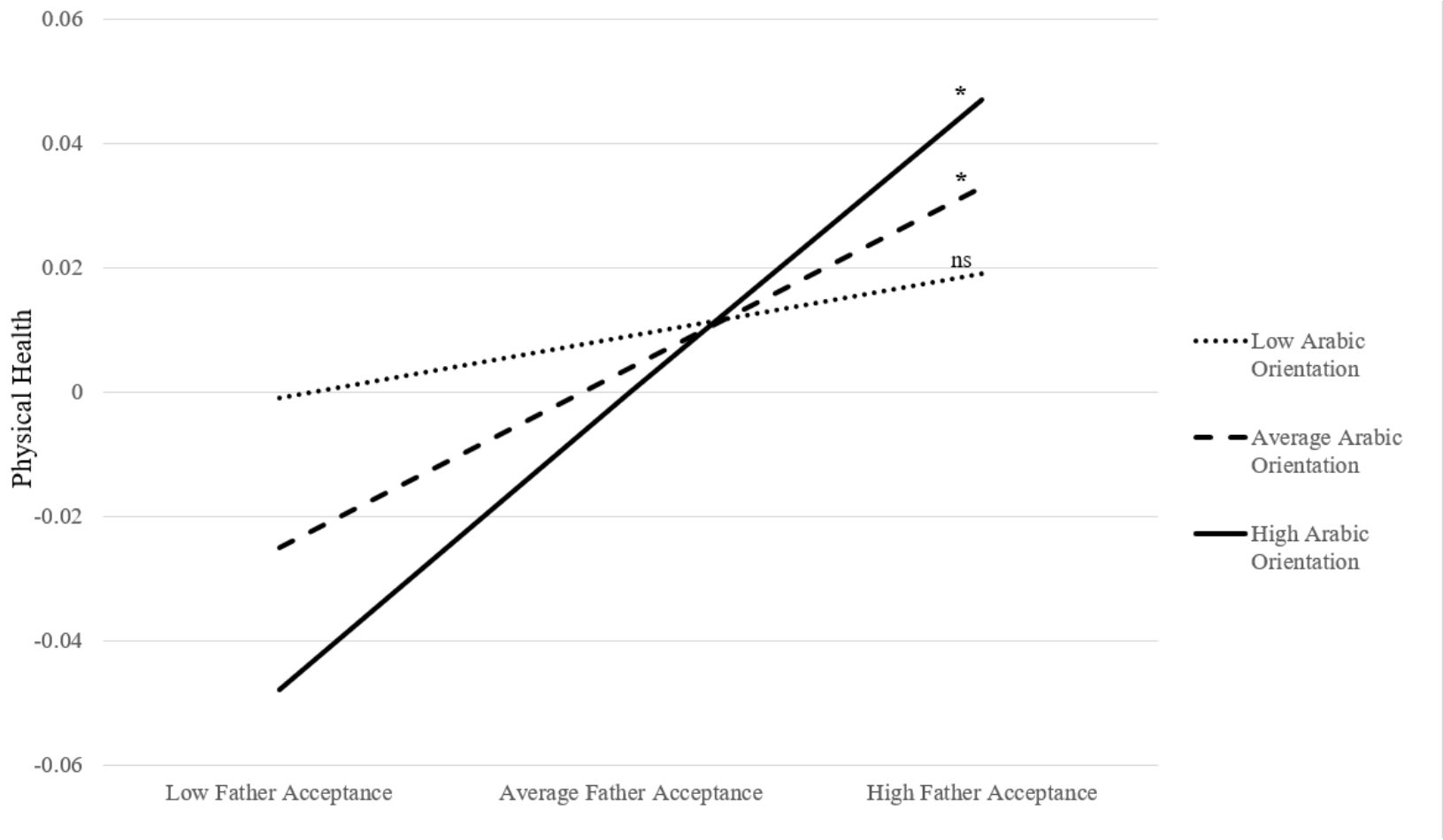


Figure 7

Father acceptance X Arabic orientation on physical health.



Note. Low = 1 *SD* below mean; Average = mean; High = 1 *SD* above the mean. Higher values of physical health indicate better health. * indicates simple slope is significant

Figure 8

Regions of significance indicating the values of the Arabic orientation latent in which the simple slopes of father acceptance on physical health were statistically significant (i.e., where the confidence interval, indicated by the blue lines, does not contain zero).

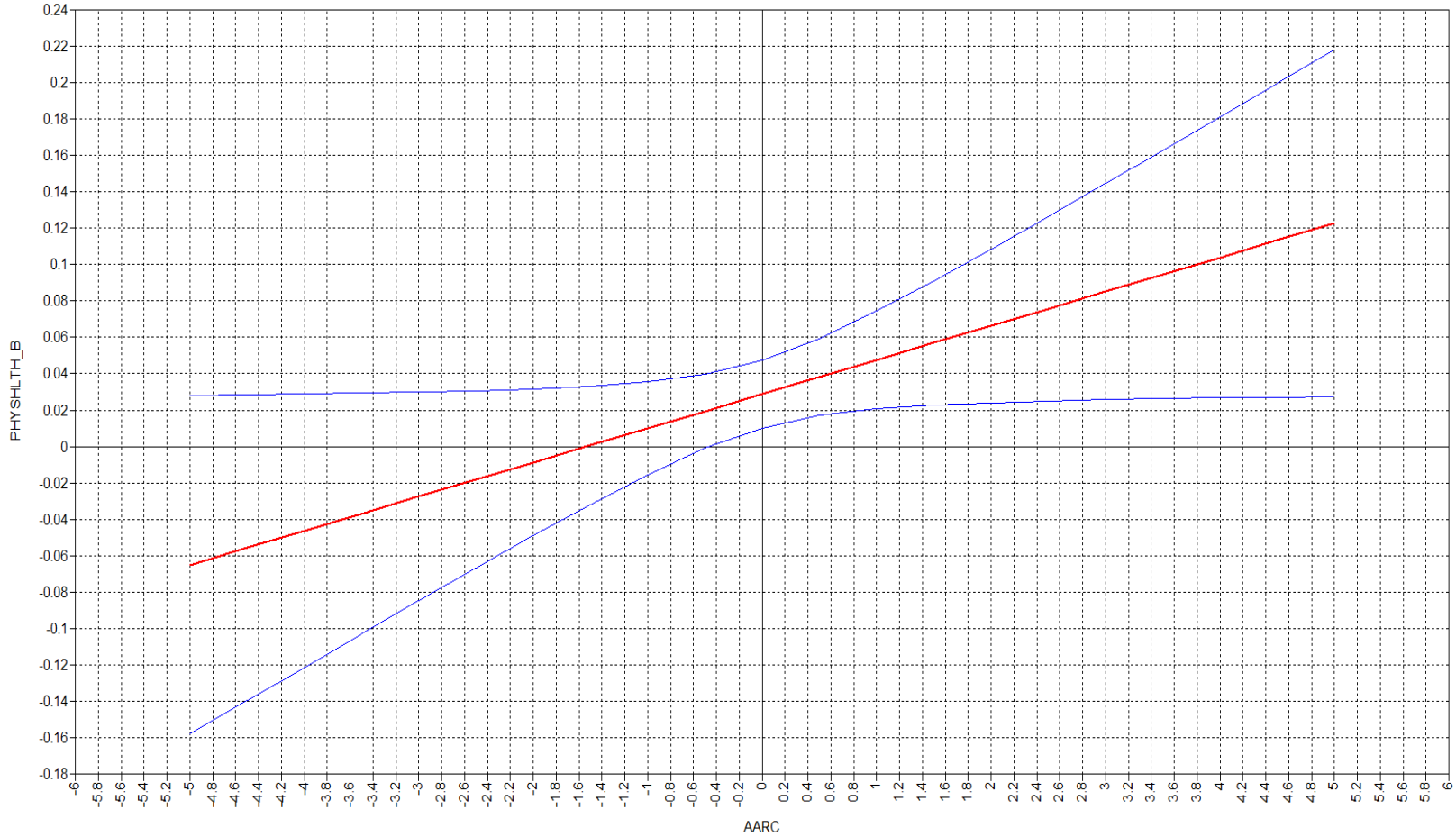
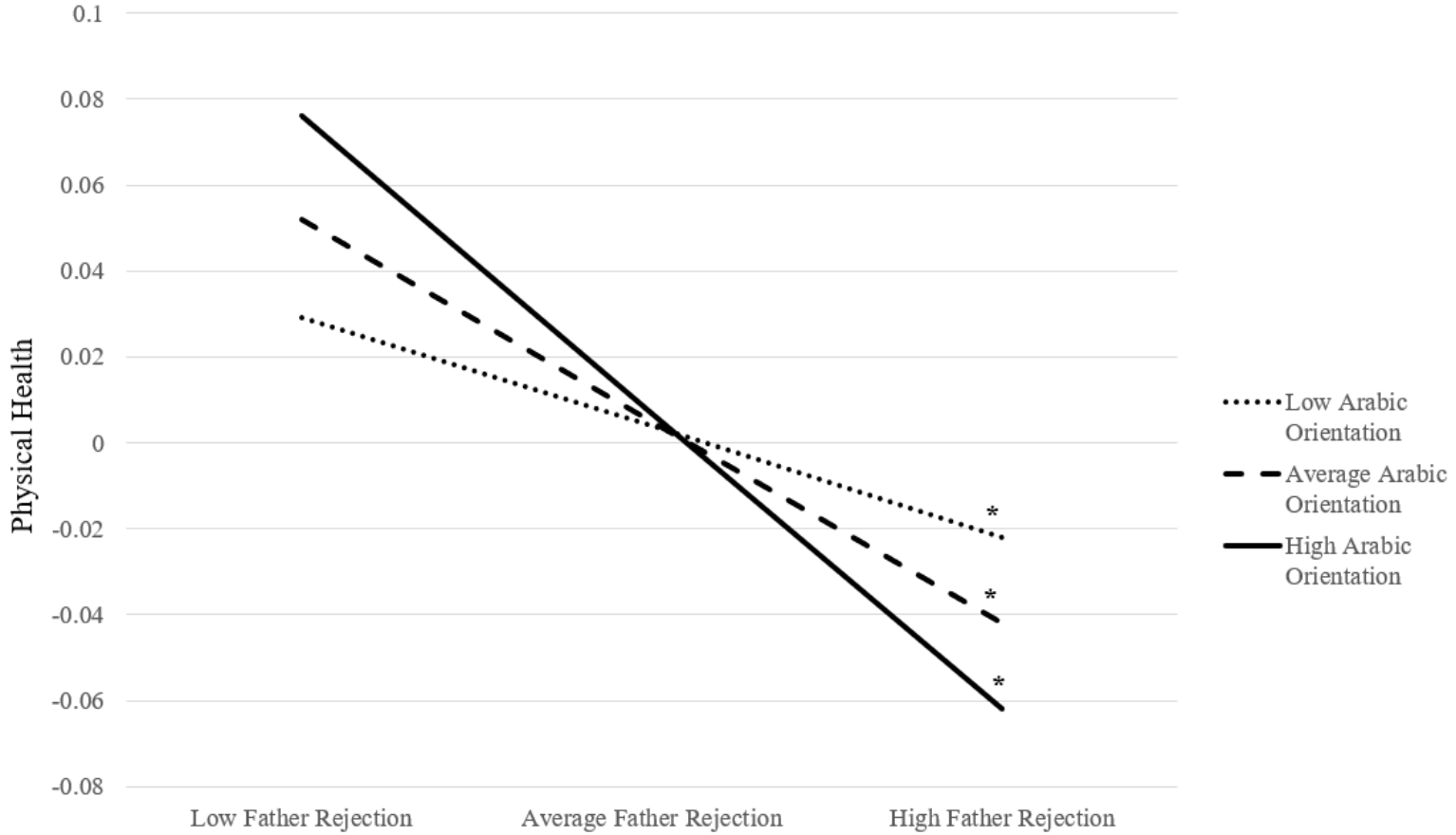


Figure 9

Father rejection X Arabic orientation on physical health.



Note. Low = 1 *SD* below mean; Average = mean; High = 1 *SD* above the mean. Higher values of physical health indicate better health. * indicates simple slope is significant

Figure 10

Regions of significance indicating the values of the Arabic orientation latent in which the simple slopes of father rejection on physical health were statistically significant (i.e., where the confidence interval, indicated by the blue lines, does not contain zero).

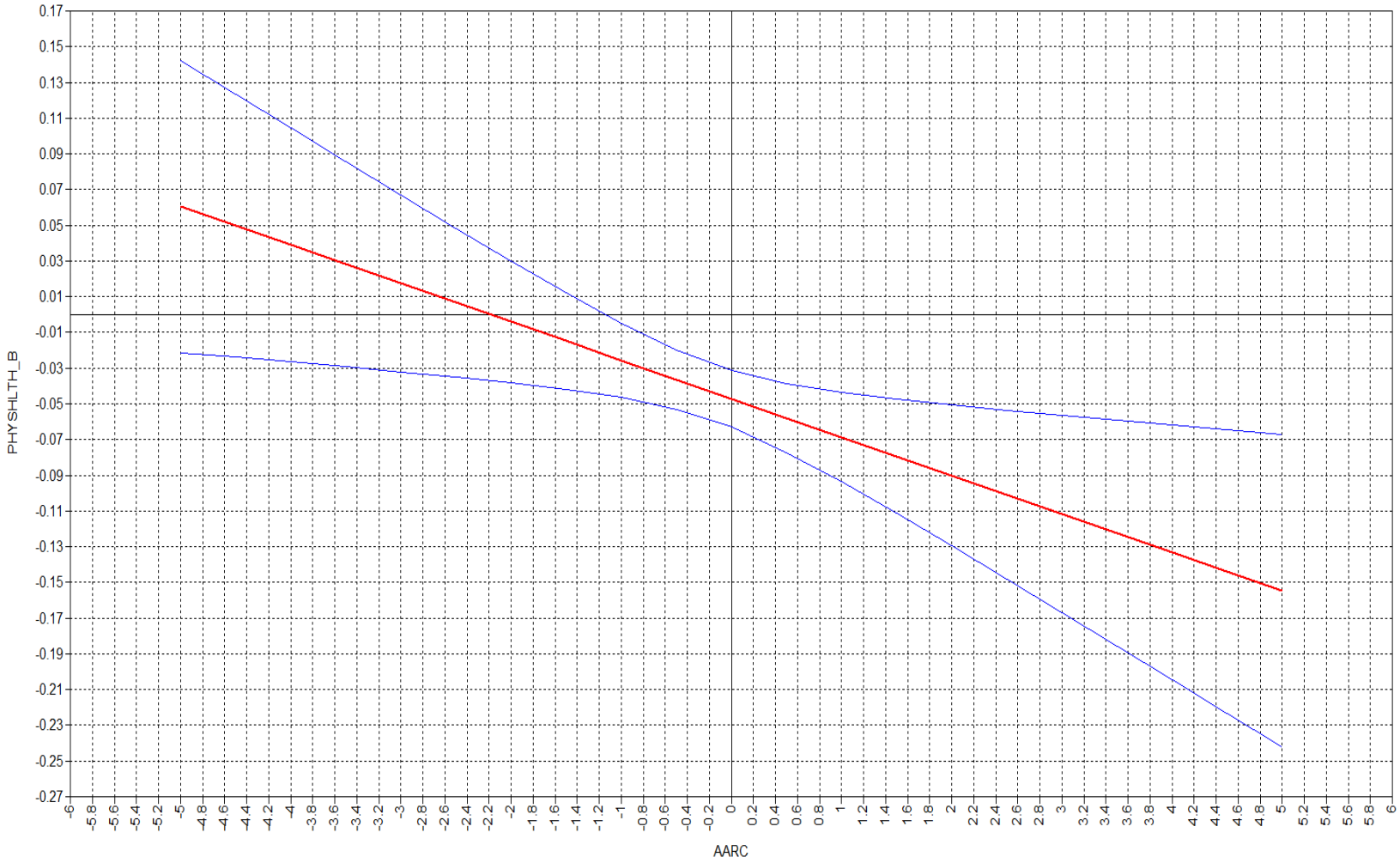
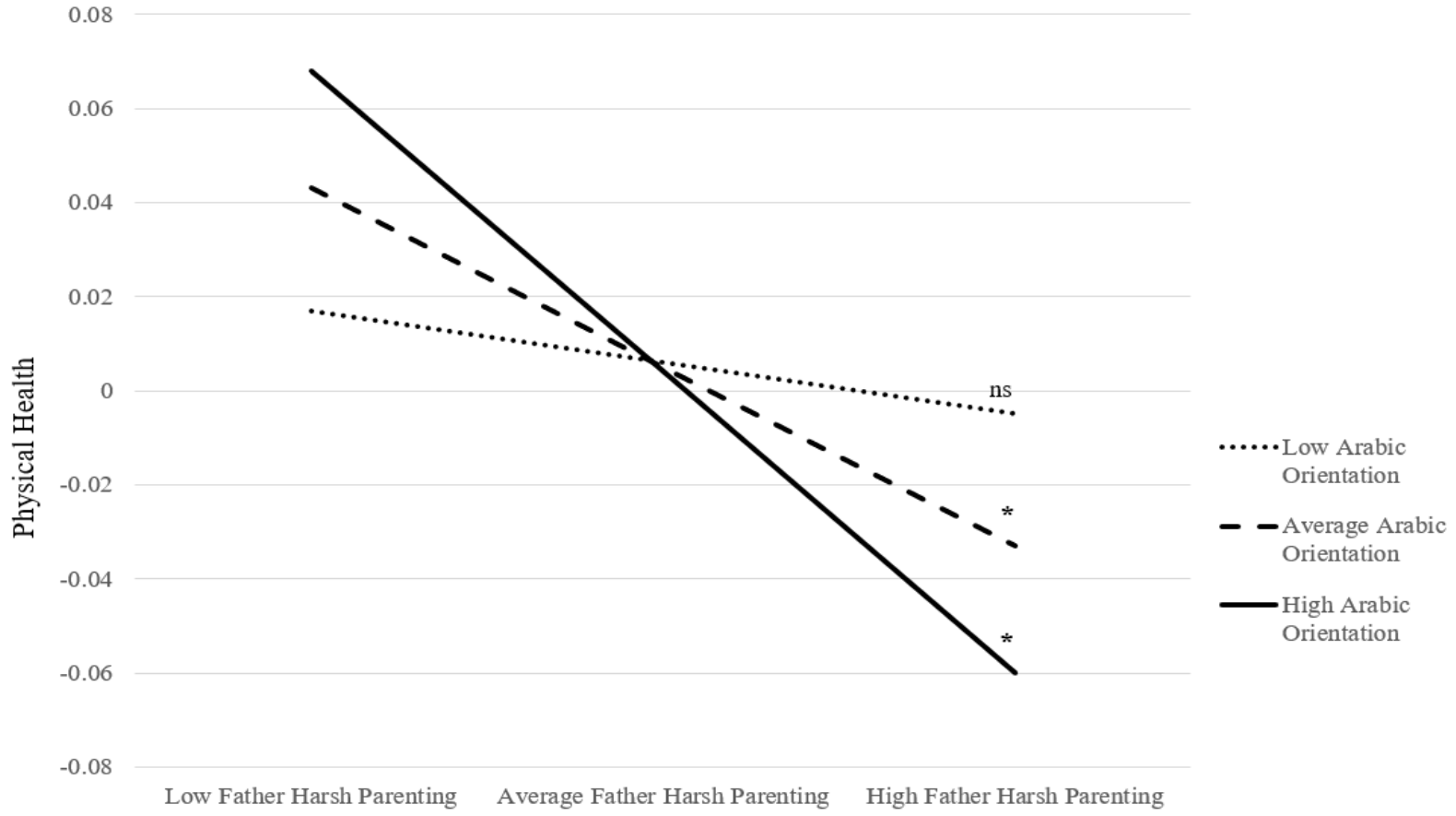


Figure 11

Father harsh parenting X Arabic orientation on physical health.



Note. Low = 1 *SD* below mean; Average = mean; High = 1 *SD* above the mean. Higher values of physical health indicate better health. * indicates simple slope is significant

Figure 12

Regions of significance indicating the values of the Arabic orientation latent in which the simple slopes of father harsh parenting on physical health were statistically significant (i.e., where the confidence interval, indicated by the blue lines, does not contain zero).

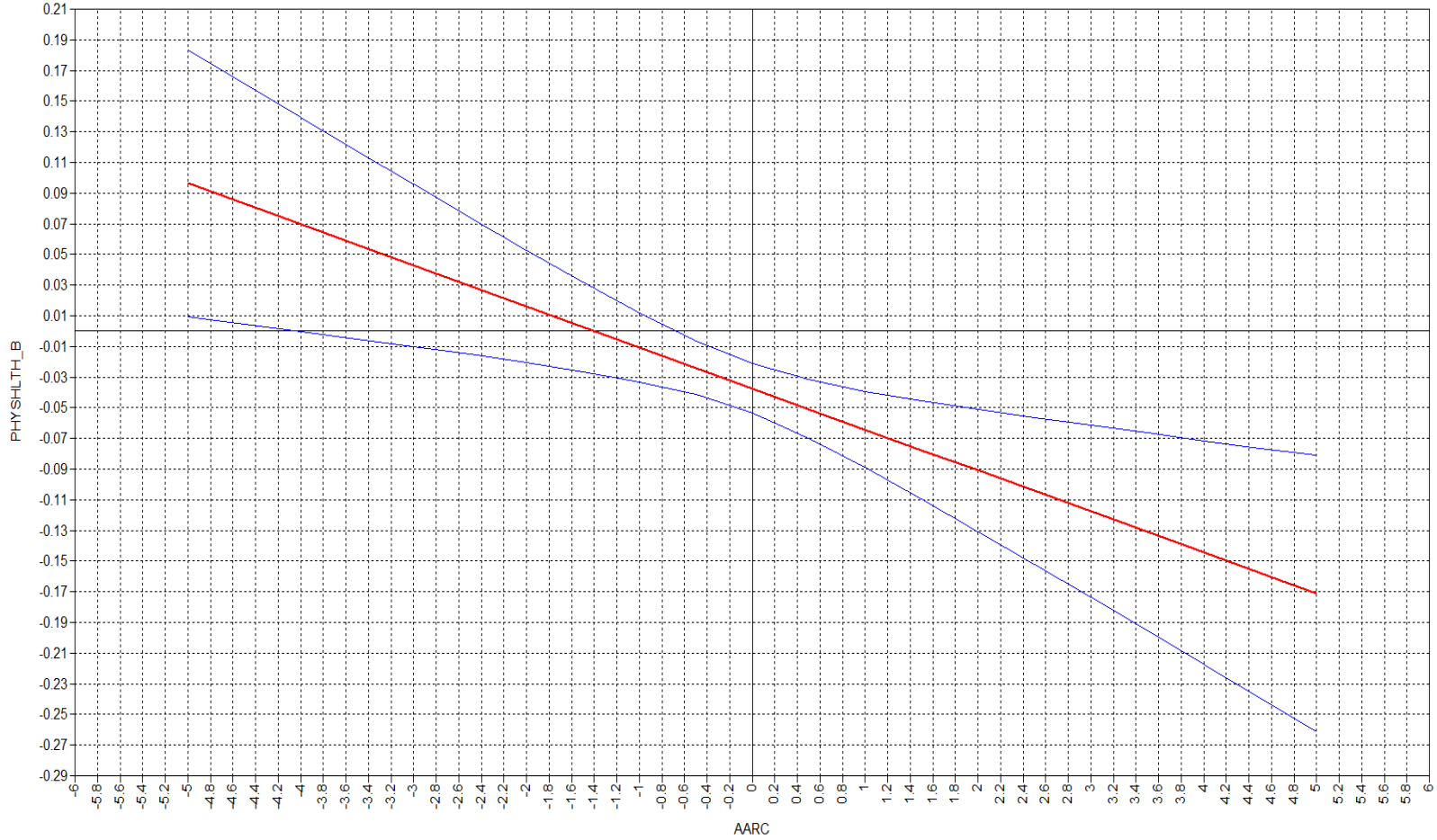
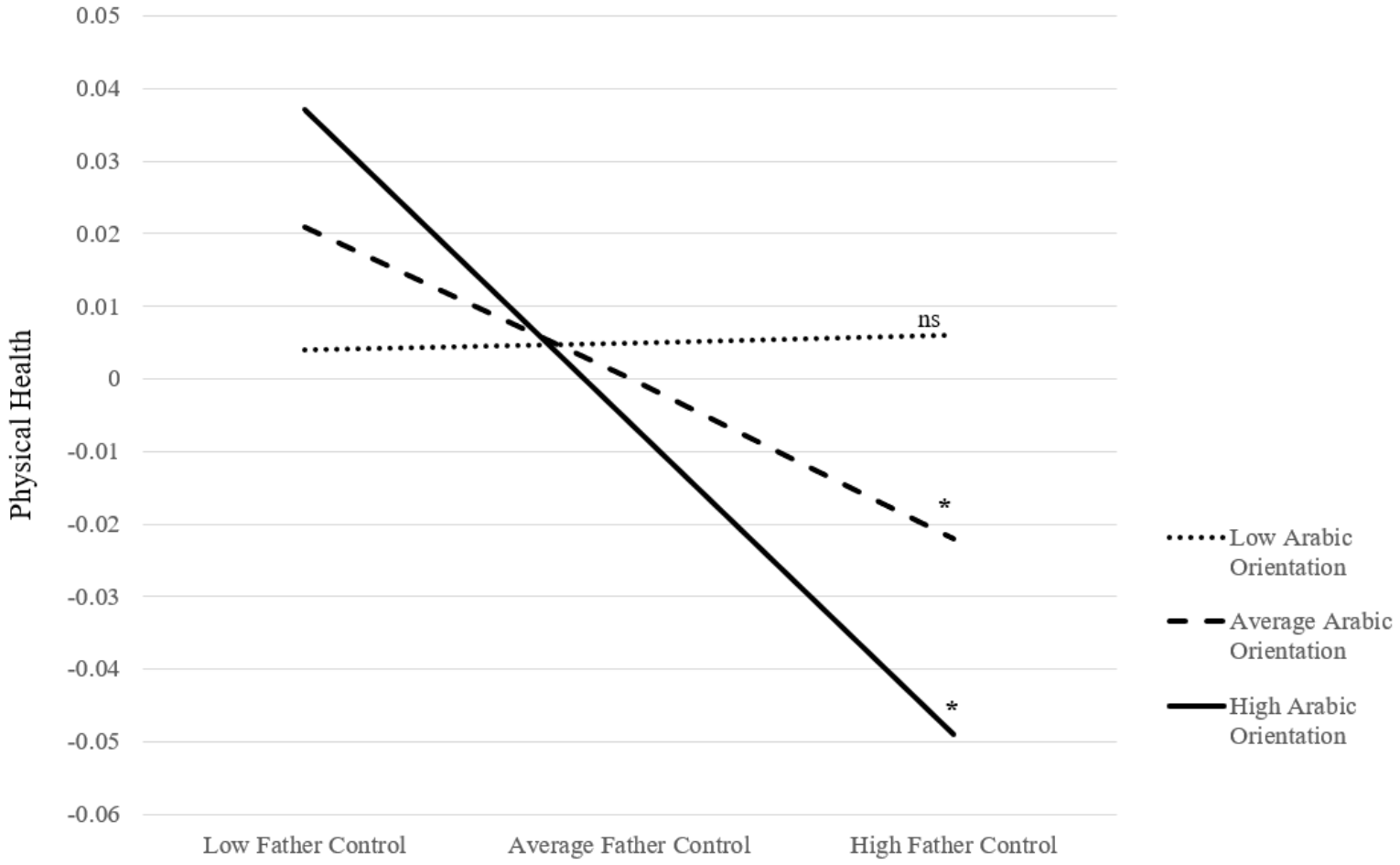


Figure 13

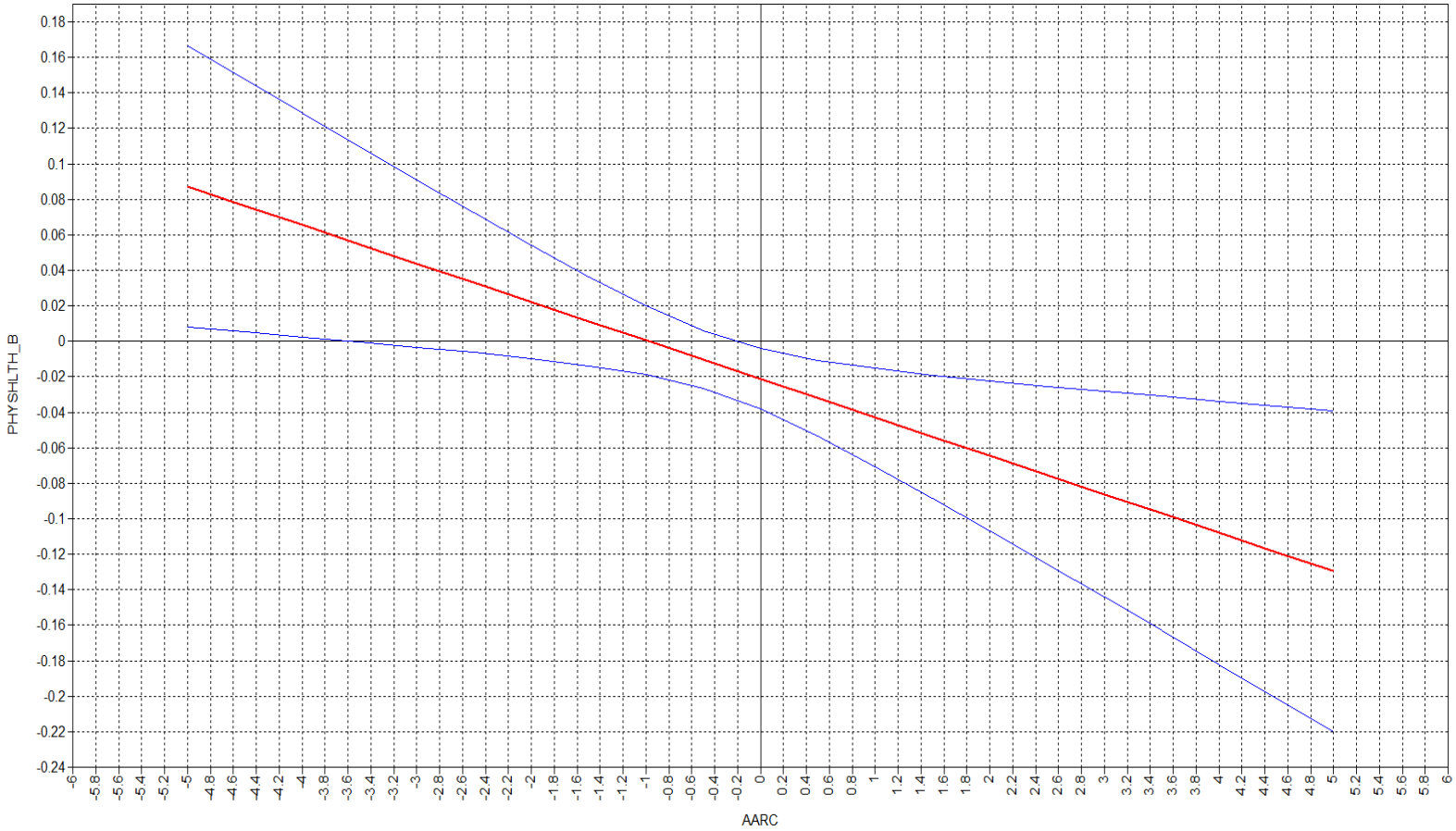
Father control X Arabic orientation on physical health.



Note. Low = 1 *SD* below mean; Average = mean; High = 1 *SD* above the mean. Higher values of physical health indicate better health. * indicates simple slope is significant

Figure 14

Regions of significance indicating the values of the Arabic orientation latent in which the simple slopes of father control on physical health were statistically significant (i.e., where the confidence interval, indicated by the blue lines, does not contain zero).



APPENDIX A

LIST OF MEASURES

ARSAA-II

Please indicate the number that best describes your response to each of the items below using the following scale:

1 = Almost never or never 2 = Once in a while 3 = Sometimes 4 = A lot of the time 5 = Almost always or always

1. _____ You speak Arabic
2. _____ You speak English
3. _____ You enjoy speaking Arabic
4. _____ You associate with Anglo – Americans (note: Anglo refers to White Americans who identify as Caucasian and/or are of European descent)
5. _____ You associate with other, non-Anglo ethnicities in America (e.g., Americans from other ethnic backgrounds)*
6. _____ You associate with Arabs/Middle Easterners/North Africans (MENA) or MENA Americans
7. _____ You enjoy listening to music in Arabic
8. _____ You enjoy listening to music in English
9. _____ You enjoy watching Arabic TV
10. _____ You enjoy watching English language TV
11. _____ You enjoy watching Arabic language movies (Arabic movies)
12. _____ You enjoy watching English language movies (American movies)
13. _____ You enjoy reading in Arabic (e.g., books)
14. _____ You enjoy reading in English (e.g., books)
15. _____ You write in Arabic (e.g., emails, texts, notes)
16. _____ You write in English (e.g., emails, texts, notes)
17. _____ Your thinking is done in English
18. _____ Your thinking is done in Arabic
19. _____ Your contact with your home country has been…
20. _____ Your friends while you were growing up were of Arab/Middle Eastern/North African origin
21. _____ Your friends while you were growing up were of Anglo-American origin (note: Anglo refers to White Americans who identify as Caucasian and/or are of European descent)
22. _____ Your friends while you were growing up were of other, non-Anglo ethnic origins (e.g., Americans from other ethnic backgrounds)*

23. _____ In your family, you cook Arabic foods
24. _____ In your family, you cook American foods
25. _____ Your friends now are of Anglo-American origin (note: Anglo refers to White Americans who identify as Caucasian and/or are of European descent)
26. _____ Your friends now are of Arab/Middle Eastern/North African origin
27. _____ Your **father** identifies or identified himself as Arab/Middle Eastern/North African
28. _____ Your **mother** identifies or identified herself as Arab/Middle Eastern/North African
29. _____ I like to identify myself as Anglo-American
30. _____ I like to identify myself as Arab/Middle Eastern/North African American*
31. _____ I like to identify myself as Arab/Middle Eastern/North African
32. _____ I like to identify myself as an American

** Items not included in current study*

CRPBI

*Think about when you were a **child**, for example, your **elementary school years (or ages 6 – 11 years)**.*

In which country(ies) were you living during your **childhood (elementary school, ages 6 - 11)** years:_____

*These next set of items are about your **MOTHER.***

Who would you say played the primary role as your ***MOTHER*** during your **childhood (elementary school, ages 6 – 11) years**:

_____ Biological mother
_____ Stepmother
_____ Grandmother
_____ Aunt or other relative
_____ Someone else, please specify_____

*Please indicate how often each of these statements is true for you, that is, how often each statement describes you or your thoughts/feelings about your **MOTHER (the individual you indicated above)** during your **CHILDHOOD (elementary school, ages 6 – 11) years**. Please use this scale:*

1 = Almost never or never 2 = Once in a while 3 = Sometimes 4 = A lot of the time 5 = Almost always or always

[Include skip logic if participant cannot answer question about mother]

_____ I cannot answer questions about this parent.

Acceptance:

1. _____ Your mother made you feel better after talking about your worries with her.
2. _____ Your mother saw your good points more than your faults.
3. _____ Your mother spoke with you in a warm and friendly voice.
4. _____ Your mother understood your problems and worries.
5. _____ Your mother was able to make you feel better when you were upset.
6. _____ Your mother cheered you up when you were sad.
7. _____ Your mother had a good time with you.
8. _____ Your mother told or showed you that she liked you just the way you were.

New Acceptance Items:

9. _____ Your mother made you food or your favorite meals to show her care for you.
10. _____ Your mother was affectionate with you (e.g., hugged you, kissed you, patted you on the back).
11. _____ Your mother bought you things to please you or show her care for you.
12. _____ Your mother bragged about you or your accomplishments to others.
13. _____ Your mother complimented you or praised you.

14. _____ Your mother joked around with you or was playful with you.

Rejection:

15. _____ Your mother forgot to get you things that you needed.
16. _____ Your mother criticized what you did.
17. _____ You had to ask your mother over and over to get you something that you needed.
18. _____ Your mother didn't know that you needed something.
19. _____ Your mother acted as if you were in the way.

Harsh Parenting:

20. _____ Your mother hit or slapped you when you did something wrong.
21. _____ Your mother got so mad at you she called you names.
22. _____ Your mother got angry when you were noisy around the house.
23. _____ Your mother screamed at you when you did something wrong.
24. _____ Your mother bothered you until you did what she wanted you to do.
25. _____ When you did something wrong, your mother punished you in front of others.
26. _____ When you did something wrong, your mother said she was disgusted with you.

New Harsh Parenting Items:

27. _____ Your mother shouted or yelled at you when you did something wrong.
28. _____ Your mother criticized you when you did something wrong.
29. _____ Your mother spoke to you in an angry and harsh voice when you did something wrong.
30. _____ Your mother threatened you.
31. _____ Your mother isolated you for a period of time to punish you.
32. _____ Your mother used sticks or other objects to hit you when you did something wrong.

Control:

33. _____ 33 - Your mother believed in having a lot of rules and sticking with them.
34. _____ 34 - Your mother insisted that you must do exactly as you were told.
35. _____ 35 - Your mother was very strict with you.
36. _____ 36 - Your mother gave hard punishment.
37. R _____ Your mother was easy with you.
38. R _____ Your mother let you off easy when you did something wrong.
39. R_____ Your mother let you do anything you liked to do.

New Control Items:

40. _____ Your mother made you do things without explanation (e.g., would say you must do things because she said so, or because she is your parent.)

*Now think about when you were an **adolescent**, for example, your **middle school and high school years (or ages 12 – 18)**.*

In which country(ies) were you living during your **adolescent (middle school and high school, ages 12 – 18)** years:_____

Who would you say played the primary role as your ***MOTHER*** during your **adolescent (middle school and high school, ages 12 – 18)** years:

_____ Biological mother
_____ Stepmother
_____ Grandmother
_____ Aunt or other relative
_____ Someone else, please specify_____

Please indicate how often each of these statements is true for you, that is, how often each statement describes you or your thoughts/feelings about your ***MOTHER (the individual you indicated above)*** *during your* ***ADOLESCENT*** ***(middle and high school, ages 12 – 18) years.*** *Please use this scale:*

1 = Almost never or never 2 = Once in a while 3 = Sometimes 4 = A lot of the time 5 = Almost always or always

[Include skip logic if participant cannot answer question about mother]

_____ I cannot answer questions about this parent.

Acceptance:

1. _____ Your mother made you feel better after talking about your worries with her.
2. _____ Your mother saw your good points more than your faults.
3. _____ Your mother spoke with you in a warm and friendly voice.
4. _____ Your mother understood your problems and worries.
5. _____ Your mother was able to make you feel better when you were upset.
6. _____ Your mother cheered you up when you were sad.
7. _____ Your mother had a good time with you.
8. _____ Your mother told or showed you that she liked you just the way you were.

New Acceptance Items:

9. _____ Your mother made you food or your favorite meals to show her care for you.
10. _____ Your mother was affectionate with you (e.g., hugged you, kissed you, patted you on the back).
11. _____Your mother bought you things to please you or show her care for you.
12. _____Your mother bragged about you or your accomplishments to others.
13. _____ Your mother complimented you or praised you.
14. _____ Your mother joked around with you or was playful with you.
15. _____ Your mother made it a priority to maintain regular communication with you.

Rejection:

16. _____ Your mother forgot to get you things that you needed.
17. _____ Your mother criticized what you did.
18. _____ You had to ask your mother over and over to get you something that you needed.

19. _____ Your mother didn't know that you needed something.
20. _____ Your mother acted as if you were in the way.

Harsh Parenting:

21. _____ Your mother hit or slapped you when you did something wrong.
22. _____ Your mother got so mad at you she called you names.
23. _____ Your mother got angry when you were noisy around the house.
24. _____ Your mother screamed at you when you did something wrong.
25. _____ Your mother bothered you until you did what she wanted you to do.
26. _____ When you did something wrong, your mother punished you in front of others.
27. _____ When you did something wrong, your mother said she was disgusted with you.

New Harsh Parenting Items:

28. _____Your mother shouted or yelled at you when you did something wrong.
29. _____Your mother criticized you when you did something wrong.
30. _____Your mother spoke to you in an angry and harsh voice when you did something wrong.
31. _____Your mother threatened you.
32. _____Your mother isolated you for a period of time to punish you.
33. _____Your mother used sticks or other objects to hit you when you did something wrong.

Control:

34. _____ Your mother believed in having a lot of rules and sticking with them.
35. _____ Your mother insisted that you must do exactly as you were told.
36. _____ Your mother was very strict with you.
37. _____ Your mother gave hard punishment.
38. R_____ Your mother was easy with you.
39. R_____ Your mother let you off easy when you did something wrong.
40. R_____ Your mother gave you as much freedom as you wanted.
41. R_____ Your mother let you go any place you wanted without asking.
42. R_____ Your mother let you go out any evening you wanted.
43. R_____ Your mother let you do anything you liked to do.

New Control Items:

44. _____Your mother was strict about who your friends were or who you spent time with.
45. R _____Your mother let you stay out as late as you wanted.
46. _____ Your mother was strict about your interactions with the opposite sex.
47. R _____Your mother let you wear what you wanted in public.
48. _____Your mother had strict rules about dating or intimate relationships.
49. _____Your mother made you do things without explanation (e.g., would say you must do things because she said so, or because she is your parent.)

*These next set of items are about your **FATHER.***

Who would you say played the primary role as your ***FATHER*** during your **childhood (elementary school, ages 6 – 11) years**:

_____ Biological father
_____ Stepfather
_____ Grandfather
_____ Uncle or other relative
_____ Someone else, please specify_____

*Please indicate how often each of these statements is true for you, that is, how often each statement describes you or your thoughts/feelings about your **FATHER (the individual you indicated above)** during your **CHILDHOOD (elementary school, ages 6 – 11) years**. Please use this scale:*

1 = Almost never or never 2 = Once in a while 3 = Sometimes 4 = A lot of the time 5 = Almost always or always

[Include skip logic if participant cannot answer question about father]

_____ I cannot answer questions about this parent.

Acceptance:

1. _____Your father made you feel better after talking about your worries with him.
2. _____ Your father saw your good points more than your faults.
3. _____Your father spoke with you in a warm and friendly voice.
4. _____ Your father understood your problems and worries.
5. _____Your father was able to make you feel better when you were upset.
6. _____ Your father cheered you up when you were sad.
7. _____ Your father had a good time with you.
8. _____ Your father told or showed you that he liked you just the way you were.

New Acceptance Items:

9. _____ Your father made you food or your favorite meals to show his care for you.
10. _____Your father was affectionate with you (e.g., hugged you, kissed you, patted you on the back).
11. _____ Your father bought you things to please you or show his care for you.
12. _____Your father bragged about you or your accomplishments to others.
13. _____Your father complimented you or praised you.
14. _____Your father joked around with you or was playful with you.

Rejection:

15. _____ Your father forgot to get you things that you needed.
16. _____ Your father criticized what you did.
17. _____ You had to ask your father over and over to get you something that you needed.
18. _____ Your father didn't know that you needed something.
19. _____Your father acted as if you were in the way.

Harsh Parenting:

20. _____ Your father hit or slapped you when you did something wrong.
21. _____ Your father got so mad at you he called you names.
22. _____ Your father got angry when you were noisy around the house.
23. _____ Your father screamed at you when you did something wrong.
24. _____ Your father bothered you until you did what he wanted you to do.
25. _____ When you did something wrong, your father punished you in front of others.
26. _____ When you did something wrong, your father said he was disgusted with you.

New Harsh Parenting Items:

27. _____Your father shouted or yelled at you when you did something wrong.
28. _____Your father criticized you when you did something wrong.
29. _____Your father spoke to you in an angry and harsh voice when you did something wrong.
30. _____Your father threatened you.
31. _____ Your father isolated you for a period of time to punish you.
32. _____Your father used sticks or other objects to hit you when you did something wrong.

Control:

33. _____ Your father believed in having a lot of rules and sticking with them.
34. _____ Your father insisted that you must do exactly as you were told.
35. _____ Your father was very strict with you.
36. _____ Your father gave hard punishment.
37. R_____ Your father was easy with you.
38. R_____ Your father let you off easy when you did something wrong.
39. R_____ Your father let you do anything you liked to do.

New Control Items:

40. _____Your father made you do things without explanation (e.g., would say you must do things because he said so, or because he is your parent.)

Who would you say played the primary role as your ***FATHER*** during your **adolescent (middle school and high school, ages 12 – 18)** years:

_____ Biological father
_____ Stepfather
_____ Grandfather
_____ Uncle or other relative
_____ Someone else, please specify_____

Please indicate how often each of these statements is true for you, that is, how often each statement describes you or your thoughts/feelings about your ***FATHER (the individual you indicated above)*** *during your* ***ADOLESCENT*** ***(middle and high school, ages 12 – 18) years.*** *Please use this scale:*

1 = Almost never or never 2 = Once in a while 3 = Sometimes 4 = A lot of the time 5 = Almost always or always

[Include skip logic if participant cannot answer question about father]

_____ I cannot answer questions about this parent.

Acceptance:

1. _____ Your father made you feel better after talking about your worries with him.
2. _____ Your father saw your good points more than your faults.
3. _____ Your father spoke with you in a warm and friendly voice.
4. _____ Your father understood your problems and worries.
5. _____ Your father was able to make you feel better when you were upset.
6. _____ Your father cheered you up when you were sad.
7. _____ Your father had a good time with you.
8. _____ Your father told or showed you that he liked you just the way you were.

New Acceptance Items:

9. _____ Your father made you food or your favorite meals to show his care for you.
10. _____ Your father was affectionate with you (e.g., hugged you, kissed you, patted you on the back).
11. _____Your father bought you things to please you or show his care for you.
12. _____Your father bragged about you or your accomplishments to others.
13. _____Your father complimented you or praised you.
14. _____Your father joked around with you or was playful with you.
15. _____Your father made it a priority to maintain regular communication with you.

Rejection:

16. _____ Your father forgot to get you things that you needed.
17. _____ Your father criticized what you did.
18. _____ You had to ask your father over and over to get you something that you needed.
19. _____ Your father didn't know that you needed something.
20. _____ Your father acted as if you were in the way.

Harsh Parenting:

21. _____ Your father hit or slapped you when you did something wrong.
22. _____ Your father got so mad at you he called you names.
23. _____ Your father got angry when you were noisy around the house.
24. _____ Your father screamed at you when you did something wrong.
25. _____ Your father bothered you until you did what he wanted you to do.
26. _____ When you did something wrong, your father punished you in front of others.
27. _____ When you did something wrong, your father said she was disgusted with you.

New Harsh Parenting Items:

28. _____Your father shouted or yelled at you when you did something wrong.
29. _____Your father criticized you when you did something wrong.
30. _____Your father spoke to you in an angry and harsh voice when you did something wrong.
31. _____Your father threatened you.

32. _____Your father isolated you for a period of time to punish you.
33. _____Your father used sticks or other objects to hit you when you did something wrong.

Control:

34. _____ Your father believed in having a lot of rules and sticking with them.
35. _____ Your father insisted that you must do exactly as you were told.
36. _____ Your father was very strict with you.
37. _____ Your father gave hard punishment.
38. R_____ Your father was easy with you.
39. R_____ Your father let you off easy when you did something wrong.
40. R_____ Your father gave you as much freedom as you wanted.
41. R_____ Your father let you go any place you wanted without asking.
42. R_____ Your father let you go out any evening you wanted.
43. R_____ Your father let you do anything you liked to do.

New Control Items:

44. _____Your father was strict about who your friends were or who you spent time with.
45. R_____ Your father let you stay out as late as you wanted.
46. _____ Your father was strict about your interactions with the opposite sex.
47. R_____ Your father let you wear what you wanted in public.
48. _____Your father had strict rules about dating or intimate relationships.
49. _____ Your father made you do things without explanation (e.g., would say you must do things because he said so, or because he is your parent.)

DASS 21

Please read each statement and circle a number 1, 2, 3 or 4 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

Please use the following rating scale:

1 = Did not apply to me at all – NEVER
2 = Applied to me to some degree, or some of the time – SOMETIMES
3 = Applied to me to a considerable degree, or a good part of time – OFTEN
4 = Applied to me very much, or most of the time - ALMOST ALWAYS

_____ 1. I found it hard to wind down

_____ 2. I was aware of dryness of my mouth

_____ 3. I couldn't seem to experience any positive feeling at all

_____ 4. I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)

_____ 5. I found it difficult to work up the initiative to do things

_____ 6. I tended to over-react to situations

_____ 7. I experienced trembling (eg, in the hands)

_____ 8. I felt that I was using a lot of nervous energy

_____ 9. I was worried about situations in which I might panic and make a fool of myself

_____ 10. I felt that I had nothing to look forward to

_____ 11. I found myself getting agitated

_____ 12. I found it difficult to relax

_____ 13. I felt down-hearted and blue

_____ 14. I was intolerant of anything that kept me from getting on with what I was doing

_____ 15. I felt I was close to panic

_____ 16. I was unable to become enthusiastic about anything

_____ 17. I felt I wasn't worth much as a person

_____ 18. I felt that I was rather touchy

_____ 19. I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)

_____ 20. I felt scared without any good reason

_____ 21. I felt that life was meaningless

SF-12 HEALTH ITEMS

Now you will be asked some questions about your health. Think about your physical health during these next questions.

1. In general, how would you describe your health right now?

Excellent	1
Very Good	2
Good	3
Fair	4
Poor	5

2. Compared to one year ago, how would you rate your health in general now?

Much better than one year ago	1
Somewhat better than one year ago	2
About the same	3
Somewhat worse now than one year ago	4
Much worse now than one year ago	5

How true or false is each of the following statements for you? Please use the following scale:

Definitely True	1
Mostly True	2
Don't Know	3
Mostly False	4
Definitely False	5

3. I seem to get sick a little easier than other people.
4. I am as healthy as anyone I know.
5. I expect my health to get worse.
6. My health is excellent.

7. How much bodily pain have you had during the past 4 weeks?

None	1
Very Mild	2
Mild	3
Moderate	4
Severe	5
Very Severe	6

8. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

Not at All	1

A Little Bit	2
Moderately	3
Quite a Bit	4

SCL-90R – SOMATIZATION SUBSCALE

The following questions are going to ask about physical problems that people sometimes have. Think about HOW MUCH THAT PROBLEM HAS DISTRESSED OR BOTHERED YOU IN THE LAST 7 DAYS, INCLUDING TODAY. Please choose the response that best describes how you feel using the following response scale:

1 = Not at all 2 = A little bit 3 = Moderately 4 = Quite a bit 5 = Extremely

_____1. How much have you been bothered or distressed by headaches?

_____2. How much have you been bothered or distressed by faintness or dizziness?

_____3. Pains in your heart or chest?

_____4. Pains in your lower back?

_____5. Nausea or upset stomach?

_____6. Soreness of your muscles?

_____7. Trouble getting your breath?

_____8. Hot or cold spells?

_____9. Numbness or tingling in parts of your body?

_____10. A lump in your throat?

_____11. Feeling weak in parts of your body?

_____12. Heavy feelings in your arms or legs?

APPENDIX B

INSTITUTIONAL REVIEW BOARD APPROVAL DOCUMENTS

ASU Knowledge Enterprise Development

APPROVAL: MODIFICATION

Linda Luecken
Psychology
480/965-6886
Linda.Luecken@asu.edu

Dear Linda Luecken:

On 4/27/2018 the ASU IRB reviewed the following protocol:

Type of Review:	Modification
Title:	AMENA Parenting and Youth Health
Investigator:	Linda Luecken
IRB ID:	STUDY00007286
Funding:	Name: Internal Funding: Investigator Incentive Award (IIA), Funding Source ID: IIA0515
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• Acculturation ARSAA-II for AMENA Study Final Formatted.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Demographic Questionnaire Final.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Focus Group Questions.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Consent for Online Survey.pdf, Category: Consent Form; • Focus Group Consent Form Final.pdf, Category: Consent Form; • AMENA study flier.pdf, Category: Recruitment Materials; • Hanna, Mariam Social Behavioral IRB Request (AMENA Study).docx, Category: IRB Protocol; • Religion Spirituality for AMENA Study.pdf,

	Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Fraudulent Check Questions.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • SF-12 Health Items for AMENA study Final.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • DASS for AMENA Study Final.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Hanna, Mariam Recruitment Scripts.pdf, Category: Recruitment Materials; • Focus Group Demos Final.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Letter to IRB.pdf, Category: Other (to reflect anything not captured above); • PSY 101 Screener Questions.pdf, Category: Screening forms; • Parent racial socialization for AMENA Study Final.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Parenting CR-PBI Items (AMENA Study) Final.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • AMENA Study Consent Form Final Paper survey.pdf, Category: Consent Form; • Discimination for AMENA Study Final.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Somatization Subscale for AMENA Study Final.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • FES Final.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);

The IRB approved the modification.

When consent is appropriate, you must use final, watermarked versions available under the "Documents" tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Mariam Hanna
Shayka Alrodan
Mariam Hanna