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# An Exploration of Parenting Styles, Emotion Regulation, Depression, and Culture's Role

Krysten L. Monzon

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**AN EXPLORATION OF PARENTING STYLES, EMOTION  
REGULATION, DEPRESSION, AND CULTURE'S ROLE**

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AN EXPLORATION OF PARENTING STYLES, EMOTION REGULATION,  
DEPRESSION, AND CULTURE'S ROLE

KRYSTEN L. MONZON

**ABSTRACT**

The present research examined whether cultural background had an effect on depressive symptoms through parenting style and emotion regulation strategies. Recent literature suggests that parenting styles differ across cultures, thus leading to different levels of depressive symptoms as a result differences of parenting styles aligning with cultural values. Additionally, it is suggested that some emotion regulation strategies are harmful in western cultures, but are not in collectivistic culture. Lastly, it is suggested that certain parenting techniques foster both harmful and helpful emotion regulation strategies.

Participants ( $N=83$ ) completed measures of PAQ (Parental Authority Questionnaire), ERQ (Emotion Regulation Questionnaire), and CES-D (Center for Epidemiologic Studies Depression Scale). Multiple mediation, mediated-moderation, and moderated-mediation analyses were used to examine these relationships. Results found that permissive parenting style was correlated with age and suppression in western sample, while authoritarian parenting styles, age, and reappraisal were correlated to depression, and sex and permissive parenting style were related to suppression. Further analyses showed that permissive parenting was related to increased depression and suppression, while authoritarian parenting were also related to increased depression. Additionally, analyses showed that hailing from an Arab background led to increased use of suppression. Lastly, analyses showed that being from a collectivistic culture did not assume these

relationships. Findings partially support current literature, and suggest that generations in the US, along with dimensions of parenting styles should be considered for understanding emotion regulation strategies and depression risk.

*Keywords:* depression, excessive reassurance seeking, parenting styles, culture

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## **CHAPTER I**

### **INTRODUCTION**

Depression is a disorder marked by enduring negative mood that effects more than 350 million people worldwide of all ages (Marcus, Yasamy, Ommeren, & Chisholm, 2012). It is characterized by persistent feelings of sadness, as well as a loss of interest in things that are normally pleasurable, affecting how you think, feel, and behave (DSM-V) (American Psychological Association, 2013, p. 155). It is associated with a wide range of other mental disorders that exacerbate the adverse effects of depression on the individual and society at large (Kessler & Walters, 1998; Hirschfeld, Hasin, Kell, Endicott, & Wunder, 1999). While the etiology of depression is not clear, several risk factors like parenting practices and emotion regulation deficits have been shown to be associated with depression. Indeed, the authoritarian parenting style in particular, characterized by low warmth and high control, is predictive of depression severity, as well as emotion regulation difficulties, which in turn, predict depression in western samples (Eisenberg, Fabes, Shepard, Guthrie, Murphy, & Reiser, 1999; McKinney, Donnelly, & Renk, 2008; Tsai, Chang, Sanna, & Herringshaw, 2011; Berking, Ebert, Cuijpers & Hofmann, 2013; Berking, Wirtz, Syaldi, & Hormann. 2014; Joormann & Vanderlind, 2014). However, parenting norms and emotion regulation practices vary as a

function of cultural values, which have largely been examined in western countries (Zaharan, 2011; Targum, Nakagawa, & Sato, 2013; Yang, Kuo, Wang, & Yang, 2014). Specifically, authoritarian parenting practices are the norm in cultures that embody values that hold the group's ideals and synchronization over that of the individual (collectivistic cultures), as compared to those like the US that value the individual over the group (individualistic cultures). Given such cultural differences, it is unclear to what degree the purported links between authoritarian parenting styles, emotion regulation difficulties, and depression hold in cross-cultural context. The present study aims to bridge this gap by exploring the links between US and Arab cultures.

### **1.1 Parenting Styles and Depression**

There is now ample evidence to show that parenting behaviors during childhood influence the risk of later depression. Parenting styles are defined as “a constellation of attitudes toward the child that are communicated to the child and that, taken together, create an emotional climate in which the parent's behaviors are expressed” (Darling & Steinberg, 1993, p. 488). Parenting styles are one of the most frequently investigated parenting behaviors (Steinberg, 2001; Wood, McLeod, Sigman, Hwang, & Chu, 2003). Theorists have delineated three parenting styles that appear to hold across cultural lines: authoritarian, authoritative, and permissive styles (Baumrind, 1971).

The authoritarian parenting style involves the parent setting and enforcing the rules without negotiating with the child. Parents using this style tend to have strong control over their child's behavior and attitudes, and express less warmth towards their children when compared to the other two styles (Hart, Newell, & Olsen, 2003). A parent

who practices an authoritarian style expects obedience and expects respect from their children.

Conversely, the authoritative parenting style involves the parent directing their child's activity in a rational and issue-oriented manner. They negotiate with their children, and value their attributes through their individuality and conformity. While they uphold their position as a parent, they do not restrict children completely. They use reason and power to achieve their objectives, but do not conform to group harmony, although they acknowledge being part of the group. This parenting style can be adopted by either the father or mother, and tends to be the more preferred parenting style in western cultures (Baumrind, 1966, 1971; Maccoby & Martin, 1983; Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Darling & Steinberg 1993).

The third, the permissive parenting style, involves parental consultation with their children about policy decisions and explains family rules to them. Parents using this style are more accepting, not punitive, and make few demands for the child in household matters. These parents attempt to grant their child's wish, and let the child regulate their own behavior and activities. They tend to avoid any conflict with their child, but try to use reason with their child. This style tends to contribute to poor behavioral outcomes in children, such as withdrawn behavior, low peer affiliation, and conduct disorders, and high internalizing behavior problems related to depression (Baumrind, 1989; Jewell & Stark, 2003; Wolfradt, Hempel, & Miles, 2003; Rubin, Hastings, Chen, Stewart, & McNichol, 1998).

While the authoritative parenting is consistently associated with positive

educational, social, emotional, and cognitive developmental outcomes in children in the US, the authoritarian parenting and permissive parenting are typically linked with poorer child outcomes, such as depression (Chao, 2001; Chan & Koo, 2010; Piko & Balázs, 2012; Uji, Sakamoto, & Adachi, 2014). For example, authoritative parenting was shown to be positively associated with adjustment in children of various ages (Baumrind, 1966, 1989; Maccoby & Martin, 1983; Hart et al., 2003). By contrast, the authoritarian parenting and permissive parenting are related to various kinds of maladjustment issues, such as withdrawn behavior, impulsiveness, and conduct disorders (Baumrind, 1989; Heller, Baker, Henker, & Hinshaw, 1996; Hart et al., 2003; Patock-Peckham & Morgan-Lopez, 2006). Furthermore, the authoritarian parenting style has been identified as a notable risk factor for depression (Garber, Robinson, & Valentiner, 1997; Yang et al., 2014). In particular, authoritarian parenting may be particularly risky for depressive symptoms due to the misalignment of cultural norms and parenting practice (Nguyen, 2008).

## **1.2 Mother's Parenting Styles**

Of the two parents, mothers traditionally have greater involvement with children in the nuclear family when it comes to emotional stability of a child (Lamb, Pleck, Charnov, & Levine, 1987). This may be because mothers are overwhelmingly responsible for child-rearing activities (Pleck, 1997). Additionally, because mothers are perceived to be the more caring and encouraging of the two, children seek out encouragement and feelings of affection from their mothers (Frankel & Bates, 1990). However, mothers also establish guidelines to children at a young age (Gralinski & Kopp, 1993). Considering these factors, it is no surprise that mothers are more likely to

attempt to use authoritarian style when compared to fathers, as maternal parenting foundations in western cultures align with this parenting style (Simons, Lin, Gordon, Brody, Murry, & Conger, 2002). It is speculated that mothers' parenting plays an important role in young children's problem behaviors, but fathers' parenting may have only a marginal role (Aunola & Norumi, 2005). One explanation why children are more open to maternal influences is because mother and child interactions are characterized more than father and child interactions by warmth, responsiveness, and intimate exchanges (Darling & Steinberg, 1993; Forehand & Nousiainen, 1993). Mothers, compared to fathers, have also been shown to make a greater effort to maintain dependency in their children, that is to say, to maintain the child's dependency on the mother (Collins & Russel, 1991). This is very important in individualistic cultures, where independence and autonomy is strongly encouraged.

Although the authoritarian parenting style can be adapted by either the mother or the father, mothers are researched more so than fathers (Marsiglio, Amato, Day, & Lamb, 2000). While the authoritative parenting style mothering has been related to higher self-esteem and lower depression levels in their offspring, the permissive parenting style and the maternal authoritarian parenting style was associated with lower self-esteem and higher depression symptoms (Milevsky, Schlechter, Netter, & Keehn, 2007). Therefore, it can be suggested that parenting style does, indeed, have an effect on depressive symptoms, it may also have an effect on intrinsic emotions as well.

### **1.3 Parenting Styles and Emotion Regulation**

Another important component in the relationship between parenting styles and depression risk is emotion regulation. Emotion regulation (ER) reflects both intrinsic and extrinsic processes responsible for monitoring, evaluating, and modifying reactions to accomplish one's own goals (Thompson, 1994). It is both an internal process, such as attention shifting, and an external process, such as through parents or social influence. The emotion regulation processes also modulate the emotional tone (specific emotion experienced) and emotional dynamics (intensity, duration, liability), and can be outside of a person's awareness (Thompson, 1990).

According to Morris, Silk, Steinberg, Myers, & Robinson (2007), emotion regulation is socialized through processes including parental practices and modeling, management of emotions within the family, and the emotional climate of the family. It is speculated that emotional regulation strategies can be affected by parenting styles, because of the various involvements with children, both from observational learning and physical involvement (Kopp, 1989). Families are able to influence the development and retention of emotion regulation by exhibiting emotional displays and interaction in front of their children (Kopp, 1989; Parke, 1994). In fact, research suggests that the context of a family plays a crucial role in children's development of emotion regulation skills (Morris et. al., 2007). Although there is speculation of how emotion is inherited, socialization by parents strongly influences how children learn to regulate their emotions (Stansbury & Zimmermann, 1999; Cole, Martin, & Dennis, 2004).

In a family environment, children are able to learn what is socially acceptable to display, or what is expected for them to feel in certain situations. Although most research focuses on negative emotion, children are able to learn both negative and positive emotions by observing parents for emotional cues exhibited by them (Power, 2004).

Additionally, how a parent regulates their own emotion may dictate what type of parenting style they practice. For example, parents who express positive emotions are more likely to be considered authoritative parents (warm yet firm) and parents who express negative emotions may be more authoritarian (cold and firm) in nature (Halberstadt, Crisp, & Eaton, 1999). Accordingly, adolescents in particular demonstrate that parental affection and other positive emotions (expressed) are related to low levels of externalized behavior and control over their emotion regulations (Contreras, Kerns, Weimer, Gentzler, & Tomich, 2000; Eisenberg et. al., 2005).

Parenting styles and children's emotional regulation capacities are clearly related with each other in many studies. While parental reaction to children's negative emotions has an effect on children's regulation of emotion, emotions like distress can influence internalizing emotions in children (Eisenberg et al., 1999). When parents display a wide range of both positive and negative emotions in specific situations, their children will be more apt to learn which emotions are suitable to display in such circumstances. Conversely, when parents display high levels of anger or fear, children will most likely learn inappropriate ways to regulate and express their negative emotions (Denham, 1993). Such negative emotions that children observe can be reflected in children's academic and social problems (Fabes, Eisenberg, & Miller, 1990).



#### **1.4 Process Model of Emotion Regulation**

While there are many emotion regulations models in depression risk, Gross' (1998) Process Model has gained increasing attention over the past decade. According to Gross (1998), emotion may be regulated at five points in the emotion generative process: (1) during the selection of a situation; (2) modification of the situation; (3) deployment of attention; (4) cognitive change, and (5) the modulation of experiential, behavioral, or physiological responses. The first, selection of the situation, serves to regulate emotions by imagining a situation that is expected. By doing this, we will be able to give rise to emotions that are likely to occur during this situation. Despite 'preparing' via selection situation, one does not necessarily respond negatively, however. By using the second point and modifying the situation, we are able to directly alter our environment, thus impacting our emotional impact. Although it is possible to modify a situation an individual may be exposed to by changing the environment, the opposite is also true. By using the third point and redirecting attention to another stimuli, like when using distraction, internal focus is able to shift. While these situations can possibly elicit emotions, these emotions are not necessarily expressed. When we undergo the fourth point of cognitive change, for example, we change the way we think about a situation, or the ability to manage it. Reappraisal, a technique used to change a situation's meaning, is a particular cognitive change of importance at this point. Lastly, response modulation, expressed experientially, behaviorally, or physiologically, can be exhibited as a result of this process. A key component of this area, conversely, is the act of suppressing these elements in an attempt to hide one's true emotion.

The first four components of the process model are antecedent focused. That is, they modify the emotion before the individual experiences it. Conversely, the fifth process is response focused because it pertains to modifying the emotion after it reaches the individual's awareness. Much of the work in the literature has focused this latter process, given that antecedent-focused emotion regulation responses are difficult to measure as they are ephemeral and often times fall outside of the person's awareness. On the other hand, response focused strategies are more salient and therefore easier to quantify. These strategies (antecedent-focused and response-focused, respectively) are used to control emotional responses. Antecedent-focused strategies, made up of situation selection, situation modification, attention deployment, and cognitive change, tend to prepare for a response before a stimuli is fully activated, while response-focused strategies, comprised of only response modulation, activate an emotional response that is already prepped. When emotional cues are present, a brief evaluation goes over the stimuli. The emotional response tendencies (behavioral, experiential, and physiological) then respond to said stimuli. After modulation of these factors, an emotional response is formed.

### **1.5 Emotion Regulation and Depression**

Unsuccessful emotion regulation is thought to contribute to the development of depression (Gross & Muñoz, 1995; Ehring et. al., 2008; Feng, Keenan, Hipwell, Hennerberger, Rischall, Butch, & Babinski, 2009, Berking et al., 2014; Folk, Zeman, Poon, & Dallaire, 2014). Deficits in emotion regulation can result in increased negative affect and in dysfunctional attempts to reduce such affect, and eventually lead to depressive symptoms (Teasdale & Barnard, 1993). Unsuccessful emotion regulation

includes factors such as suppression and ineffective cognitive reappraisal. Suppression, the conscious act of containing one's emotions and actions, causes increases in negative emotion, most likely due to elevated sympathetic arousal (Gross, 1998; Campbell-Sills, Barlow, Brown, & Hofmann, 2006). Originally, it was thought that suppression was an emotion regulation technique (Gross, 1998). However, higher frequency use of suppression on a day-to-day basis is associated with avoidant attachment, reduced sharing of emotions and reduced relationship intimacy (Gross, 2002; Gross & John, 2003; John & Gross, 2004). Moreover, maladaptive responses to dysphoric mood states, such as rumination or suppression, hinder the recovery of said dysphoric mood states in individuals who are vulnerable to depression (Morrow & Nolen-Hoeksema, 1990; Campbell-Sills et al., 2006; Liverant, Brown, Barlow, & Roemer 2008; Ehring, Tuschen-Caffier, Schnuelle, Fischer, & Gross, 2010). In turn, this may lead to negative feelings about the individual and cause them to isolate themselves from others, hinder the development of emotionally close relationships, and contribute further to interpersonal behavior that are already problematic (such as avoidance) (John & Gross, 2004). Additionally, the act of suppressing one's emotions has led to impaired memory of the situation, increased cardiovascular activation, and lower social support and feelings of closeness to others (Gross, 1998; Richards & Gross, 2000; Butler, Egloff, Wilhelm, Smith, Erickson, & Gross, 2003; John & Gross, 2004; Srivastava, Tamir, McGonigal, John, & Gross, 2009).

Reappraisal, an attempt to cognitively regulate emotion relatively early in the emotion-generative process, generates caring or positive interpretations and/or perspectives on a stressful situation and reduces distress (Gross, 1998). In addition,

reappraisal does not involve the same costs socially and cognitively that are used with suppression (Richards & Gross, 2000). Indeed, reappraisal has been studied expansively in nonclinical populations, and has been shown to reduce physiological activation to emotion-provoking stimuli, as well as reduced negative affects, such as depression (John & Gross, 2004; Urry, 2009; Ray, McRae, Ochsner, & Gross, 2010). In a meta-analysis, Aldao, Nolen-Hoeksema, & Schweizer (2010) reported that employment of greater reappraisal lowered depressive and anxiety symptoms. However, reappraisal was more incongruously related to symptoms than were other strategies, such as suppression. Moreover, Aldao & Nolen-Hoeksema (2012) found that the frequency of maladaptive strategies effect the degree of successful reappraisal. Thusly, it can be thought that reappraisal serves as a strategy to compensate for problems that come with greater maladaptive strategy use.

While reappraisal has been suggested to improve and help maintain acceptable health and well-being, expressive suppression has not (Gross & John, 2003). Certainly, reappraisal has also been demonstrated to be less cognitively demanding than suppression, and related to better physiological stress recovery (Richards & Gross, 2000; Egloff, Schmukle, Burns, & Schwerdtfeger, 2006; Mauss, Cook, & Gross, 2006; Jamieson et al., 2012). Suppression, however, has been suggested to increases levels of negative emotions (Martin & Teaser 1996; Ehrin, Fischer, Schnülle, Bösterling, & Tuschen-Caffier, 2008; Selby, Franklin, Carson-Wong, & Rizvi, 2013). In previously depressed individuals, suppression was used when experiencing negative emotions (Aker, Harmer, & Landrø 2014; Ehring, Tuschen-Caffier, Schnuelle, Fischer, & Gross, 2010). Reappraisal, however, has been found to alleviate negative affect. Often times, major

depressive disorder (MDD) has been associated with less use of reappraisal (Joormann & Vanderlind 2014). Unsuccessful reappraisal, however, has been correlated to internalizing behaviors, such as stress or depression. Indeed, reappraisal, or learning to reappraise one's thoughts, is a key component to relieving depressive symptoms.

Interestingly, Ehring et al. (2010) stated that, when instructed to, formerly depressed participants were less likely to use reappraisal, but did not differ in the effectiveness of reappraisal when compared to the control group. This could mean that while reappraisal is helpful, those who have experienced depression in the past may still use ineffective strategies; depressed participants who were less likely to authenticate the use of reappraisal did not differ from the control group in their ability to use reappraisal effectively. It can also be said that enhanced emotion regulation skills can reduce symptoms of depression (Berking et al., 2013), whereas dissimilar emotion regulation strategies potentially increase the chance of depressive relapse (Joormann & Gotlib, 2010). Thusly, it can be speculated that reduced use of reappraisal may be observed only in people who are currently depressed (Ehring et al., 2010).

## **CHAPTER II**

### **CULTURE**

While the extant literature provides some context for the relationship between parenting style, emotion regulation, and depression risk, much of this work has been done in Western countries that hold individualistic values (Chao, 1994; Chun, Moos, & Cronkite, 2006; Henry, Stiles, Biran, & Hinkle, 2008). Therefore, the extent to which these relationships can be generalized to non-western, collectivistic cultures is unclear. The relationships among these variables is particularly important to elucidate for Arab Americans, who are a quickly growing minority in the US and are known to be at an elevated risk for depression (Abu-Ras & Abu-Bader, 2009). In the sections below, I explore the role of culture in the relationships among parenting style, emotion regulation, and depression.

#### **2.1 Parenting Styles**

Individualistic cultures, such as western societies, value autonomy. The counterpart to this is collectivistic cultures, such as Arab countries, that value group harmony. In western cultures, it is believed that autonomy is beneficial for the psychological growth and well-being of a mature person (Erikson, 1968). However, collectivistic cultures are thought to impede the development of autonomy, a process usually encouraged and supported in the family setting in the US (Suh & Oishi, 2002).

The values of autonomy versus dependence is often encompassed in not only culture, but parenting as well.

It is important to note that childrearing beliefs are constructed and interpreted through historical and cultural contexts (Harkness & Super, 1992). For example, parental control and affection appear throughout many cultures, but may have different functions, as well as different outcomes in a child's development within specific cultures (Bornstein, 2002). Though the authoritative, authoritarian, and permissive parenting styles can be found across cultures, these parenting styles are categorized within a Western perspective (Chao, 1994). Barnhart, Raval, Jansari, & Raval (2013) points out that previous literature has suggested the authoritative parenting is more common in Western cultures than Eastern cultures, in which authoritarian parenting is most common (Jambunathan & Counselman, 2002; Garg, Levin, Urajnik, & Kauppi, 2005). Additionally, Baumrind (1972) reported that the authoritarian parenting style produces fearful and timid behavior in Western children, but assertiveness in African-American children, especially girls. This may be due to different expectations and values placed on parent-child relationships, even within Western culture. This may also be due to cultural expectancies placed on the parent-child relationship, or that Baumrind's parenting styles are specific to Western culture, despite it being comprised of many races and backgrounds. In fact, Chao (1994) contests that the authoritarian parenting styles reflect Confucian parenting, and that parenting is more characterized by involvement, devotion, willingness, and control when it comes to child rearing and family matters. Indeed, as time goes on, parenting styles described by Baumrind are being reconstructed and examined, while others build off of this model to fit cultural context.

Baumrind (1996) emphasized that the concerns related to authoritarian parenting depend on the perception of the child, as well as cultural context. Perceptions of authoritarian parenting, for example, are accompanied by different values and expectancy in many cultural groups, such as a competent parent being a strict one. Some cultures that hold a different characterization of parenting styles compared to western culture include, but are not limited to, Korean, Chinese, African American, Hispanics, Indians, Turkish, and Japanese (Rohner & Pettengill, 1985; Chao, 2001; Jambunathan & Conselman, 2002; Querido, Warner, & Eyberg, 2002; Varela, Vernberg, Sanchez-Sosa, Riveros, Mitchell, & Mashunkashey, 2004; Cakir & Aydin, 2005; Choi, Kim, Kim, & Park, 2013; Watabe & Hibbard, 2014).

Compared to other collectivistic cultures, Arab culture has been researched less. While authoritarian parenting leads to depression, among other internalizing behaviors in Western countries, authoritarian parenting appears not to harm Arab children's mental health (Dwairy, 2004; Barton & Kirtley, 2012). In fact, it seems that authoritarian parenting does not predict poor mental health in Arab countries (Dwairy, 2004). Traditionally, in Arab societies, good parenting consists of strictness towards children (Dwairy, 1997). These cultural values of what a good parent consists of may negate any negative affect experienced by children, leading to this result. Conversely, there have been mixed reviews on the effects of authoritative parenting. While in some cultural contexts it is true that authoritarian parenting has competed with authoritative parenting for optimal outcomes (such as education or depressive symptoms), the opposite was also true. For example, in Steinberg and colleagues (1992) found that authoritative parenting was indeed linked to adolescents' achievement in school. However, this was not true for



African-American adolescents, and Hispanic adolescents, instead, had higher achievements in school when exposed to authoritarian parenting. Likewise, Dwairy, Achoui, Abouserie, & Farah (2006) found that while authoritarian parenting style was harmful to adolescents' mental health in depressive contexts, no such harm was found in Arab samples.

Furthermore, the role of the mother seems to be the more impactful of the two parents in Arab societies (Dwairy 1997; Fronk, Huntington, & Chadwick, 1999). This may be because culture is established differently than gender, such as through relatedness and cohesiveness (Kashima, Yamaguchi, Kim, Choi, Gelfand, & Yuki, 1995). While westerners frown at the idea of conformity, for example, other cultures may value and nurture this trait (Hui & Trandis, 1986). Thus, deleterious effects of the authoritarian parenting style may not hold for those of Arab backgrounds.

## **2.2 Emotion Regulation**

Researchers over the years have speculated that sociocultural factors have an influence on depressive disorders (Möller-Leimkühler, 2002; Green, Broome, & Mirabell, 2006). As individuals age in the course of their lifetime, they are able to find what emotions are acceptable in their environment (Thompson, 1994). In different cultures, however, emotions are often handled differently. This can be thought to be done to maintain social order. By creating boundaries in regards to emotion regulation in accordance to their values, cultures can distinguish themselves, such as through autonomy (Oyserman, Coon, & Kemmelmeier, 2002). Although many researches are delving into this dimension and its effect on emotion regulation, little is known of the

intricacies of emotion regulation among Arabs. While little to no research has looked into emotion regulations of Arabs, we can see that other collectivistic cultures differ in regulation strategies when compared to individualistic cultures (Gross & John, 2003). For example, in collectivistic cultures, such as Japan, individuals have a tendency to suppress their emotions more than individualistic countries, such as the U.S.A. (Saito, Stephan, Stephan, & Morrison, 1996). Together, by reassessing the type of provoking events and by regulating expressive behavior, the ability to regulate emotion is learned within a developmental context, such as through family (Miller, McDonough, Rosenblum, & Sameroff, 2002; Volling, McElwain, & Miller, 2002). Individualistic cultures, for instance, are expected to use more reappraisal and less suppression, since individualistic cultures value autonomy. Cultures that are more collectivistic, however, are expected to use less reappraisal and more suppression, since collectivistic cultures value what emotions are expressed and require individual suppression for the conservation of consistency and harmony among groups (Matsumoto et al., 2008).

An important limitation to many of the studies that come from western civilization is that they do not take into account cultural norms or values (Butler & Gross, 2004). One study directly assessed this issue, and found that higher levels of regular use of suppression were used among minorities in the US (Gross & John, 2003). Indeed, cultural differences can be seen in how emotion regulation is handled among individuals, such as in display rules and suppression (Matsumoto, 1990; Thompson, 1994; Butler, Lee, & Gross, 2007; Keller & Otto, 2009). It can be thought that suppression may have positive consequences on the social level, by playing a major cultural function in maintaining a culture's construct. Thusly, suppression may play a large part in keeping

group harmony (at least, by observable behaviors), a trait of collectivistic cultures, demonstrated cultural differences in expression, and display rules (Matsumoto, 1990; Matsumoto, Takeuchi, Andayani, Kouznetsova, & Krupp, 1998; Matsumoto & Kupperbusch, 2001). Additionally, Butler et al. (2003) found that suppression limits new relationships, as well as supportive relationships and is characterized by less social support.

While suppression has been associated with less social closeness and support, reappraisal has been associated with greater sharing of emotions, closer relationships, and greater support socially (John & Gross, 2004). Primarily, reappraisal has been related with positive outcomes, while suppression has been related with negative outcomes (John & Gross, 2004). Additionally, while reappraisal is negatively associated with depressive symptoms across cultures, there has been a protective effect found in those from a collectivistic culture (Kwon, Yoon, Joormann, & Kwon, 2013). Cultures, such as those that value autonomy, should be associated with more reappraisal and less suppression because these cultures value emotions more and encourage their freer and open expression. However, cultures that value group harmony should be associated with more suppression than reappraisal, to maintain the harmony. In one study with Japanese and Americans, Americans reported more frequent use of reappraisal than Japanese, whereas the Japanese reported more frequent use of expressive suppression than Americans (Matsumoto, 2006). Additionally, while there were no ethnic differences in the use of reappraisal, Americans showed the least use of suppression as an emotion regulation strategy (Gross & John, 2003). However, cultural differences in the frequency of use of reappraisal have yielded mixed findings (Gross & John, 2003; Matsumoto, 2006).

Because of these factors, it is import to explore reappraisal strategies and suppression among collectivistic culture, especially those of Arabic background.

## **CHAPTER III**

### **THIS STUDY**

The present study aimed to explore the relationship between parenting styles, emotion regulation, and depression and how Arab culture affects these relationships. Because mental health is associated with genetic and environmental factors (Cadoret, O'Gorman, Heywood, & Troughton, 1985; Kendler, Heath, Martin, & Eaves, 1986; Sullivan, Neale, & Kendler, 2000), culture and parenting styles are important markers for depression. Although we can attribute parenting styles and emotion regulation to depression in western cultures, we don't know how these hold true across cultures. While there are researches out there that explore parenting styles on Arab children, this field needs to continue to be built upon, especially in regards to emotion regulation among Arabs. This is a field that needs to be explored to determine important factors of depression, and treatment of it. In this study, the role of parenting styles and emotion regulations are explored in relation to depression, along with the role that culture has on these relationships. The literature in this study attempted to demonstrate and further explore these relationships. We hypothesized that:

Hypothesis 1. Maternal authoritarian parenting style will predict elevated depressive symptoms via the increased use of suppression and reduced use of reappraisal

emotion regulation responses.

Hypothesis 2. The relationship between parenting style, emotion regulation, and depression will be moderated by participants' cultural background.

## CHAPTER IV

### METHODS

#### 4.1 Participants

Participants included 26 Arab Americans and 57 Westerners. Arab participants were recruited by contacting various Arab-affiliated organizations throughout the greater Cleveland area, and both Arab and Western participants were recruited from the Cleveland State University undergraduate research participant pool. Participants consisted of young adults from age 17 to 61, with 63% being female. Some participants were eliminated from the current study due to missing or incomplete data.

#### 4.2 Measures

*Demographic Questionnaire* measures participants' age, sex, racial and ethnic background, country of origin, generations in the US, and years that participants have resided in the US if they were born abroad.

*Center for Epidemiologic Studies Depression Scale (CES-D)* (Radloff, 1977) is a 20 item self-report instrument that measures the frequency of depressive symptoms, using a 0 to 3 scale with 0 being rarely or none of the times, less than one day, and 3 beings all of the time, 5-7 days. This survey has shown to have good reliability and validity, even

across diverse groups (Radloff, 1977; Husaini, Neff, Harrington, Hughes, & Stone, 1980; Fava, 1983).

*Emotion Regulation Questionnaire (ERQ)* (Gross & John, 2003) measures individual's regulation of emotion via cognitive reappraisal and expressive suppression. It is a 10 item self-report questionnaire that uses a 1 to 7 scale with 1 being strongly disagree, 4 being natural, and 7 being strongly agree. Many of the items in this assessment start with "When I am feeling" or "When I want to feel", implying that the individual will need to assess their emotions and their thinking processes. This questionnaire has shown to have good validity and reliability across cultures (Gross & John, 2003) Fernandez-Berroca, Extremera, & Ramos, 2004; Balzarotti, John, & Gross, 2010).

*Parental Authority Questionnaire (PAQ)* (Buri, 1991) measures authoritarian, authoritative, and permissive paternal and maternal parenting styles in a total of 60 items (30 items for each parent). It is a self-report measure, with participants rating on a scale of 1 to 5, 1 being strongly disagree, and 5 being strongly agree. This test has been shown to have acceptable validity and reliability (Buri, 1991; Ferrari & Olivette, 1994), but should be proceeded with caution among cultural samples, as generations in the US, acculturation, and other factors (later explained) may affect these measurements (Dwairy et al., 2006; Raval, Ward, Raval, & Trivedi, 2012).

### **4.3 Procedures**

Arab participants were first contacted through email. Participants completed a digital informed consent form prior to completing study surveys online. If participants



met qualification, they were then sent a link to the study to fill out an hour long questionnaire, which consisted of the measures mentioned before. Additionally, participants were then asked to fill out five short surveys daily in a period of a week. After survey completion, participants were presented with a debriefing form that provides further information on the study. Western participants who took part of the study through SOMA filled out the questionnaires online for credit in their psychology courses.

Statistical analyses were ran by using SPSS Version 22, PROCESS Macro, and Microsoft Excel, 2013, respectively. Out of the 101 participants that took the survey, 18 participants were excluded due to lack of completion of questionnaires deletion. Statistical analyses were carried out using list-wise deletion due to missing data.

#### **4.4 Analyses**

Descriptive statistics were ran to describe the sample on demographics characteristics and associations among study variables. Mediation analyses in accordance to Baron and Kenny (1986) were used to examine mediation effect of emotion regulation between parenting styles and depression.

To examine the moderation effect of culture, moderation analyses were conducted by using PROCESS models 8 and 15. Model 8 tested the moderating effect of culture on the relation between parenting style and emotion regulation, and parenting styles and depression. Model 15 tested the moderating effects of culture on the relation between emotion regulation and depression, as well as between parenting style and depression.

#### **4.5 Power**

Power analyses for mediation effects were conducted using the PowerMediation

package in R Software. Gpower was used to calculate the power for moderation effects. Power was set to a value of .80, alpha to a value of .05, and based on the extant literature, the effect of the mediators, suppression and reappraisal, were set to beta = .50 and .21, respectively (Aldao et al., 2010). Based on these parameters, an estimated sample size of 94 participants was required to detect the proposed relationships with sufficient statistical power. While there is no literature to base the effect of culture on the aforementioned relationships, this study was sufficiently powered to detect a moderate effect size ( $R^2 = .07$ ) with a sample of 94 participants. However, due to logistical issues, the statistical power was not met due to culture  $N=81$ .

## CHAPTER V

### RESULTS

#### 5.1 General Descriptive Analyses

Descriptive analyses were conducted in terms of differences between studies variables in both Western and Arab samples presented in Table 1.

Bivariate correlations between study across the two cultural groups were presented in Table 2. For the Western sample, permissive parenting was significantly correlated with age,  $r(57)=-.34$ ,  $p=.01$ . Permissive parenting style also had a significant correlation with suppression,  $r(57)=.29$ ,  $p=.03$ . Furthermore, depression had a significant correlation with suppression,  $r(57)=.30$ ,  $p=.03$ . Additionally, trend level effects were found in regards to age and reappraisal  $r(57)=.23$ ,  $p=.09$  (Table 2). However, neither authoritarian nor authoritative parenting style had a significant correlation with any aspects of the model variables in the correlation analyses in the western sample

For Arab samples, suppression had a significant correlation with both sex,  $r(26)=-.44$ ,  $p=.03$ , and permissive parenting style,  $r(26)=-.49$ ,  $p=.01$ . Likewise, depression had a significant correlation with age,  $r(26)=.52$ ,  $p=.006$ , and the authoritarian parenting style,  $r=.42$ ,  $p=.03$ . Depression also had a significant correlation with

reappraisal,  $r(26)=-.51$ ,  $p=.004$ . Lastly, reappraisal had trend level association with both permissive parenting,  $r(26)=.33$ ,  $p=.10$ , and depression and authoritative parenting style,  $r(26)=-.33$ ,  $p=.10$ , as well as depression and reappraisal,  $r(26)=-.48$ ,  $p=.01$ . (Table 2).

*Hypothesis 1:* Maternal authoritarian parenting style will predict elevated depressive symptoms via the increased use of suppression and reduced use of reappraisal emotion regulation responses.

To evaluate this hypothesis, mediation analyses were conducted to examine whether emotional suppression and cognitive reappraisal mediated the effects of parenting styles on depression symptoms. Following Baron and Kenny (1986), the first model examined the effects of the permissive, authoritarian, and authoritative parenting styles on depression symptoms. The effects of age and sex were covaried from these models (see Table 3). The results showed that permissive and authoritarian parenting significantly predicted elevated depression symptoms,  $\beta = .44$ ,  $t(76) = 3.41$ ,  $R^2 = .25$ ,  $p=.001$ ,  $\beta = .45$ ,  $t(76) = 3.85$ ,  $R^2 = .25$ ,  $p = .000$ . Additionally, sex and authoritative parenting predicted lower depression symptoms at trend level  $\beta =-.17$ ,  $t(76) = -1.69$ ,  $R^2 = .25$ ,  $p= .09$ ,  $\beta = -.20$ ,  $t(76) = 01.70$ ,  $R^2 = .25$ ,  $p= .09$ .

The second step in the mediation analyses examined the association between parenting styles and the two emotion regulation constructs. Findings showed that only permissive parenting and sex predicted higher use of suppression significantly,  $\beta = .55$ ,  $t(76) = 4.33$ ,  $R^2 = .27$ ,  $p = .000$ ,  $\beta = .26$ ,  $t(76) = 2.59$ ,  $R^2 = .27$ ,  $p = .01$  (Table 4).

Furthermore, authoritative parenting style had a trend level effect with suppression, as did coming from an Arab background on suppression,  $\beta = -.22$ ,  $t(76) = -1.93$ ,  $R^2 = .27$ ,  $p = .06$ ,  $\beta = .20$ ,  $t(76) = 1.86$ ,  $R^2 = .27$ ,  $p = .06$ . Parenting style was unrelated to the use of cognitive reappraisal (Table 5).

As the final step, the effects of emotional suppression and cognitive reappraisal on depression were added to the model described in the first step of these analyses. In this model, sex, permissive parenting, and authoritarian styles continued to predict depression, but to a reduced degree (Table 6). While reappraisal predicted lower levels of depression,  $\beta = -.27$ ,  $t(74) = -2.80$ ,  $R^2 = .33$ ,  $p = .007$ , emotional suppression did not predict depression symptoms. Additionally, authoritative parenting was found to no longer predict depression. Lastly, sex had a trend level effect with depression,  $\beta = .19$ ,  $t(74) = -1.69$ ,  $R^2 = .33$ ,  $p = .10$ . Therefore, these results suggest that neither emotional suppression, nor cognitive reappraisal mediate the effects of parenting styles in the full sample. However, as the hypothesized relationships between parenting styles, emotion regulation, and depression symptoms are expected to vary across those of Arab and Western backgrounds, a series of moderated mediation and mediated moderation models were conducted to examine the study hypotheses.

*Hypothesis 2:* The relationship between parenting style, emotion regulation, and depression will be moderated by participants' cultural background.

To evaluate this hypothesis, moderation effects were added to the previous mediation analyses. The first model examined the moderation of culture on the effects of

the permissive, authoritarian, and authoritative parenting styles on depression. The second model examined the moderation of culture on the effects of the permissive, authoritarian, and authoritative parenting styles on the two emotion regulation constructs. The third model examined the moderation of culture on the effects of all parenting styles, along with emotion regulation strategies on depressive symptoms. Moderation analyses failed to show significance; the effect of cultural background was not present in the mediation analyses.

## **5.2 Discussion**

This study examined the role of culture in the relationship between parenting style, emotion regulation, and depression symptoms. The extant literature shows adverse effects of the authoritarian parenting style on depression risk and emotion regulation deficits in US samples. This study aimed to test whether similar relationships held in a sample of Arab Americans (Eisenberg et al., 1999; McKinney, Donnelly, & Renk, 2008; Tsai, Chang, Sanna, & Herringshaw, 2011; Berking et al., 2013; Berking et al., 2014; Joormann & Vanderlind, 2014). Specifically, the study tested whether Arab American and their western peers differed in the mediation of emotion regulation deficits (characterized by low reappraisal and high suppression levels) between maternal parenting styles and depression symptoms. Findings on the general association between maternal parenting styles, emotion regulation, and depression symptoms, and the effects of cultural backgrounds are discussed below.

### **5.2.1 Parenting Style and Depression**

The first aim of this study was to examine the role of maternal authoritarian

parenting style in the prediction of depressive symptoms via the increased use of suppression, and the reduced use of reappraisal. In partial support of the hypothesis, the use of the authoritarian parenting style, along with permissive parenting, significantly predicted depression symptoms. These findings align with prior work linking both permissive and authoritarian parenting styles to unfavorable outcomes, such as depression (Baumrind, 1989; Heller et al., 1996; Hart et al., 2003; Patock-Peckham & Morgan-Lopez, 2006).

Additionally, the results of this study showed that authoritative parenting style was not related to depressive symptoms. While a large body of literature suggests a negative correlation with authoritative parenting style and depression (Baumrind, 1966, 1989; Maccoby & Martin, 1983; Hart et al., 2003), there is increasing evidence that the salubrious effects of authoritative parenting varies as a function of the parenting style of the other parent, as well as the gender of the parent. For example, Fletcher and colleagues (1999) found that authoritative parenting predicted greater depression and anxiety symptoms in children when this parenting style was practiced only by one parent. Indeed, the adverse effects of such mismatched parenting styles were more deleterious than the effects of both parents having an authoritarian or permissive styles. In a similar vein, other studies have shown that while paternal authoritarian style protects their offspring from adverse emotional experiences (e.g., feelings of parental rejection) and depression symptoms, and that maternal authoritarian parenting had no protective effects and lead to increased depressive symptoms (Patock-Peckham & Morgan Lopez, 2007). Because this study only examined maternal parenting styles, it is feasible that the trend findings reflect the effects of a mixture of the other parent's parenting styles. This may help explain why

authoritative maternal parenting style was not significantly related to depression in this study.

### **5.2.2 Parenting Styles and Emotion Regulation**

Along with expectation, authoritative parenting predicted the lesser use of suppression at trend level, while permissive parenting predicted the use of emotional suppression significantly. The protective effect that authoritative parenting had on suppression is consistent with current literature (Grolnick & Farkas, 2002). However, the effects of permissive parenting style in this study are consistent with a small, but growing literature that link permissive parenting and the use of suppression. For instance, Hardy and colleagues (1993) found that children of parents who employ permissive parenting tend to use emotional suppression at greater rates than children whose parents use other parenting styles. Given the nondirective nature of permissive parenting, it is feasible that youth without guidance may gravitate towards the use of maladaptive emotion regulation strategies (Misra & Shukla, 2010) that often require fewer resources to implement than their adaptive counterparts. While it is understood that parenting plays an important role in fostering emotion regulation repertoires in children (Eisenberg et al., 1999), no studies to date have examined the effects of either parenting styles on the use of emotional suppression. The same can be said for the null effects of parenting style on reappraisal. Therefore, the null findings between parenting styles and emotion regulation should be seen as tentative, and explored in future studies.



### **5.2.3 Emotion Regulation and Depression**

The results also suggest that cognitive reappraisal predicted lower level of depression symptoms. This finding is consistent with the extant literature that links reappraisal to lower levels of internalizing disorders (i.e., depression and anxiety) across student, community, and clinical populations (Aldao et al., 2010; John & Gross, 2004; Urry, 2009; Ray et al., 2010). Contrary to expectation, emotional suppression was unrelated to depression symptoms in the full sample. However, as emotional suppression reflects the mores of emotional display that vary across cultures, these null findings may reflect distinct associations between suppression and depression across the two cultural groups that cancel one another out in the full sample. Indeed, follow-up analyses of these association revealed distinct patterns between Arab Americans and their western peers. Specifically, suppression evidenced a trend-level positive correlation with depression among westerners, and no association among Arabs.

### **5.3 Cultural Difference in Study Variables**

The second aim of this study was to examine the relationship between parenting style, emotion regulation, and depression. Specifically, the effects of having an Arab versus western cultural background was examined as a moderator of the previously discussed associations between parenting style, emotion regulation, and depression. Regression analyses revealed that hailing from an Arabic background predicted greater use of suppression, and this held true throughout hierarchal regression analyses. Indeed, many researchers have suggested that being from a collectivistic background means an

increased use of suppression (Matsumoto et al., 2008; Butler et al., 2007; Soto, Perez, Kim, Lee, & Minnick, 2011). Likewise, in hierarchical regression, reappraisal was not predicted as a function of culture. While this goes in line with prior research, culture did not moderate the relationships between study variables.

The null effects of culture on the associations between parenting, emotion regulation, and depression may be understood in several ways. First, it is likely that the low number of Arab participants (n=30) failed to provide sufficient statistical power to detect significant moderation effects. Second, these findings may be consistent with a mixed literature on cultural differences on the effects of this study's variables of interest on depression symptoms. For example, there are mixed findings as to whether authoritarian or authoritative parenting is the "norm" in collectivistic cultures, such as the Arab culture (Lamborn et al. 1991; Steinberg et al., 1992; Darling & Steinberg, 1993; Leung, Lau, & Lam, 1998; Dwaairy, 2004; Dwaairy, Achoui, Abouserie, & Farah, 2006; García & Gracia, 2009 Barton & Kirtley, 2012). In a similar vein, while some have noted differences in the use and outcomes of such emotion regulation responses as suppression and reappraisal across cultural backgrounds (e.g., Gross & John, 2003; Su, Lee, & Oishi, 2012; Tweed, White, & Lehman, 2004) others have failed to note such differences (Matsumoto et al., 2008).

Third, these findings may suggest that individual level personality dimensions are more important than the mores of a given culture. For example, some literature now shows that individual construals, or the personality dimensions of collectivism (i.e., interdependence) and individualism (i.e., independence), are better predictors of

individuals' values and behaviors than the predominant values of their parent culture (Markus & Kitayama, 1991; Cheung & Park, 2010). Thus, it is feasible that models testing the moderating effects of culture combined individuals who are distinct on important underlying dimensions (e.g., interdependence) in a single cultural category (e.g., Arab).

Finally, given that “westernization” has spreading across countries that traditionally held “eastern” values (e.g., China, Taiwan, and South Korea) (Chang, Schwartz, Dodge, & McBride-Chang, 2003; Lee, Bekert, & Goodrich, 2009; Cho, Mallinckrodt, & Yune, 2010), it is feasible that the null moderation effects found in this study reflect a shift in values at the cultural (i.e., westernization) or individual levels (i.e., acculturation). As acculturation was not considered in this study, future studies should explore controlling for acculturation which would shed light on the relationships examined in the cross-cultural analyses. As seen in Table 2, for example, reappraisal was correlated with permissive parenting in Arab sample. This may be due to a mixture of perceptions from those of a collectivistic culture labeling what is truly authoritarian parenting in western culture as permissive in theirs (Barnhart et al., 2013). Likewise, as mentioned before, a mixture of two parentings styles certainly could have played a role into labeling their mother as permissive overall.

#### **5.4 Limitations**

The results of this study should be viewed in the context of several limitations. As previously mentioned, the study had a relatively small sample of Arab/Arab-American participants, which may have reduced the statistical power necessary to detect true

cultural differences in the relationships between parenting styles, emotion regulation, and depression symptoms.

Another limitation of this study is its sole use of self-report measures that were completed anonymously online. Although this approach opened the door for participants to respond in earnest, there is a growing concern that anonymous, online data gathering with undergraduate students reduces the validity of the gathered data (Wright, 2005). Thusly, it may be beneficial to have face-to-face samples in future studies, as doing so may reduce the problems associated with online data collection.

Furthermore, because the PAQ measured participants' recollection of their parents' behaviors, it is feasible that these recollections are affected and do not accurately capture parents' true parenting styles. So while a parent may have considered themselves an authoritative parent, per say, participants in this study may have remembered them as being more so permissive. Also, while the PAQ is a traditional means of measuring parenting styles, a growing literature suggests that measuring dimensions that underlie parenting styles (e.g., warmth & control) may prove a more robust approach in examining the role of parenting and emotional difficulties (Dwairy, 2006).

Finally, this study used cultural background as a proxy for cultural values that may impact the relationship between study variables. Thus, the role of individual differences in the degree to which such cultural values are internalized was not considered. Furthermore, this study did not take into account dimensions of culture, such as power distance and tolerance for ambiguity. Such dimensions may have more meaningful correlations and significance with the studies variable in this study, as

opposed to the ‘umbrella’ term for individualistic vs. collectivistic culture.

In summary, future studies that: (1) include larger samples of individuals from the target cultural groups, (2) use multiple methods of data collection, (3) measure key dimensions that underlie parenting styles, and (4) consider individual differences in cultural values and acculturation would do much to improve our understanding on the role of culture in parenting, emotion regulation, and depression risk.

### **5.5 Future Direction**

There are several directions that similar research can take. Since the construction of the PAQ, new parental questionnaire that measure other dimensions, such as warmth and control, have been developed. Such dimensional measures would augment the information gained from more traditional approaches to measuring parenting style. A similar approach may be taken with emotion regulation measures. That is, a growing body of work suggests that further dissecting such emotion regulation constructs as reappraisal into detached and positive reappraisal provides incremental information that traditional measures of the construct.

Moreover, future research should continue to look into the Arab culture. While other collectivistic samples have been studied in depth (i.e. Japan, China, etc.), those of an Arabic background have not. This may be due to the tendency for those of Arabic backgrounds to be more reticent than other cultural groups to engage in psychological research. Never the less, as those of Arabic backgrounds become an increasing staple of the American fabric, more information on this cultural group would do much to improve our outreach, prevention and intervention efforts. Future cross-cultural research should

also take into account acculturation, as well as individual-level cultural values when examining the relationship between parenting, emotion regulation, and depression in the Arab culture.

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## **APPENDICES**

Table 1. Descriptive statistics and group comparisons of demographics, parenting styles, emotion regulation, and depression between Western samples ( $n=57$ ) and Arab ( $n=26$ ) samples.

Measure	Variable	Western	Arab	Test Statistics
Demographics	Sex	0.54	0.62	$\chi^2(1) = .09^\dagger$
	Age	21.25 (7.02)	27.38 (9.39)	$t(81) = -3.32$
PAQ	Permissive	26.23 (7.44)	23.42 (8.97)	$t(81) = 1.49$
	Authoritarian	31.14 (8.30)	34.88 (9.73)	$t(81) = -1.81$
	Authoritative	35.98 (9.34)	34.88 (10.10)	$t(81) = 0.48$
ERQ	Suppression	16.07 (4.57)	17.5 (5.93)	$t(81) = -1.20$
	Reappraisal	28.79 (6.83)	30.04 (5.32)	$t(81) = -0.83$
CES-D	Depression	17.09 (10.83)	20.04 (10.01)	$t(81) = -1.18$

*Note.* Sex = high value represents females; Age = high value represents higher age; PAQ= Parenting Authority Questionnaire; ERQ= Emotion Regulation Questionnaire; CES-D = Center for Epidemiologic Studies Depression Scale.

$^\dagger p = .01$

Table 2. Correlations among demographics characteristics, parenting styles, emotion regulation, and depression between Western sample (lower triangle) and Arab sample (upper triangle).

	Sex	Age	Permissive	Authoritarian	Authoritative	Suppression	Reappraisal	Depression
Sex		.02	.07	.05	-.05	.44*	.25	-.08
Age	.21		-.19	.27	-.55**	.01	-.24	.52*
Permissive	-.21	-.34**		-.76**	.40*	.49**	.33 <sup>†</sup>	-.05
Authoritarian	.19	.08	-.30*		-.55**	-.18	-.28	.42*
Authoritative	-.10	-.18	.52**	-.03		.00	.12	-.33 <sup>†</sup>
Suppression	.11	-.16	.29*	.034	.01		.30 <sup>†</sup>	.03
Reappraisal	.01	.23 <sup>†</sup>	-.02	-.04	.00	-.02		-.48*
Depression	-.14	-.09	.19	.21	-.03	.30*	-.22 <sup>†</sup>	

Note. Sex = high value represents females

\*  $p \leq .01$ , \*  $p \leq .05$ , <sup>†</sup>  $p \leq .10$

Table 3. Multiple regression analysis of demographics, culture, and parenting style effects on depression.

	B	SE	$\beta$
Age	.18	.15	.14
Sex	-3.76 <sup>†</sup>	2.23	-.17
Arab	1.33	2.45	.06
Permissive	.58**	.17	.44
Authoritarian	.54***	.14	.45
Authoritative	-.22 <sup>†</sup>	.13	-.20

*Note.* Sex = high value represents females

\*\*\* $p < .001$

\*\* $p < .01$

<sup>†</sup> $p \leq .10$

Table 4. Multiple regression analysis of demographics, culture, and parenting style effects on suppression.

	B	SE	$\beta$
Age	-.04	.07	-.06
Sex	2.69**	1.04	.26
Arab	2.14 <sup>†</sup>	1.15	.20
Permissive	.35***	.08	.55
Authoritarian	.08	.07	.13
Authoritative	-.12 <sup>†</sup>	.06	-.22

\*\*\* $p < .001$

\*\* $p < .01$

<sup>†</sup> $p \leq .1$

Table 5. Multiple regression analysis of demographics, culture, and parenting style effects on reappraisal.

	B	SE	$\beta$
Age	.09	.10	.11
Sex	.99	1.51	.08
Arab	1.12	1.67	.08
Permissive	.06	.12	.07
Authoritarian	-.07	.10	-.10
Authoritative	.01	.09	.02

*Note.* Sex = high value represents females

\*\*\* $p < .001$

\*\* $p < .01$

† $p \leq .10$

Table 6. Multiple regression analysis of demographics, culture, parenting style and emotion regulation effects on depression.

	B	SE	$\beta$
Age	.24 <sup>†</sup>	.14	.19
Sex	-4.27 <sup>†</sup>	2.21	-.20
Arab	1.07	2.39	.05
Permissive	.48**	.18	.36
Authoritarian	.48***	.13	.40
Authoritative	-.17	.13	-.16
Suppression	.36	.23	.17
Reappraisal	-.45**	.16	-.27

*Note.* Sex = high value represents females

\*\*\* $p < .001$

\*\* $p < .01$

<sup>†</sup> $p \leq .10$



Table 7. Moderation of culture on the effects of permissive parenting style on emotional suppression.

	Step 1			Step 2		
	B	SE	$\beta$	B	SE	$\beta$
Age	-.04	.09	-.02	-.04	.10	-.42
Sex	2.69**	1.06	28.10	2.53**	1.05	27.35
Arab	2.14 <sup>†</sup>	1.21	23.13	2.21 <sup>†</sup>	1.19	23.91
Permissive	.35**	.10	.22	.34***	.10	.19
Authoritarian	.08	.08	.05	.09	.08	.05
Authoritative	-.12	.07	-.06	-.11	.08	-.11
Arab* Permissive				.13	.16	.10
$R^2$	.27**			.28**		
$\Delta R^2$				.01		

Note. Sex = high value represents females

\*\*\* $p \leq .001$

\*\* $p \leq .01$

<sup>†</sup> $p \leq .10$

Table 8. Moderation of culture on the effects of authoritarian parenting style on emotional suppression.

	Step 1			Step 2		
	B	SE	$\beta$	B	SE	$\beta$
Age	-.04	.09	-.02	-.04	.10	-0.04
Sex	2.69**	1.06	28.10	2.68**	1.06	2.68
Arab	2.14 <sup>†</sup>	1.21	23.13	2.15 <sup>†</sup>	1.23	2.15
Permissive	.35***	.98	.22	.34***	.10	0.34
Authoritarian	.08	.08	.05	.08	.07	0.08
Authoritative	-.12	.07	-.06	-.11	.07	-0.11
Arab* Authoritarian				-.02	.15	-.02
$R^2$	.27***			.27**		
$\Delta R^2$				0		

Note. Sex = high value represents females

\*\*\* $p \leq .001$

\*\* $p \leq .01$

<sup>†</sup> $p \leq .10$

Table 9. Moderation of culture on the effects of authoritative parenting style on emotional suppression.

	Step 1			Step 2		
	B	SE	$\beta$	B	SE	$\beta$
Age	-.04	.09	-.02	-.03	.11	-.02
Sex	2.69**	1.06	28.10	2.66**	1.11	27.78
Arab	2.14 <sup>†</sup>	1.21	23.13	2.11 <sup>†</sup>	1.32	22.81
Permissive	.35***	.10	.22	.35***	.10	.22
Authoritarian	.08	.08	.05	.08	.08	.05
Authoritative	-.12	.07	-.06	-.12	.08	-.06
Arab* Authoritative				.04	.16	.04
$R^2$	.27**			.27**		
$\Delta R^2$				0		

Note. Sex = high value represents females

\*\*\* $p \leq .001$

\*\* $p \leq .01$

<sup>†</sup> $p \leq .10$

Table 10. Moderation of culture on the effects of permissive parenting style on emotional reappraisal.

	Step 1			Step 2		
	B	SE	$\beta$	B	SE	$\beta$
Age	.09	.16	.07	.08	.15	.06
Sex	.99	1.63	13.09	.77	1.63	10.18
Arab	1.12	1.68	15.33	1.22	1.77	16.70
Permissive	.06	.11	.05	.05	.12	.04
Authoritarian	-.07	.10	-.05	-.05	.10	-.04
Authoritative	.01	.10	.01	.02	.10	.01
Arab* Permissive				.17	.19	.10
$R^2$	.04			.05		
$\Delta R^2$				.01		

Note. Sex = high value represents females

\*\*\* $p \leq .001$

\*\* $p \leq .01$

† $p \leq .10$

Table 11. Moderation of culture on the effects of authoritarian parenting style on emotional reappraisal.

	Step 1			Step 2		
	B	SE	$\beta$	B	SE	$\beta$
Age	.09	.16	.07	.09	.16	.07
Sex	.99	1.63	13.09	.89	1.63	11.77
Arab	1.12	1.68	15.33	1.22	1.75	16.70
Permissive	.06	.11	.05	.04	.12	.03
Authoritarian	-.07	.10	-.05	-.07	.10	-.05
Authoritative	.01	.98	.01	.10	.10	.07
Arab* Authoritarian				-.12	.17	-.08
$R^2$	.04			.04		
$\Delta R^2$				0		

Note. Sex = high value represents females

\*\*\* $p \leq .001$

\*\* $p \leq .01$

† $p \leq .10$

Table 12. Moderation of culture on the effects of authoritative parenting style on emotional reappraisal.

	Step 1			Step 2		
	B	SE	$\beta$	B	SE	$\beta$
Age	.09	.16	.07	.09	.16	.07
Sex	.99	1.63	13.09	.93	1.63	12.30
Arab	1.12	1.68	15.33	1.06	1.72	14.51
Permissive	.06	.11	.05	.07	.12	.06
Authoritarian	-.07	.10	-.05	-.06	.10	-.04
Authoritative	.01	.10	.01	.01	.10	.01
Arab* Authoritative				.07	.16	.05
$R^2$	.04			.04		
$\Delta R^2$				0		

Note. Sex = high value represents females

\*\*\* $p \leq .001$

\*\* $p \leq .01$

† $p \leq .10$

Table 13. Moderation of culture on the effects of permissive parenting style on depression

	Step 1			Step 2		
	B	SE	$\beta$	B	SE	$\beta$
Age	.24	.16	.31	.21	.17	.27
Sex	-4.27	2.63	-93.78	-3.63	2.61	-79.72
Arab	1.07	2.40	24.32	1.92	2.53	43.65
Permissive	.48**	.17	.64	.52**	.19	.69
Authoritarian	.48***	.14	.57	.47**	.17	.56
Authoritative	-.17	.11	-.19	-.18	.12	-.20
Suppression	.36	.31	.76	.39	.32	.82
Reappraisal	-.45**	.18	-.75	-.49**	.16	-.81
Arab* Suppression				-.49	.51	-.11
Arab* Reappraisal				-.45	.37	-.13
Arab* Permissive				.14	.36	.05
$R^2$	.33***			.36***		
$\Delta R^2$				.03		

Note. Sex = high value represents females

\*\*\* $p \leq .001$

\*\* $p \leq .01$

† $p \leq .10$

Table 14. Moderation of culture on the effects of authoritarian parenting style on depression

	Step 1			Step 2		
	B	SE	$\beta$	B	SE	$\beta$
Age	.24	.16	.24	.22	.17	.28
Sex	-4.27	2.63	-4.27	-3.52	2.60	-77.31
Arab	1.07	2.40	1.07	1.54	2.46	35.01
Permissive	.48**	.17	.48	.53**	.19	.70
Authoritarian	.48***	.14	.48	.46**	.14	.55
Authoritative	-.17	.11	-.17	-.18	.11	-.20
Suppression	.36	.31	.36	.39	.32	.82
Reappraisal	-.45**	.18	-.45	-.48**	.16	-.80
Arab* Suppression				-.40	.51	-.09
Arab* Reappraisal				-.38	.35	-.10
Arab*				.14	.29	.05
Authoritarian						
$R^2$	.33***			.36***		
$\Delta R^2$				.03		

Note. Sex = high value represents females

\*\*\* $p \leq .001$

\*\* $p \leq .01$

† $p \leq .10$



Table 15: Moderation of culture on the effects of authoritative parenting style on depression.

	Step 1			Step 2		
	B	SE	$\beta$	B	SE	$\beta$
Age	.24	.16	.31	.23	.18	.29
Sex	-4.27	2.63	-93.78	-3.66	2.61	-80.38
Arab	1.07	2.40	24.32	1.65	2.57	37.51
Permissive	.48**	.17	.64	.54**	.19	.72
Authoritarian	.48***	.14	.57	.48**	.15	.57
Authoritative	-.17	.11	-.19	-.19	.12	-.21
Suppression	.35	.31	.74	.39	.32	.82
Reappraisal	-.44**	.18	-.73	-.49**	.17	-.81
Arab*				-.41	.53	-.09
Suppression						
Arab*				-.43	.37	-.12
Reappraisal						
Arab*				.12	.26	.05
Authoritative						
$R^2$	.33***			.36***		
$\Delta R^2$				.03		

Note. Sex = high value represents females

\*\*\* $p \leq .001$

\*\* $p \leq .01$

† $p \leq .10$