

The Emotionality Effect:
The Role of Parental Emotion Expression in Child Mental Health

by
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ABSTRACT

Mood disorders are highly prevalent, especially in adolescent populations. One potential cause of the widespread nature of these disorders is the formation of stigma around emotionality. Emotion research, while extensive, has not expanded to capture how a parent's emotion regulation and expression may lead to stigmatized behaviors in their child affecting that child's mental health into adulthood. The current thesis aimed to investigate the relevance of this novel concept – emotionality stigma – in the relationship between parental emotionality and adult-child mental health. Using social learning theory, parental emotionality was predicted to influence a child's emotionality into adulthood. Specifically, this thesis investigated if parental emotion over- and under-expression (dysregulation) would influence adult-children to perceive a stigma around emotionality leading to worse mental health, whereas well-regulated parental emotion expression would relate to adult-child emotional intelligence, leading to better mental health. Moreover, it was predicted that these relationships would differ depending on parent and child gender. To examine these ideas, data was collected from 1,136 college and community individuals through a university survey system and Amazon's Mechanical Turk. Using a combination of linear regression, PROCESS, and Structural Equation Modeling (SEM) models, the results supported the proposed hypotheses. As predicted, parental dysregulation in childhood predicted impaired adult-child mental health, whereas parental regulation in childhood predicted lower levels of adult-child depression and anxiety. Additionally, emotionality stigma and emotional intelligence partially mediated the relationship between parental emotionality and adult-child mental health. Furthermore, results showed interesting gender differences; male participants

were more impacted by both maternal and paternal emotionality as compared to female participants. These findings not only build on emotion research, but also have numerous applications in practice including improving parenting classes and family therapy interventions. This study is the first to explore the role of parental emotionality on adult-child mental health through stigma and emotional intelligence.

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Introduction

Emotions are biological responses to stimuli that allow an individual to derive meaning, appraise experiences, and prepare to respond (Cole, Martin, & Dennis, 2004). When properly experienced, emotions can help an individual identify needs in their life. However, emotions can also cause detriment. For those who experience intense emotions and do not have the tools to cope, emotions can do more harm than good. Due to the benefits and harms of emotionality, extensive research has been conducted looking at emotion regulation (see Koole, 2009 for review) and emotion expression (e.g. Gemma, James, Lloyd, Wilfred, & Sellwood, 2017; Humbeeck et al., 2004; Isley, Neil, Clatfelter, & Parke, 1999). Despite the widespread research around emotion regulation and expression, few studies have actually focused on how a parent's emotion regulation and expression affect their children into adulthood. The current thesis aims to address this gap in research by examining the relationship between parental and adult offspring expression of emotion, while incorporating the roles of stigma, emotional intelligence, and gender.

Emotion Regulation and Emotional Intelligence

Research suggests that instead of emotions being completely uncontrollable, people are actually quite advanced in their ability to regulate their emotions (Koole, 2009). *Emotion regulation* refers to processes by which individuals redirect or handle their emotions; these processes can be automatic or deliberate.

Emotions are a part of everyday life. However, the way an individual responds to their emotions is dictated by the person, their experiences, and their emotion regulation strategies. In a review of the literature, Koole (2009) identified multiple types of emotional regulation. First, people have two reactions to emotions: primary and

secondary. Primary reactions consist of the instinctive, immediate emotional reactions an individual has as a result of environmental stimuli. Secondary reactions take place as the individual tries to adjust their emotions according to their needs and the situation. Unlike primary reactions, secondary reactions leave room for regulation. This regulation, then, can either result in an increased emotional response (*up-regulation*) or a decreased emotional response (*down-regulation*). Up-regulation can take many different forms, including *amplification*, *exaggeration*, or *venting*. During down-regulation, people may engage in *repression* (in which an individual actively avoids negative emotions) or *expressive suppression* (in which an individual actively subdues emotion expression). Both up-regulation and down-regulation, when used properly (e.g. down-regulating a reaction to loud noise, up-regulating a reaction to a ‘disgust-eliciting movie’), have been associated with increased well-being (Cote, Gyurak, & Levenson, 2010). However, individuals who overly up-regulate often experience exacerbated emotions and individuals who often down-regulate their emotions experience impaired health outcomes (Kooze, 2009).

According to Kooze (2009), some emotion regulation techniques have been found to be more beneficial than others depending on the purpose of regulation. For example, cognitive reappraisal is ideal for an individual regulating emotion in order to achieve or focus on a specific goal, whereas cognitive strategies are less effective for individuals trying to maximize positive emotions and minimize negative emotions. In other words, constructive emotion regulation is highly dictated by the situation and the individual. Therefore, *emotional intelligence* – the ability to properly understand and handle one’s emotions (Humphrey, Curran, Morris, Farrell, & Woods, 2007) – is highly desirable.

Emotional intelligence has been the subject of a great deal of research, which has resulted in defining two theories: *trait emotional intelligence* and *ability emotional intelligence*. Trait emotional intelligence is understood as an individual's self-perception of their emotional disposition and ability, whereas ability emotional intelligence is explained as a form of intelligence that allows an individual to better reason regarding their emotions (Davis & Humphrey, 2014). Although trait and ability emotional intelligence are often studied separately, they both adhere to three defining dimensions: *understanding* (i.e., the ability to identify one's own emotions and the emotions of others), *knowledge* (i.e., the ability to perceive emotional cues and label emotional expressions), and *regulation* (see above) (Alegre, 2011). To clarify, regulation is an essential aspect of emotional intelligence, but without understanding and knowledge, the use of specific regulation techniques could be maladaptive depending on the situation. However, when all three dimensions of emotional intelligence are achieved there are numerous benefits associated, such as increased academic achievement (Qualter, Gardner, Pope, Hutchinson, & Whiteley, 2012; Van Der Zee, Thijs, & Schakel, 2002), improved social coping and interpersonal relationships (Chan, 2003), less physical and mental impairments, and more success throughout life (see Humphrey et al., 2007, for review).

As with other aspects of human cognition and behavior, the question of nature versus nurture of emotional intelligence has been a topic of vast research (see Zeidner, Roberts, & Matthews, 2008, for review). However, as with other domains in the nature versus nurture debate, emotional intelligence seems to be largely impacted by both genetic and environmental influences (Vernon, Petrides, Bratko, & Schermer, 2008).

Some researchers focus on the genetic factors of emotional intelligence making the argument that emotional intelligence is a result of an individual's specific neurobiological make-up (Kim, Kang, Namkoong, & Song, 2011). Other researchers have found that certain aspects of emotional intelligence, such as emotion perception, social competence, and emotion management, can be taught (Campo, Laborde, & Mosley, 2016; Humphrey et al., 2007), thus justifying a claim that emotional intelligence may be a result of nurture.

Based on the findings that suggest emotional intelligence can be taught, some schools now incorporate emotional intelligence training into their school curriculum often finding that emotional intelligence training needs to be reinforced at home (Humphrey et al., 2007; Opengart, 2007; Salman-Nasser, 2014). Findings demonstrate that emotional intelligence taught at school is related to improved emotional skills in children, while emotional intelligence taught at home is related to improved self-esteem, psychological adjustments, and emotional skills in children (Alegre, 2011). In other words, children of parents who actively teach emotional intelligence through accepting emotion expression and explaining different emotions have higher emotional intelligence and are better adjusted.

While emotional intelligence is associated with numerous beneficial outcomes, the importance of teaching proper emotional regulation to children goes beyond these benefits. Importantly, an inability to appropriately regulate emotions has been found to be related with many major mental disorders (Mauss, Bunge, & Gross, 2007). Specifically, depression and anxiety, two of the most common disorders experienced by all age groups (Aktar & Bogel, 2017; Keenan, Feng, Hipwell, & Klostermann, 2009), are partially defined by intense emotional experiences. Furthermore, both depression and anxiety tend

to stay stable within families (Aktar & Bogel, 2017; Beardslee, Gladstone, & O'Connor, 2011). The homogeneity of depression and anxiety in families is attributed to both biological (e.g. genes) and environmental (e.g. parents projecting their emotions) factors (see Cumberland-li, Eisenberg, Champion, Gershoff, & Fabes, 2003 for review). Therefore, it may be that the translation of depression and anxiety from parents to children is a result of parental modeling behaviors. However, more research is needed on the effects of parent modeling and child emotional intelligence. Therefore, the current thesis aims to explore how parental emotion expression, specifically appropriate regulation versus over- or under- expression (referred to in this thesis as dysregulation), affects offspring long-term.

Parents, Children, and Emotion

As explained in *social learning theory*, children learn behaviors through observing their environment and mimicking the behaviors of others (Bandura, 1977). From the classic Bobo doll study (Bandura, Ross, & Ross, 1961) to more recent research on parent modeling and child substance use (Rusby, Light, Crowley, & Westling, 2018; Tildesley & Andrews, 2008), parental modeling has been shown to be a strong determinant of children's behaviors (see Schleider & Weisz, 2017, for a review). Research shows that early in life, children attend to parental modeling and, further, that parental behavior has a large influence on the behaviors of children and adolescents (Brian & Grills-Taquechel, 2007; Isley et al., 1999; Lau, Quadrel, & Hartman, 1990; Schleider & Weisz, 2017).

In addition to behaviors, parents model their emotions to their children through their own emotion regulation and dysregulation. Therefore, parental emotion regulation

and dysregulation should have sizable impacts on the way their children express their own emotions. As Koole (2009) explains, both the over- and under-expression of emotion can be detrimental. Indeed, the existing body of research agrees that parental emotion dysregulation can impair child well-being. A large field of research focuses directly on parental modeling through the effect of parental emotion expression on infant emotion. From a neurobiological perspective, parental oxytocin has been found to impact their child's oxytocin levels; this relationship begins in infancy such that parental affectionate touch increases infant's oxytocin levels (Feldman, 2015). Furthermore, infants learn about the world through their parents' behaviors. Therefore, infants of parents who are emotionally withdrawn (i.e., illustrate flat emotional states to their infants), often develop impaired emotion regulation techniques (Gallegos, Murphy, Benner, Jacobvitz, & Hazen, 2017).

In this way, a parent's mental health would have a substantial influence on an infant's emotion regulation. Certainly, infants are less likely to engage in emotion regulation (e.g. self-soothing) if they live in a home with a depressed mother (Granat, Gadassi, Gilboa-Schechtman, & Feldman, 2017). Infants of depressed parents are exposed to less positive affect, and, in turn, express less positive affect (Aktar & Bogel, 2017). Aktar and Bogel (2017) suggest that this trend is a result of a lack of parental modeling. An infant who does not see a specific behavior or emotion expressed, may not learn how to engage in the behavior or emotion expression.

Interestingly, unlike findings related to parental depression, research shows that anxious parents do not have the same influence on their infant's emotions (Granat et al., 2017). Aktar and Bogel (2017) found anxious parents do not express more negative

emotions than other parents and, therefore, do not appear to negatively impact their infant's emotional development. On the other hand, parental anxious behaviors do seem to have a large impact on children and adolescents (see Brian & Grills-Taquechel, 2007 for review). Anxious parental behaviors, such as worrying, have been found to predict increased anxious behaviors in children as compared to children without anxious parents (see Schleider & Weisz, 2017, for a review).

Similar to the effects of parents' depressive behaviors on infants, research illustrates a link between parental modeling of depressive thoughts and behaviors and a child's engagement in similar behaviors (see Schleider & Weisz, 2017, for a review). One theory is that depressed parents make more negative comments about their children's behaviors and the child then takes on those negative comments as their own (Mezulis, Hyde, & Abramson, 2006; Schleider & Weisz, 2017). Moreover, depressive behavior, specifically, may be reinforced in depressed homes due not only to the modeling of depressive behaviors, but also the need for children to support their parents (Breslend et al., 2016).

In addition to modeling emotions through expression, parents also model through their feelings about specific emotions. According to Gottman, Katz, and Hooven (1997), *meta-emotion* is the experience of emotions about a specific emotion. For example, some individuals feel negatively about experiencing anger, while others embrace their anger. Feelings aroused by specific emotions then influence the parent's expression of those emotions and also their response to their children's expression of those emotions. In some cases, parents will react coldly to an emotion and influence their child to suppress that specific emotion. In other cases, parents will take the emotional expression as an

opportunity to connect and teach the child through *emotion coaching*. According to this theory, when a parent engages in emotion coaching, the parent is aware of their child's emotion and helps teach the child to label and talk about the emotion, while also helping the child problem-solve (Gottman et al., 1997).

Another form of parental modeling of emotion expression is *psychological control*. When engaging in psychological control, a parent utilizes their child as an emotional outlet by exerting control over their child's emotions and beliefs (Kim, Parker, & Walker, 2017). Researchers have described parents who engage in psychological control as manipulative and hostile (Kim et al., 2017), and have identified numerous negative outcomes for children and adolescent adjustment further resulting in adolescent emotion dysregulation (Cui, Morris, Criss, Houlberg, & Silk, 2014; Morris, Criss, Silk, & Houlberg, 2017). In a household in which parents engage in psychological control, children often feel the need to conceal their emotions (e.g., acting happy when they are actually upset) (Morris et al., 2017). Oftentimes, children of psychologically controlling parents suffer from low self-esteem, poor emotion regulation, and, in turn, will act more controlling and jealous in their own interpersonal relationships (Schleider & Weisz, 2017). Additionally, Cui et al. (2014) found that in psychologically controlling households, children engaged in either more aggressive behaviors or experienced more depressive symptoms depending on their ability to regulate anger or sadness.

Similar to psychological control, parental emotionality can also impact a child through utilized parenting techniques. For example, research shows children of parents who consistently engage in positive parenting (e.g. providing praise) (Alegre, 2011; Ponnet, Leeuwen, & Wouters, 2014; Smith, Holtrop, & Reynolds, 2015) or show parental

warmth (Bariola, Gullone, & Hughes, 2011; Moran, Turiano, & Gentzler, 2018) are more well-adjusted and have greater well-being in adulthood as compared to other children. While parenting is not often viewed as a form of emotion regulation or dysregulation, parenting techniques used do illustrate these skills. For example, a parent who struggles with constructive emotion regulation would likely not display positive parenting techniques consistently, thus impacting their child.

To conclude, parental emotion expression (regulation and dysregulation) and modeling clearly plays an important role in the emotionality of children, such that parents who model constructive emotion regulation and invite appropriate emotion expression tend to have well-adjusted children, whereas parents who model emotion dysregulation tend to elicit similar emotionality in their children. Even with this existing research, the long-term impacts on adult-children's mental health is less clear. In the current thesis, I investigate the long-term impact of parental emotion regulation and dysregulation by examining the related mental health outcomes of adult-children (*Aim 1*).

Role of Gender in Parent and Child Emotion Regulation

Although it is clear that parental emotional expression and regulation have an influence on children (e.g., Cui et al., 2014), the pathways and magnitude of impact may be dictated by both parent and child gender. Specifically, maternal emotion regulation and dysregulation appear to have a larger effect on children than paternal emotion regulation and dysregulation (Bariola, Gullone, & Hughes, 2011; Cumberland-li et al., 2003). Specifically, in homes with a depressed mother, children often experience greater externalizing and internalizing behavioral issues as compared to children in homes with a depressed father (Goodman et al., 2011).

The impact of parental emotions on children is complex as outcomes are impacted not only by both parent and child gender, but also the valence of the emotion being expressed. Bohanek, Marin, and Fivush (2008) found that, when reacting to positive events, maternal emotion expression and explanation was beneficial for daughters but harmful for sons. However, when responding to negative events, maternal expression and explanation was beneficial for both daughters and sons. Paternal expression, on the other hand, had a negative impact on daughters regardless of the valence of the emotion. Through negative events, paternal explanation was beneficial for daughters and sons, but paternal expression or explanation in positive situations was detrimental for daughters and sons.

Despite the extensive research on parent-child emotionality and gender, the causes of gender differences in emotionality are still unclear. Bariola and colleagues (2011) suggest that gender differences in parent-child emotionality are a result of the diverse responses to emotion specific to each gender. Indeed, findings suggest that fathers are more likely to minimize a child's emotion and encourage emotion suppression, whereas mothers are more likely to help the child problem-solve and encourage emotion expression (see Bariola et al., 2011, for review). Additionally, mothers are more likely to discuss possible causes of the emotion, which may lead to better emotional understanding for the child. However, research shows that both mothers and fathers are more likely to encourage emotion expression in their daughters as opposed to their sons (Bariola et al., 2011; Chaplin, Cole, & Zahn-Waxler, 2005).

Contrary to the claims of Bariola and colleagues (2011), however, research has also shown that, regardless of gender, parents who expressed less warmth, fewer positive

behaviors, and more controlling behaviors raise children with increased maladaptive emotion regulation strategies (McDowell, Kim, O'neil, & Parke, 2002). Similarly, some studies have suggested that it is the behaviors in which mothers often engage (e.g., emotional support, emotion explanation) that are beneficial, not the fact that those behaviors are coming from the child's mother (Bariola et al., 2011). Therefore, gender differences in parent-child emotionality may be dictated by gendered behavior instead of gender itself.

Emotionality and gender have been subjects of research for decades, often exploring masculine and feminine stereotypes regarding emotions. Many researchers have identified stereotypes around emotionality such that women are expected to be uncontrollably emotional (i.e., the emotional crying woman) whereas men are seen as lacking emotion (i.e., the strong silent man) (Fischbach, Lichtenthaler, & Horstmann, 2015; Heesacker et al., 1999; Kelly & Hutson-Comeaux, 1999). These stereotypes, depending on context, have a large impact on the way people behave toward others (Kelly & Hutson-Comeaux, 1999). Within work atmospheres, for example, studies have shown that stereotypical men are seen as more suited for managerial positions due to their lack of emotionality (Fischbach et al., 2015). On the other hand, in some contexts such as child care roles, men are seen as less capable due to their inability to understand emotions (Bariola et al., 2011; Heesacker et al., 1999). Gender-emotion stereotypes may greatly impact the roles of a mother and a father in parenting a child. Parents likely engage in their gendered roles to fit into social norms and children likely reinforce these gendered-emotional behaviors as a result of their developing understanding of gender roles.

Although gender and emotion have sparked research interest, several questions still remain, particularly regarding the influence of paternal emotion on children; how parent gender and child gender interact in regard to emotion regulation and dysregulation; and, whether the influence of specific emotional behaviors (i.e. warmth, emotion explanation, etc.) on children is dictated by parental gender. The current thesis examines the role of gender (both parental and child) in the relationship between parental emotionality and adult-child mental health (*Aim 2*).

Role of Stigma in Emotions

Although research has consistently shown the association between parental emotion regulation and dysregulation and child emotion regulation and dysregulation, less clear is the process by which this association occurs. One particularly important pathway may be the stigma around emotion expression. *Stigma* was originally used in ancient times as a mark of disgrace for individuals who had been branded as slaves or criminals (Goffman, 1963). The word has since expanded to capture any disgrace surrounding an individual whether that shame comes from a physical ailment, mental disorder, or even the violation of gender norms (Goffman, 1963).

Early stigma research focused primarily on race/ethnicity and mental health. However, now research has extended to disabilities, criminality, and other factors that make differences between groups apparent – in other words, creating in-group, out-group biases (Pescosolido & Martin, 2015). In general, stigma has many negative outcomes for stigmatized groups, including formation of self-stigma (Topkaya, 2014), decreased help-seeking behavior (Clement et al., 2015) and increased internalizing of emotions related to the stigmatized quality (Lacey et al., 2015).

Looking at mental health stigma specifically, research has shown that stigma experience starts in childhood, greatly limits help-seeking behaviors (Clement et al., 2015), and often results in more mental health problems and decreased self-esteem for the stigmatized individual (Drapalski et al., 2013). Although *public stigma* (stereotypes held by society) does play a role in mental health stigma, *self-stigma* (stereotypes held by the diagnosed individual) and *perceived stigma* (perceptions the stigmatized individual has about how their social group or society as a whole views them) have been found to play a larger role in decreased help-seeking behaviors for individuals diagnosed with mental disorders (Moses, 2010; Topkaya, 2014).

Moreover, gender stereotypes associated with specific mental disorders influence stigma perceptions. Starting early in adolescence, boys perceive greater stigma associated with mental health issues than girls (Chandra & Minkovitz, 2006). This trend continues into adulthood (Topkaya, 2014). Women who have seen depression in friends or family are less likely to develop a self-stigma related to their own depression; however, this is not true for men (Wang, Fick, Adair, & Lai, 2007). This gender effect is due, in part, to the stigma around masculine stereotyped disorders. Some mental disorders are more expected of men than women and vice versa (Boysen & Logan, 2017). For example, it is more socially acceptable for a woman to be depressed than for a man, whereas it is more socially acceptable for a man to have substance abuse problems as compared to a woman. Conceivably, stereotypically masculine mental disorders are typically more stigmatized than feminine disorders as masculine disorders are attributed to character flaws, whereas feminine disorders are often credited to a chemical imbalance or a situational influence (Boysen & Logan, 2017). Additionally, in accordance to attribution theory, individuals

with gender atypical disorders receive less stigma because the disorder is attributed to external causes instead of internal causes. According to this definition, then, if a female were to experience a stereotypically masculine disorder she should experience less stigma than a man with that disorder. However, the reverse may not be true; a man expressing a stereotypically feminine disorder may result in more (not less) stigma, primarily due to the additional stigma around a man being feminine. Recent research has started to explore masculinity and the impact of gender role conflict – tension between conforming to rigid masculine norms and seeking help – finding that more rigid masculine ideas are associated with negative physical and mental health outcomes (Shepherd & Rickard, 2012). Additionally, men showing feminine emotions, such as sadness or worry, also often experience negative outcomes; experiencing emotions that goes against the masculine role causes increased self-stigma and decreased disclosure (Pederson & Vogel, 2007; Vogel, Heimerdinger-Edwards, Hammer, & Hubbard, 2011).

Similarly, there are cultural norms that tell society what behaviors are acceptable for whom. While cultural norms are intertwined with gender stereotypes, there are many norms that apply to both men and women. Regarding emotionality specifically, although people around the world seek happiness, the way they seek this positive emotion (Ford et al., 2015) and the stigma they anticipate around other emotions differ (Ikizer, Ramírez-Esparza, & Quinn, 2018). For example, in some collectivist cultures, expression of positive emotions such as joy is seen as undesirable and expression of sadness and anger may actually be more acceptable (Park et al., 2013; Safdar et al., 2009). Within the United States, on the other hand, society is built on vertical individualism in which every individual is working for the betterment of oneself in the hopes of being the best

(Triandis & Gelfand, 1998). Due to this cultural structure, a pressure to be happy has formed resulting in the idea that negative emotions, such as sadness, are signs of failure (Safdar et al., 2009). With this extensive cultural influence on emotionality, it is likely that stigma would form around these culturally undesirable emotions.

To further investigate and define emotionality stigma specifically, it is essential to understand stigma formation. There are two theories regarding stigma formation (see Corrigan & Watson, 2007 for review). Some researchers suggest stigma forms through incremental learning in which a child learns stereotypes through interactions with their parents and peers. Other researchers, however, explain that the cognitive stage model, in which children develop stereotypes through the cognitive development of recognizing ingroup and outgroup differences, better explains stigma formation. It is likely some combination of both theories that produces stereotypes in children; while a child does begin noticing differences between people developmentally, it is likely through their experiences and their learning that they form specific beliefs about these differences. Additionally, both of these theories agree that stigma formation happens through very subtle cues and that stigma can be decreased through education and explanation (Chan, Mak, & Law, 2009; Rüsçh, Angermeyer, & Corrigan, 2005).

Surprisingly, no research, to my knowledge, examines whether parental cues (through emotion regulation or dysregulation) lead to a perceived stigma of emotionality in children. The current thesis aims to address this gap in stigma research and define emotionality stigma for future study (*Aim 3*). Based on the literature reviewed, I propose that subtle cues triggering stigma formation could be as simple as parental emotion regulation or dysregulation. In other words, having a parent who constantly conceals their

emotions or over expresses their emotions (dysregulates) may lead to perceived stigma, whereas having a parent who constructively expresses and explains emotions (regulates) may lead to the development of emotional intelligence.

Current Thesis Research

Past research has provided important insights into emotionality in relation to parents and children. Specifically, research shows that parental emotionality plays a large role in child emotionality (Alegre, 2011; Gottman, Katz, & Hooven, 1996; Morris et al., 2017) and the effects of parent emotionality differ depending on parent and child gender (Bohanek et al., 2008; Boysen & Logan, 2017; Chaplin et al., 2005). However, several gaps in knowledge regarding parent emotionality and child outcomes continue to exist. To address these gaps, the current thesis has three aims. First, I examine whether parental emotion regulation during childhood predicts adult-child mental health outcomes (*Aim 1*). Second, I examine how parent and child gender impacts the relationship between parental emotion regulation and adult-child outcomes (*Aim 2*). Finally, I examine the roles of emotional intelligence and emotionality stigma between parental emotion regulation and dysregulation and adult-child mental health (*Aim 3*). Based upon these aims, I have three specific hypotheses and two research questions:

Hypothesis 1: Adult-children of parents who over- or under- express (dysregulate) their emotions will experience negative mental health outcomes, whereas adult-children of parents who express or explain (regulate) emotions will show better outcomes.

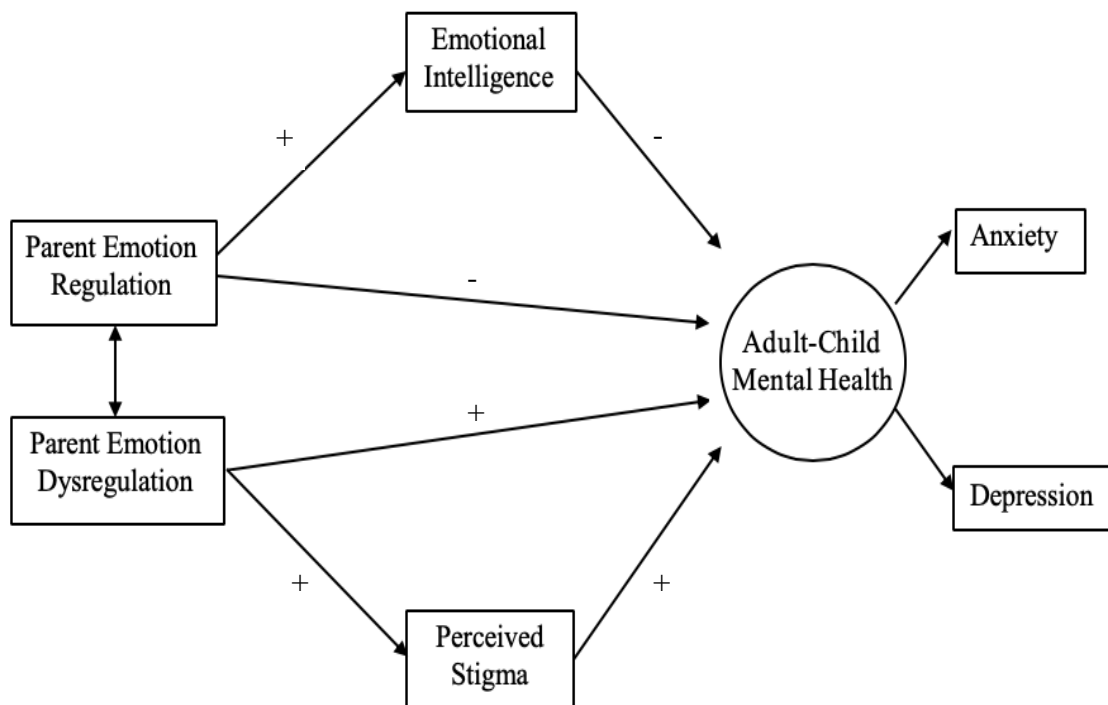
Hypothesis 2: Parent-child gender match will moderate the association between parental emotionality and adult-child mental health; specifically, females will be more

affected by their mother’s emotionality and males will be more affected by their father’s emotionality.

Hypothesis 3: The relationships between parental emotion regulation and dysregulation and adult-child mental health will be explained by a multiple mediation model (Figure 1). Parental emotion dysregulation will be primarily related to stigma formation which, in turn, will lead to impaired mental health in the adult-child. On the other hand, parental regulation will primarily lead to emotional intelligence, which, in turn, will lead to positive mental health in the adult-child.

Figure 1.

Mediating Effect of Emotional Intelligence and Perceived Stigma between Parental Regulation and Dysregulation and Adult-Child Mental Health



Research Question 1: Will gender influence the relationships between parental emotionality, stigma, emotional intelligence, and adult-child mental health?

Research Question 2: Will adult-child mental health differ depending on the specific emotion expressed by the parent?

Methods

Participants

The target sample size for the proposed study was calculated using G*Power (Faul, Erdfelder, Lang, & Buchner, 2007), with an estimated effect size (f^2) of .015, an alpha of .05, power of .80, and three tested predictors. Based on this power analysis the target sample size for this study was 750 participants. A total of 1262 individuals were recruited from Amazon's Mechanical Turk (67.1%) and ASU's SONA Systems (32.9%). Recruitment was not restricted to participants within the United States. Participants who completed less than half of the survey (50 participants) or missed more than one attention check (76 participants) were excluded from analyses. After participant exclusion, my total sample size was 1,136 participants (64.2 % recruited from Mturk) aged 18 to 50 (52.3% White, 7.3% African American, 15.8% Hispanic, 20.6% Asian, 3.7% Other); thus, the final sample exceeded the recommended sample size for adequate power. The average participant was in their late-20's ($M = 28.37$, $SD = 8.99$) and had an annual family income (in childhood) between \$50,000 and \$70,000. The majority of participants reported being raised by both their mother and father (75.2%). See Table 1 for additional demographic information.

Table 1.

Participant Demographics (N = 1136 participants)

Condition	%
Mean Age	28.37 (8.99)
Gender	
Male	49.0
Female	50.4
Race/Ethnicity	
White	52.3
African American	7.3
Hispanic	15.8
Asian	20.6
Other	3.7
Sexual Orientation	
Heterosexual	80.1
Homosexual	4.2
Bisexual	14.3
Other	1.1
Annual Family Income	
Less than \$10,000	6.5
\$10,000 - \$19,999	8.4
\$20,000 - \$29,999	12.9
\$30,000 - \$39,999	10.8
\$40,000 - \$49,999	10.9
\$50,000 - \$59,999	11.4
\$60,000 - \$69,999	8.4
\$70,000 - \$79,999	7.1
\$80,000 - \$89,999	5.1
\$90,000 - \$99,999	4.2
\$100,000 - \$149,999	9.1
More than \$150,000	4.8
Family Composition	
Mother and Father	75.2
Mother Only	16.3
Father Only	2.9
Legal Guardian	2.4
Mean Mother/Female Guardian Age	53.96 (10.61)
Mean Father/Male Guardian Age	56.27 (10.03)

Procedure

Participants were recruited through Amazon's Mechanical Turk and ASU's SONA System. IRB approval was obtained before conducting the study and all participants provided informed consent before participation. In order to participate, the participant had to be 18 years of age or older. Participants completed a 20-minute electronic questionnaire. Following participation, participants were provided with a list of community services available to them and compensation (\$1 or research credit) for their time.

Measures

Demographics and Clinical Characteristics. To understand the sample of the current study and to identify potential covariates, a number of sociodemographic variables were included in the survey. Participants were asked to report their age, gender, race/ethnicity (non-Hispanic White, African American, Hispanic, Asian, or Other), and mental disorder diagnoses. Participants were also asked to provide information about their family household income while growing up (less than \$25,000, \$25,001 - \$34,999, \$35,000 - \$49,999, \$50,000- \$74,999, \$75,000 - \$99,999, \$100,000 - \$149,999, \$150,000-\$199,999, or more than \$200,000).

Parental Emotionality. Perceived parental emotionality was assessed through the participant's response to a 24-item scale adapted from the Emotion Regulation Checklist – Italian Version (Molina et al., 2014). The *Emotion Regulation Checklist* was originally intended to be used by a parent to assess the emotion regulation abilities of their child. The original scale was separated into two subscales: lability/negativity (i.e. emotion dysregulation), and emotion regulation. For this thesis, I adapted both subscales to assess

the emotion dysregulation (e.g. “*my parent was easily frustrated*”; “*my parent was impulsive*”; “*my parent was whiny or clingy with others*”) and regulation (e.g. “*my parent was often cheerful*”; “*my parent responded positively to neutral or friendly overtures by peers*”; “*my parent was empathetic towards others; showed concern when others were upset or distressed*”) of the parent as reported by their adult-child.

Participants were asked to think about how each parent acted during their childhood and respond to the listed questions on a 4-point Likert scale (1 = *never*; 4 = *almost always*).

Participants responded to the scale once for their mother and once for their father, if applicable. Reverse worded questions within the emotion dysregulation subscale were recoded to reflect higher emotion dysregulation. A mean score of the items was calculated, with higher scores indicating higher parental emotion dysregulation, for mothers ($\alpha = .91$) and fathers ($\alpha = .89$) separately. Additionally, a total parental emotion dysregulation score was calculated by taking the average of maternal emotion dysregulation and paternal emotion dysregulation. Reverse worded questions within the emotion regulation subscale were recoded to reflect higher emotion regulation. A mean score of the items was calculated, with higher scores indicating higher parental emotion regulation, for mothers ($\alpha = .71$) and fathers ($\alpha = .65$) separately. Additionally, a total parental emotion regulation score was calculated by taking the average of maternal emotion regulation and paternal emotion regulation.

In order to address my second research question concerning the impact of specific emotion expression and explanation, I also asked the following items related to parental emotionality: “*my parent expressed positive emotions*”; “*my parent expressed negative emotions (e.g. sad, depressed, etc.)*”; “*my parent expressed negative emotions (e.g.*

irritation, anger, etc.”); “*my parent explained his/her positive emotions to me*”; “*my parent explained his/her negative emotions (e.g. sad, depressed, etc.) to me*”; “*my parent explained his/her negative emotions (e.g. irritation, anger, etc.) to me*”. Participants responded to each item on a 4-point Likert scale (1 = *never*; 4 = *almost always*) for both their mother and their father, if applicable. Each of these items were analyzed separately.

Emotional Intelligence. Participants were asked to self-assess their emotional intelligence using the Rotterdam Emotional Intelligence Scale (Pekaar, Bakker, van der Linden, & Born, 2018). The Rotterdam Emotional Intelligence Scale is a 28-item scale on which participants indicate the extent to which they agree with each statement (e.g., “*I always know how I feel.*”; “*I adjust my emotions when necessary.*”) on a 5-point Likert scale (1 = *totally disagree*; 5 = *totally agree*). A mean score of the 28 items was calculated, with higher scores indicating higher emotional intelligence ($\alpha = .92$).

Mental Health. Two specific mental health outcomes were assessed: anxiety and depression. *Anxiety* was measured using the Beck Anxiety Inventory (Beck, Epstein, Brown, & Steer, 1988). The Beck Anxiety Inventory is a 21-item scale that assesses anxiety symptomology. Participants responded to each item (e.g. “*feeling hot*”; “*faint*”) using a 4-point Likert scale (0 = *not at all*; 3 = *severely-I could barely stand it*), how much he or she has been bothered by each symptom over the past week. A mean score of the items was calculated, with higher scores indicating higher anxiety symptomology over the past week ($\alpha = .96$). *Depression* was assessed using the Center for Epidemiologic – Depression Inventory (CES-D) (Radloff, 1977). The CES-D is a 20-item inventory that assesses depression symptomology in the general population. Participants responded to each item (e.g. “*I was happy*”; “*I felt lonely*”) indicating how often within the last 7 days

he or she had felt this way (1 = *rarely or none of the time*; 4 = *most or all of the time*). Reverse worded questions were recoded to reflect higher depression symptomology. A mean score of the items was calculated, with higher scores indicating higher depression symptomology over the past week ($\alpha = .93$).

Emotionality Stigma Endorsement. Participant's stigma around emotionality was assessed through a 29-item measure adapted from the Internalized Stigma of Mental Illness Scale which addresses internalized alienation, stereotype endorsement, discrimination experience, social withdrawal, and stigma resistance (Ritsher, Otilingam, & Grajales, 2003). The Internalized Stigma of Mental Illness was adapted to measure internalized stigma around emotionality instead of mental illness (e.g. "*People discriminate against individuals who are more emotional*"; "*Stereotypes about emotionality are valid*"). Participants utilized a 4-point Likert Scale (1= *strongly disagree*; 4= *strongly agree*) to report the extent they agree with each statement. Stigma resistance items were reverse coded to indicate higher levels of emotionality stigma endorsement. A mean score of the items was calculated, with higher scores indicating more emotionality stigma endorsement ($\alpha = .92$).

Results

Descriptive statistics

As shown in Table 2 (all variables standardized to be on the same scale ranging from 1 to 4), with respect to parental emotionality, females and males reported similar amounts of parental emotionality with more reports of parental regulation ($M = 2.55$, $SD = 0.78$; $M = 2.52$, $SD = 0.70$, respectively) as compared to reports of parental dysregulation ($M = 1.72$, $SD = 0.61$; $M = 1.96$, $SD = 0.66$, respectively). Participants also reported more *paternal* regulation and dysregulation than *maternal* regulation and

dysregulation. Male participants reported higher levels of emotionality stigma endorsement ($F(1,1070) = 91.03, p < .001, M = 1.96, SD = 0.38$), as well as higher levels of depression ($F(1,1070) = 6.73, p = .01, M = 1.79, SD = 0.53$) and anxiety ($F(1,1070) = 29.63, p < .001, M = 1.58, SD = 0.66$) than female participants (emotionality stigma: $M = 1.73, SD = 0.38$; depression: $M = 1.62, SD = 0.53$; anxiety: $M = 1.38, SD = 0.53$). Finally, both male and female participants in this study reported high emotional intelligence (females: $M = 3.02, SD = 0.44$); males: $M = 3.02, SD = 0.43$).

Table 2.

Descriptive Statistics of Major Study Variables

	Female	Male
	<i>M (SD)</i>	<i>M (SD)</i>
Total Parent Emotionality		
Expression/Suppression	1.72b (0.61)	1.96a (0.66)
Regulation	2.55a (0.78)	2.52b (0.70)
Maternal Emotionality		
Dysregulation	1.96b (0.62)	2.18a (0.63)
Regulation	2.94a (0.57)	2.84b (0.49)
Paternal Emotionality		
Dysregulation	1.92b (0.58)	2.18a (0.60)
Regulation	2.81 (0.55)	2.75 (0.46)
Adult-Child Outcomes		
Emotional Intelligence	3.02 (0.44)	3.02 (0.43)
Emotionality Stigma	1.73b (0.38)	1.96a (0.38)
Depression	1.62 (0.53)	1.79 (0.53)
Anxiety	1.38b (0.53)	1.58a (0.66)

Notes: Each variable has been standardized to a 4-point scale.

Prior to conducting the primary analyses, I examined potential covariates for inclusion. Because participant age, race/ethnicity, mental health diagnoses, family income, and question order all varied by population (SONA vs. Mturk), population captured these potential covariates. I conducted multiple linear regressions with population predicting the two adult-child mental health variables (depression and anxiety). Population (Mturk vs. SONA) significantly predicted child anxiety and depression at $p < .01$. Thus, population is included as a covariate in all analyses.

Emotion Regulation versus Dysregulation

My first hypothesis predicted that parental emotion regulation would be associated with fewer adult-child mental health impairments while parental emotion dysregulation would be related to greater symptomology. Additionally, I predicted that dysregulation would be more strongly related to adult-child mental health than regulation. To test these hypotheses, I conducted linear regression analyses, controlling for population, with parental emotion regulation and dysregulation simultaneously predicting child depression and anxiety, separately. Preliminary examination of the data revealed that all of the assumptions of linear regression (i.e., linearity, normality, homogeneity of regressions) were met in the current dataset. There is also no evidence of multicollinearity (see Table 3).

In support of my hypothesis, results showed significant, positive linear relationships between parental emotion dysregulation and adult-child depression (Table 4) and anxiety (Table 5). Additionally, as predicted, I found negative linear relationships between parental emotion regulation and adult-child depression and anxiety. Furthermore, when accounting for both parental regulation and dysregulation, parental

dysregulation showed a stronger association with adult-child depression ($B = 0.27$) and anxiety ($B = .31$) as compared to parental regulation ($B = -0.14$; $B = -0.14$, respectively).

Table 3.

Bivariate Correlations of Major Study Variables

Measure	1	2	3	4	5	6	7	8
1. Maternal Dysregulation	—							
2. Maternal Regulation	-.53**	—						
3. Paternal Dysregulation	.61***	-.33***	—					
4. Paternal Regulation	-.27***	.55***	-.38**	—				
5. Child Emotional Intelligence	-.14***	.31***	-.15***	.24***	—			
6. Child Emotionality Stigma	.54***	-.27***	.60***	.21***	-.02	—		
7. Child Anxiety	.55***	-.18***	.64***	-.11**	-.08**	.62***	—	
8. Child Depression	.48***	-.19***	.59***	-.18***	-.20***	.55***	.81***	—

Table 4.

Linear Relationship between Parental Emotionality and Adult-Child Depression

Variables	Model							
	1		2		3		4	
	<i>B</i>	<i>(SE)</i>	<i>B</i>	<i>(SE)</i>	<i>B</i>	<i>(SE)</i>	<i>B</i>	<i>(SE)</i>
Population	0.20 ***	(.04)	0.17 ***	(.04)	0.05	(.04)	-0.05	(.04)
Parental Regulation	-	-	-0.06 ***	(.01)	-	-	-0.14 ***	(.01)
Parental Dysregulation	-	-	-	-	0.21 ***	(.02)	0.27 ***	(.02)

Note: Population was included as a covariate in all models. + $p < .08$, * $p < .05$, ** $p < .01$, *** $p < .001$

Table 5.

Linear Relationship between Parental Emotionality and Adult-Child Anxiety

Variables	Model							
	1		2		3		4	
	<i>B</i>	<i>(SE)</i>	<i>B</i>	<i>(SE)</i>	<i>B</i>	<i>(SE)</i>	<i>B</i>	<i>(SE)</i>
Population	0.38 ***	(.05)	0.36 ***	(.05)	0.20 ***	(.04)	0.10 *	(.04)
Parental Regulation	-	-	-0.05 **	(.02)	-	-	-0.14 ***	(.01)
Parental Dysregulation	-	-	-	-	0.26 ***	(.02)	0.31 ***	(.02)

Note: Population was included as a covariate in all models. ⁺ $p < .08$, * $p < .05$, ** $p < .01$, *** $p < .001$

In a post hoc analysis, I examined whether there was a curvilinear relationship between emotional regulation and adult-child mental health by entering both parental emotion regulation and parental emotion regulation² into a linear regression predicting adult-child depression and anxiety separately (Table 6). Similarly, I entered both parental emotion dysregulation and parental emotion dysregulation² into a linear regression predicting adult-child depression and anxiety separately to assess a curvilinear relationship between emotional dysregulation and adult-child mental health (Table 7). Indeed, a positive curvilinear relationship was found between parental emotion dysregulation and adult-child depression and anxiety, such that at low and medium levels of parental dysregulation, the child shows low levels of depression and anxiety, but at high levels of parental dysregulation, the child shows increased depression and anxiety (see Figure 2 for depression results). Furthermore, I found significant negative curvilinear relationships between parental emotion regulation and adult-child depression and anxiety, such that moderate levels of parental regulation are related to increased adult-child depression and anxiety, whereas both low and high levels of parental regulation are

related to better adult-child mental health outcomes comparatively (see Figure 3 for depression results).

Table 6.

Curvilinear Relationship between Parental Regulation and Adult-Child Mental Health

Variables	Child Outcomes					
	Depression			Anxiety		
	<u>B</u>		<u>(SE)</u>	<u>B</u>		<u>(SE)</u>
Population	0.14	**	(.04)	0.33	***	(.05)
Parental Regulation	0.44	***	(.08)	0.43	***	(.09)
Parental Regulation ²	-0.05	***	(.01)	-0.05	***	(.01)

Note: Population was included as a covariate in all models. ⁺*p* < .08, **p* < .05, ***p* < .01, ****p* < .001

Table 7.

Curvilinear Relationship between Parental Dysregulation and Adult-Child Mental Health

Variables	Child Outcomes					
	Depression			Anxiety		
	<u>B</u>		<u>(SE)</u>	<u>B</u>		<u>(SE)</u>
Population	0.03		(.04)	0.17	***	(.04)
Parental Dysregulation	-0.19	*	(.08)	-0.33	***	(.09)
Parental Dysregulation ²	0.05	***	(.021)	0.08	***	(.01)

Note: Population was included as a covariate in all models. ⁺*p* < .08, **p* < .05, ***p* < .01, ****p* < .001

Figure 2.

Curvilinear Relationship between Parent Dysregulation and Adult-Child Depression

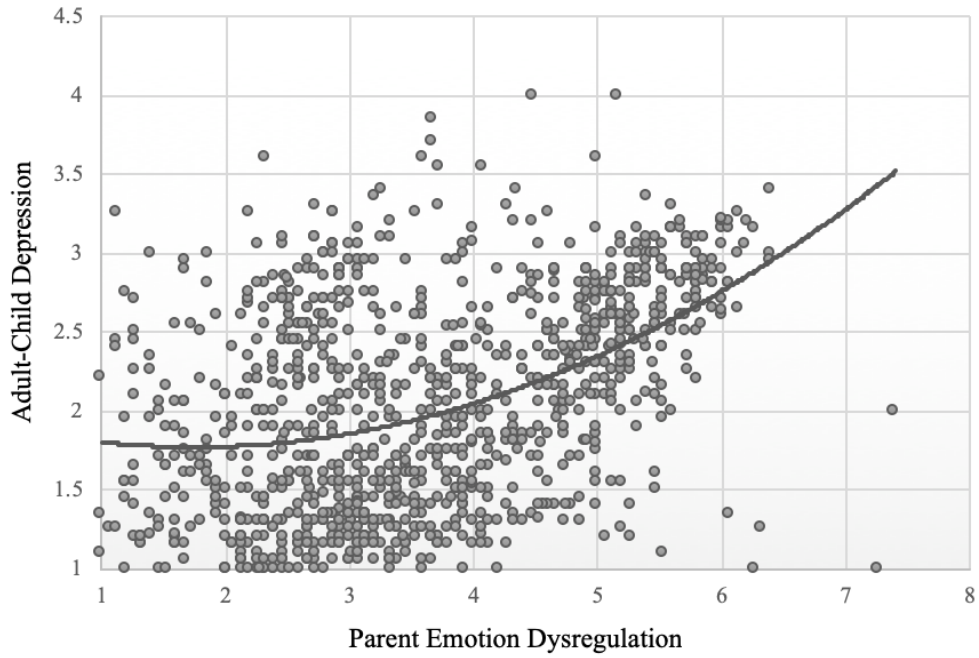
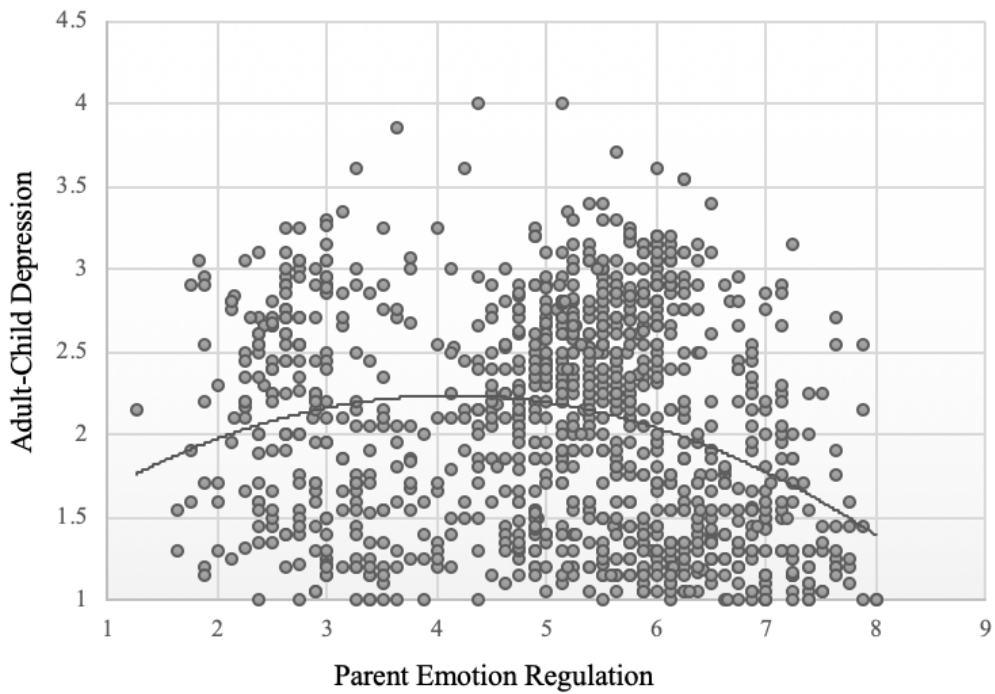


Figure 3.

Curvilinear Relationship between Parent Regulation and Adult-Child Depression



Gender as a Moderator

In order to test my second hypothesis that the relationships between parental emotionality and adult-child mental health outcomes would be moderated by both parent and adult-child gender, I conducted regression analyses controlling for population via the PROCESS Macro Model 1 for SPSS (Hayes, 2014). I found partial support my hypothesis (see Table 8 for parental dysregulation moderation results; see Table 9 for parental regulation moderation results).

Table 8.

Gender Moderating the Relationship between Parental Dysregulation and Adult-Child Mental Health

	Child Outcomes			
	Depression		Anxiety	
<u>Parental Emotionality</u>	<u>b</u>	<u>(SE)</u>	<u>b</u>	<u>(SE)</u>
Maternal Dysregulation				
Population	-0.04	(.04)	0.06	(.04)
Gender	-0.52	*** (.13)	-0.86	*** (.13)
Maternal Dysregulation	0.40	*** (.04)	0.42	*** (.04)
Gender*Maternal Dysregulation	0.24	*** (.06)	0.45	*** (.06)
Paternal Dysregulation				
Population	-0.07	(.05)	0.04	(.05)
Gender	-0.49	*** (.13)	-0.65	*** (.15)
Paternal Dysregulation	0.58	*** (.05)	0.65	*** (.05)
Gender*Paternal Dysregulation	0.21	** (.06)	0.32	*** (.05)

Note: Population was included as a covariate in all models. ⁺ $p < .08$, * $p < .05$, ** $p < .01$, *** $p < .001$

Table 9.

Gender Moderating the Relationship between Parental Regulation and Adult-Child Mental Health

	Child Outcomes				
	Depression			Anxiety	
Parental Emotionality	<i>b</i>		<i>(SE)</i>	<i>b</i>	<i>(SE)</i>
Maternal Regulation					
Population	0.12	*	(.05)	0.27	*** (.05)
Gender	0.07		(.23)	0.41	(.25)
Maternal Regulation	-0.19	***	(.05)	-0.13	* (.06)
Gender*Maternal Regulation	-0.02		(.08)	-0.10	(.09)
Paternal Regulation					
Population	0.14	**	(.05)	0.31	*** (.06)
Gender	0.05		(.25)	0.23	(.29)
Paternal Regulation	-0.20	***	(.06)	-0.09	(.07)
Gender*Paternal Regulation	-0.005		(.09)	-0.04	(.10)

Note: Population was included as a covariate in all models. * $p < .08$, * $p < .05$, ** $p < .01$, *** $p < .001$

Specifically, adult-child gender significantly interacted with both maternal and paternal dysregulation on adult-child depression and anxiety. In support of my prediction, high levels of *paternal* dysregulation were significantly related to greater adult-child depression (see Figure 4) and anxiety (see Figure 5) for *males* (depression: $b = .63$, $se = .05$, $t = 13.11$, $p < .001$; anxiety: $b = .81$, $se = .05$, $t = 15.92$, $p < .001$) as compared to *females* (depression: $b = .38$, $se = .04$, $t = 10.30$, $p < .001$; anxiety: $b = .56$, $se = .05$, $t = 11.00$, $p < .001$).

Figure 4.

Gender Moderating the Relationship between Paternal Dysregulation and Adult-Child Depression

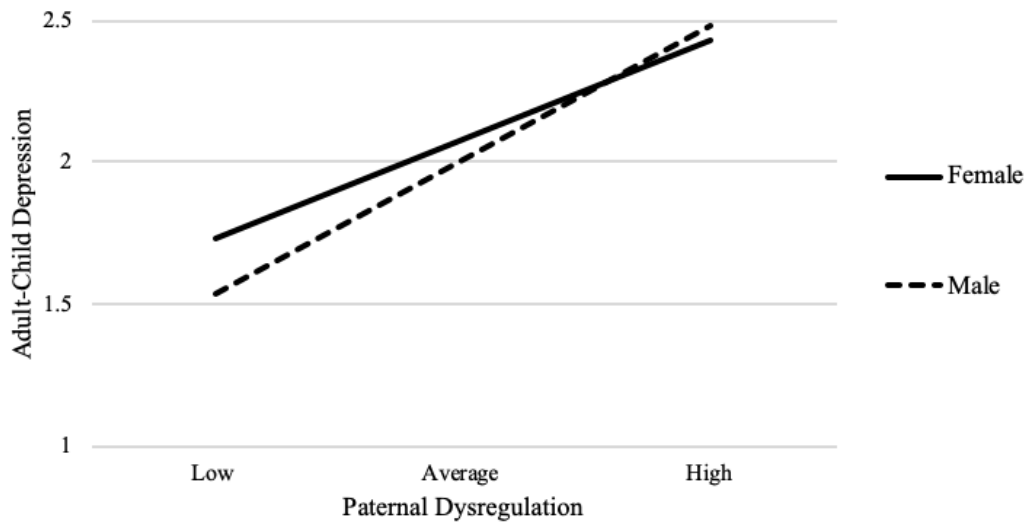
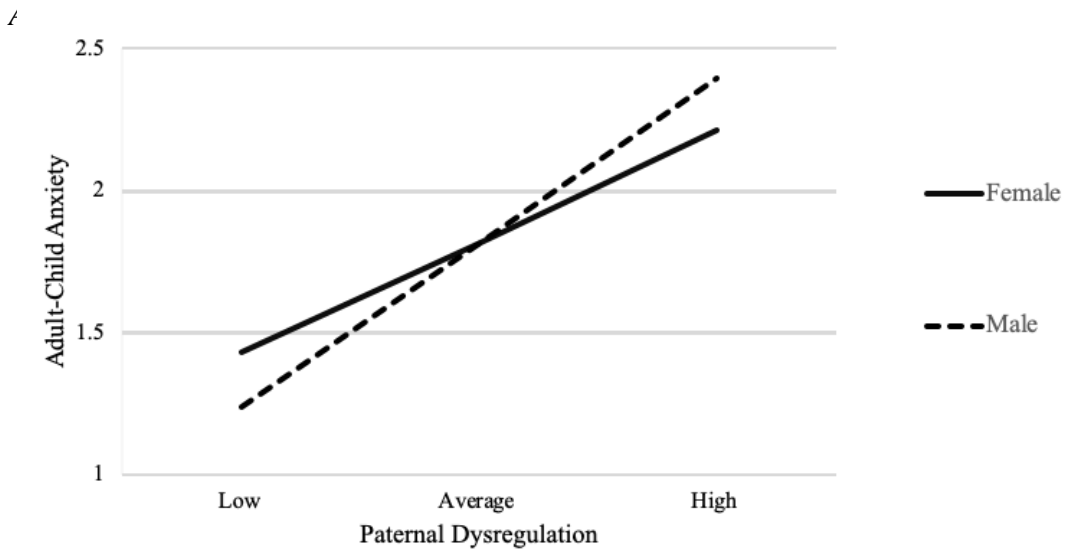


Figure 5.

Gender Moderating the Relationship between Paternal Dysregulation and Adult-Child Anxiety



However, contrary to my hypothesis, the relationship between *maternal* dysregulation and adult-child depression and anxiety followed the same pattern such that *males* were more impacted by their mother's dysregulation (depression: $b = .54$, $se = .05$, $t = 11.17$, $p < .001$; anxiety: $b = .74$, $se = .05$, $t = 14.80$, $p < .001$) as compared to *females* (depression: $b = .36$, $se = .05$, $t = 7.59$, $p < .001$; anxiety: $b = .39$, $se = .05$, $t = 7.98$, $p < .001$). Finally, contrary to my hypothesis, I did not find a significant interaction between parent or adult-child gender and either maternal or paternal regulation.

Mediation by Emotional Intelligence and Emotionality Stigma

To test the hypothesis that emotionality stigma would mediate the relationship between parental dysregulation and adult-child outcomes, whereas emotional intelligence would mediate the relationship between parental regulation and adult-child outcomes, I utilized structural equation modeling (SEM). Using EQS, mental health was defined as a latent factor consisting of depression and anxiety; the path for anxiety was fixed at 1.0, as it is the most strongly correlated with the factor. Population was included as a covariate because it was highly correlated with all major study variables. Maximum likelihood (ML) estimation method was used, as the multivariate normality assumption was not violated. Based on the sample size recommendations by Bentler (2006), the present sample size ($N = 1041$) is sufficient to test our proposed model with a 49.6:1 $N:q$ ratio (where q represents the number of free parameter estimates) –the recommended ratio is between 5:1 and 10:1 (i.e., 5 to 10 cases for every parameter estimate; Jackson, 2003). Finally, the model is properly overidentified, with 28 known parameters and 21 unknown parameters.

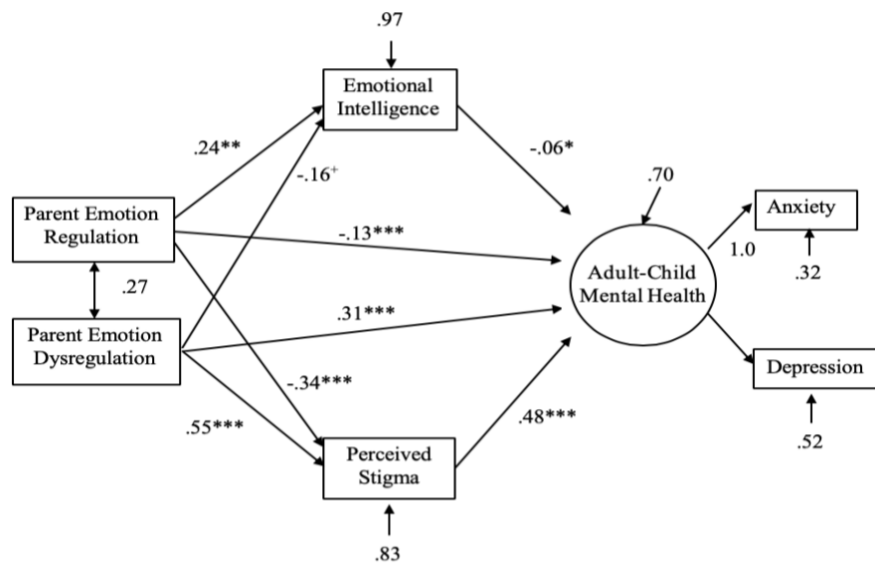
In order to test the mediational model, the data was analyzed using a partial structural model. Population (SONA or Mturk) was included as an exogenous variable and, initially, left free to affect all variables. In the final model, significant correlations were retained for population with parent regulation, parent dysregulation, and the error term associated with adult-child stigma endorsement. Including the population variable in the model allowed me to account for differences between participants in the assessment of the unique effect of the major study variables.

The hypothesized model was a marginal fit, $\chi^2(9, N= 1041) = 272.38, p= .01$, CFI= .90, RMSEA= .17 (CI= .15, .19), SRMR = .09. Analyses indicated direct paths between parental regulation and perceived stigma and between parental dysregulation and emotional intelligence would significantly improve model fit. A modified model that included a path from parental regulation to stigma as well as a path from parental dysregulation to emotional intelligence fit the data better than the original model, $\chi^2 (7, N= 1041) = 91.89, p < .001$, CFI= .97, RMSEA= .11 (CI= .09, .13), SRMR = .03. In this final model, the change in chi-square from the initial model is significant ($\Delta\chi^2 = 180.49, p < .001$), suggesting a significant improvement in fit. Additionally, the comparative fit index (CFI) is above .90 and the SRMR is below .05, both of which also indicate a good fit. The standardized estimates for the final model are shown in Figure 7. The final structural equation model suggests that parental emotion regulation is related to improved mental health through decreased emotionality stigma and increased emotional intelligence, whereas parental dysregulation was related to impaired mental health through increased emotionality stigma and decreased emotional intelligence. Significant indirect effects were found for each pathway (Table 10).

Due to the cross-sectional nature of this research, the direction of mediation cannot be determined. Although the hypothesized model is theoretically driven, an alternative model was tested to rule out other possible models. In this alternative model, adult-child mental health was used as a mediator between parental emotionality and adult-child emotional intelligence and emotionality stigma endorsement. This model also makes theoretical sense in that an adult-child's mental health may impact their emotional intelligence and endorsement of emotionality stigma. However, the alternative model was only a marginal fit, $\chi^2(11, N=1041) = 232.83, p < .001, CFI = .91, RMSEA = .14$ (CI = .12, .16), SRMR = .05. The change in chi-square from the modified model to the alternative model is significant ($\Delta\chi^2 = 140.94, p < .001$), suggesting the modified model achieved a significantly better fit as compared to the alternative model.

Figure 6.

Final Mediation Model of the Relationship between Parental Emotionality and Adult-Child Mental Health



Notes: Population was included as a covariate in models. Sobel tests were conducted to examine indirect effects. ⁺ p < .08, *p < .05, **p < .01, ***p < .001

Table 10.

Indirect Effects between Parental Emotionality and Adult-Child Mental Health

	Mediation through Stigma	Mediation through EI
	z	z
Parent Regulation	-10.59***	-2.26*
Parent Dysregulation	13.42***	-2.21*
Parent Regulation ²	14.03***	-2.55**
Parent Dysregulation ²	8.51***	1.99 ⁺

Notes: Sobel tests were conducted to examine indirect effects. Population was included as a covariate in all models. ⁺ $p < .08$, * $p < .05$, ** $p < .01$, *** $p < .001$

I also examined the proposed mediation model separated by parent gender. I found that the model with *maternal* regulation and dysregulation as the exogenous variables was a marginal fit, $\chi^2(10, N= 1005) = 354.39, p < .001, CFI = .87, RMSEA = .19$ (CI = .17, .20), SRMR = .12. However, the model with *paternal* regulation and dysregulation as the exogenous variables fit the data well, $\chi^2(9, N= 1041) = 82.59, p < .001, CFI = .97, RMSEA = .10$ (CI = .08, .12), SRMR = .03. Both the maternal emotionality model and the paternal emotionality model followed the same trends as the total model such that parental emotion regulation is related to improved mental health through decreased emotionality stigma and increased emotional intelligence, whereas parental dysregulation is related to impaired mental health through increased emotionality stigma and decreased emotional intelligence. Comparing the maternal emotionality model (AIC = 334.39) and the paternal emotionality model (AIC = 64.59), the paternal emotionality model is a better fit. The lower AIC in the paternal emotionality model

suggests that the relationship between parental emotionality, emotional intelligence, stigma, and adult-child mental health is more apparent through paternal regulation and dysregulation as compared to maternal regulation and dysregulation.

Finally, I tested the curvilinear mediational model. Similar to the linear model, the curvilinear model was a good fit, $\chi^2(7, N=1041) = 87.85, p < .001, CFI = .97, RMSEA = .11$ (CI = .09, .13), SRMR = .03. The curvilinear model suggests that parental emotion regulation has a positive curvilinear relationship with adult-child emotional intelligence and a negative curvilinear relationship with adult-child emotionality stigma and mental health, whereas parental dysregulation has a negative curvilinear relationship with adult-child emotional intelligence and a positive curvilinear relationship with adult-child emotionality stigma and impaired mental health. Significant indirect effects were found for each pathway (Table 10).

Although I did not make any specific predictions about how parent and adult-child gender would impact the mediation models, I included these moderators in my analyses due to the predicted gender differences in my second hypothesis. To explore potential gender differences, I conducted moderated mediation analyses using the PROCESS Macro Model 59 for SPSS (Hayes, 2014), controlling for population. First, I explored parental dysregulation by entering maternal and paternal dysregulation separately as the predictor, emotionality stigma and emotional intelligence as the mediators, adult-child depression and anxiety separately as the outcome, and gender as the moderator. Next, I investigated parental regulation by entering maternal and paternal regulation separately as the predictor, emotional intelligence and emotionality stigma as

the mediators, adult-child depression and anxiety separately as the outcome, and gender as the moderator.

Table 11.

Gender Moderating the Relationship between Parental Emotionality and Adult-Child Emotional Intelligence and Emotionality Stigma Endorsement

	Child Outcomes			
	Depression		Anxiety	
<u>Child Gender Interactions</u>	<u>b</u>	<u>(SE)</u>	<u>b</u>	<u>(SE)</u>
a. Maternal Dysregulation -> EI	0.06	(.05)	0.05	(.05)
b. Maternal Dysregulation -> Stigma	0.13	** (.04)	0.13	** (.04)
c. Paternal Dysregulation -> EI	-0.02	(.06)	-0.02	(.06)
d. Paternal Dysregulation -> Stigma	0.11	* (.05)	0.11	* (.05)
e. Maternal Regulation -> EI	0.04	(.06)	0.04	(.06)
f. Maternal Regulation -> Stigma	0.02	(.05)	0.02	(.05)
g. Paternal Regulation -> EI	0.19	** (.07)	0.19	** (.07)
h. Paternal Regulation -> Stigma	0.03	(.06)	0.03	(.06)

Note: Population was included as a covariate in all models. ⁺ $p < .08$, * $p < .05$, ** $p < .01$, *** $p < .001$

As shown in Table 11, male participants were consistently more impacted by their parents' regulation and dysregulation than female participants. With respect to parental dysregulation, both maternal and paternal dysregulation significantly interacted with gender on adult-child emotionality stigma endorsement, such that males showed a stronger slope between dysregulation and emotionality stigma than females. However, there was no gender difference in the relationship between parental emotion dysregulation and adult-child emotional intelligence. Of note, only *paternal* regulation interacted with gender on adult-child emotional intelligence. Males benefitted more from

paternal regulation such that the slope with emotional intelligence was stronger than females. No other gender differences were found with parental regulation.

Furthermore, males are more impacted by their own emotionality stigma endorsement than females (see Table 12). Specifically, males showed significantly higher levels of depression and anxiety related to their emotionality stigma endorsement as compared to females. However, there was a marginally significant trend for females showing a sharper decrease in depression related to their emotional intelligence compared to males. No gender differences were identified in the pathways between emotional intelligence and anxiety.

Table 12.

Gender Moderating the Relationship between Adult-Child Emotional Intelligence and Emotionality Stigma Endorsement and Adult-Child Mental Health

	Parent Emotionality							
	Maternal				Paternal			
	Dysregulation		Regulation		Dysregulation		Regulation	
Child Gender Interactions	<i>b</i>	(<i>SE</i>)	<i>b</i>	(<i>SE</i>)	<i>b</i>	(<i>SE</i>)	<i>b</i>	(<i>SE</i>)
i. EI -> Depression	0.12 +	(.06)	0.10	(.07)	0.15 *	(.07)	0.07	(.07)
j. EI -> Anxiety	0.06	(.06)	0.03	(.07)	0.08	(.07)	-0.01	(.08)
k. Stigma -> Depression	0.14	(.08)	0.30 ***	(.08)	0.08	(.09)	0.31 ***	(.08)
l. Stigma -> Anxiety	0.30 ***	(.09)	0.55 ***	(.08)	0.28 **	(.10)	0.50 ***	(.05)

Note: Population was included as a covariate in all models. + $p < .08$, * $p < .05$, ** $p < .01$, *** $p < .001$

Type of Emotion Expressed

Finally, in addition to my primary hypotheses, I wanted to explore how the expression and explanation of specific emotions impacted adult-child mental health. To accomplish this exploration, I conducted a series of linear regressions in which maternal

and paternal expression and explanation of specific types of emotions (i.e., positive emotions, sadness-related emotions, anger-related emotions) were entered simultaneously as the predictors with adult-child depression and anxiety separately as the outcomes. Population was included as a covariate in all models.

Table 13.

Specific Emotion Expression and Explanation on Adult-Child Mental Health

Variables	Child Outcomes				
	Depression			Anxiety	
	<i>B</i>		<i>(SE)</i>	<i>B</i>	<i>(SE)</i>
Block 1					
Population	0.16	***	(.05)	0.34	*** (.05)
Block 2					
Maternal Positive EE	- 0.05		(.03)	-0.02	(.03)
Maternal Negative EE - sadness	0.17	***	(.03)	0.23	*** (.04)
Maternal Negative EE - anger	0.06	+	(.03)	0.06	+ (.04)
Maternal Explain Positive	0.004		(.03)	0.04	(.03)
Maternal Explain Sadness	-0.004		(.04)	0.04	(.04)
Maternal Explain Anger	0.07	+	(.03)	0.08	* (.04)
Block 3					
Paternal Positive EE	-0.08	**	(.03)	-0.10	*** (.03)
Paternal Negative EE - sadness	0.11	***	(.03)	0.11	*** (.03)
Paternal Negative EE - anger	0.09	**	(.03)	0.08	* (.03)
Paternal Explain Positive	0.02		(.03)	0.08	* (.03)
Paternal Explain Sadness	0.08	*	(.03)	0.08	* (.04)
Paternal Explain Anger	0.04		(.04)	0.07	+ (.04)

Note: Population was included as a covariate in all models. + $p < .08$, * $p < .05$, ** $p < .01$, *** $p < .001$

As shown in Table 13, *paternal expression* of positive emotions was related to decreased mental health impairment for the adult-child. *Paternal expression* of sadness and anger-related emotions, as well as *explanation* of sadness-related emotions, were related to greater depression and anxiety in their adult-child. Additionally, *paternal*

explanation of positive emotions was related to increased adult-child anxiety, and *paternal explanation* of negative emotions such as anger was marginally associated with increased adult-child anxiety. Unlike, the widespread impact of paternal emotion expression and explanation, only *maternal expression* of sadness-related emotions was significantly related to both adult-child depression and anxiety. *Maternal expression* of anger-related emotions was marginally associated with adult-child depression and anxiety, and *maternal explanation* of anger-related emotions was marginally associated with adult-child depression and significantly related to adult-child anxiety.

Discussion

The parent-child relationship is a topic of vast research. It is well understood that children learn about social norms through parental modeling (see Schleider & Weisz, 2017, for a review). Less clear, is the pathway by which parental emotion expression translates to similar behaviors in their children. Emotionality is often seen as taboo and, in many groups, is considered a sign of weakness. In parent populations, especially, expressing certain emotions (or in intensity) to children is often viewed as poor parenting. Although research has shown a connection between parental emotionality and impaired child mental health (Schleider & Weisz, 2017), other research has linked the lack of emotionality with similar child outcomes (Gallegos et al., 2017). Therefore, it may be that there is a happy medium between over-emotionality and emotionlessness. Indeed, my findings support this theory while also illustrating distinct differences between the expression of specific emotions and the impact that expression can have on a child long-term. These analyses are the first, to my knowledge, to explore the role of parental emotionality on adult-child mental health through stigma and emotional intelligence.

Results suggest that parental emotionality may have a lasting impact on adult-child well-being through both emotionality stigma and emotional intelligence and, furthermore, these relationships may differ as a function of gender.

Regulation Compared to Dysregulation

Past research has focused on parental emotion regulation or the expression of specific emotions related to mental health diagnoses. Specifically, parental emotion regulation as expressed through emotion coaching or positive parenting has been related to increased child well-being (e.g., Gottman et al., 1997; Smith, Holtrop, & Reynolds, 2015), whereas parental depressive or anxious expression often leads to similar depressive or anxious expression in children (Aktar & Bogel, 2017; Brian & Grills-Taquechel, 2007). My findings are consistent with past research and build toward a better understanding of the relationship between parental emotionality and adult-child outcomes. Parental dysregulation in childhood, in general, was significantly related to greater levels of adult-child depression and anxiety. Conversely, parental regulation in childhood, in general, was related to lower levels of adult-child depression and anxiety. Despite the negative relationship between parental regulation and adult-child mental health, parental dysregulation has a greater association with adult-child mental health. Research shows that negative emotions and actions have a larger impact than their positive counterparts (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). Therefore, as my results illustrate, while parental regulation in childhood does predict improved child mental health long-term, the impact of parental dysregulation may be of greater importance due to the salience of this type of expression.

Moreover, I found a curvilinear relationship between both parental regulation and dysregulation and adult-child mental health. Regarding parental regulation, the relationship with adult-child mental health was not monotonic, rather the curvilinear relationship suggests there is a “sweet spot” of emotion regulation. Consistency in positive parent behavior is key (Lippold, Davis, Lawson, & McHale, 2016). A child likely expects their parent who is consistently engaging in emotion regulation to regulate and, similarly, a parent who rarely engages in emotion regulation to rarely regulate. However, a parent who sometimes regulates and sometimes does not creates an inconsistent environment for their child, thus increasing the adult-child’s experience with depression and anxiety. The curvilinear trend for parental dysregulation shows a different relationship; the emotionality of a parent who engages in little or moderate dysregulation seems to have little impact on their adult-child’s mental health, but engagement in high levels of dysregulation is associated with impaired adult-child mental health. As these findings illustrate, it is only extreme dysregulation that is associated with negative outcomes for the adult-child.

More research is needed to examine the relationship between parental regulation and dysregulation. It is clear that regulation and dysregulation are not on different ends of a single spectrum, but are, instead, distinct forms of emotion expression; an individual will likely engage in both emotion regulation and dysregulation throughout their lives. My findings suggest that high levels of parental dysregulation are destructive for children, but low to moderate levels of dysregulation have little impact. An important direction for future research will be to investigate the difference in frequency between a parent’s regulation and dysregulation. Past research has identified numerous positive-to-

negative ratios related to interpersonal relationships. Within marital conflict, Gottman (1993) determined a 5:1 ratio such that five positive exchanges to every one conflict predicts relationship stability. Many researchers have adapted Gottman's 5:1 ratio to other interpersonal relationships. Related to parental regulation and dysregulation, Zemp, Merrilees, and Bodenmann (2014) suggest parental positivity can act as a buffer between parental negativity and child well-being as long as positive expression to negative expression follows a 2:1 ratio. Based on positive-to-negative ratio research, I would expect that parents would need to engage in more regulation than dysregulation in order to avoid mental health impairment for their child. However, more research is needed to investigate a regulation-to-dysregulation ratio. Furthermore, future research would benefit from the utilization of additional emotional regulation scales to ensure validity.

Mediation through Emotional Intelligence and Stigma

The relationship between parental behaviors and child behaviors is well researched (Bandura, Ross, & Ross, 1961; Rusby, Light, Crowley, & Westling, 2018; Lau, Quadrel, & Hartman, 1990; Schleider & Weisz, 2017; Tildesley & Andrews, 2008). Some researchers have suggested that emotionality follows a similar trend and thus stays consistent across family members due to modeling (see Schleider & Weisz, 2017, for a review). However, few studies have explored the pathways between parental emotionality and adult-child emotionality specifically. My findings provide partial support for the theory that emotionality may remain consistent due to modeling. Specifically, I found that parental regulation is significantly related to increased adult-child emotional intelligence and decreased adult-child emotionality stigma endorsement, which is further related to improved mental health outcomes. These relationships can

easily be explained by parental modeling: a parent illustrates emotion regulation and their child learns 1) how to properly regulate their emotions and how to identify other's emotions through mimicking their parents, and 2) emotionality is not something to be ashamed of.

Parental modeling may be a valid explanation of the consistency of regulated and dysregulated emotions throughout a family. As with regulation, I found that parental dysregulation is related to decreased adult-child emotional intelligence and increased adult-child emotionality stigma endorsement, which is further related to adult-child mental health. In this model, when a parent over- or under- expresses emotions, the child does not learn proper emotion regulation and may view expression as excessive and negative and develop a stigma around emotionality as a result. Past research shows a clear relationship between emotional intelligence and improved mental health (see Humphrey et al., 2007, for review). However, emotionality stigma endorsement is a novel concept. Thus, research is needed to examine the pathway between emotionality stigma endorsement and mental health. Stigma, in general, has been related to impaired mental health through decreased help-seeking and disclosure, and increased self-stigma (Pederson & Vogel, 2007; Topkaya, 2014). It is plausible that emotionality stigma follows a similar trend, but it is also possible that emotionality stigma encourages a need to conceal emotions and that the bottling up of those emotions results in strained mental health. Additional research on emotionality stigma endorsement is needed to identify any mediators between emotionality stigma and impaired mental health.

The Role of Gender

Past research on parent-child emotionality has shown inconsistent results. For example, some studies have illustrated distinct differences between the impact of parental emotionality depending on the gender of the parent and the child (Bohanek et al., 2008), while others have suggested that specific emotion expression is beneficial regardless of gender (McDowell et al., 2002). In partial support of both of these concepts, I found that, indeed, parental regulation is related to improved outcomes as compared to parental dysregulation (regardless of gender). However, I also found that adult-child gender moderated the relationship between parental dysregulation and adult-child mental health. Interestingly, I found that sons were more impacted by both maternal and paternal dysregulation as compared to daughters. Adding to the findings of Bohanek and colleagues (2008), these results illustrate the differential effect parental emotionality has on sons versus daughters. One explanation for the larger impact of emotionality on male children may be that parents tend to encourage emotion expression more in daughters as compared to sons (Bariola et al., 2011; Chaplin et al., 2005). Additionally, current gender roles allow for female emotion expression, but dampen male emotion expression (Fischbach et al., 2015; Heesacker et al., 1999; Kelly & Hutson-Comeaux, 1999).

I further explored this idea through my research question about the role of gender in the pathways between parental emotionality, adult-child emotional intelligence and stigma endorsement, and adult-child mental health. Similar to the overall adult-child gender interaction, males raised by dysregulated parents reported more emotionality stigma endorsement than females in a similar environment. Where women are taught how to regulation their emotions through society's existing standards, men are taught to

conceal. These opposing societal standards likely have a large impact on the formation of perceived stigma around emotionality, especially in homes where parents dysregulate their emotions.

The impact of gender stereotypes does not end with stigma however; because it is considered acceptable for women to express and explain their emotions, females have many examples of appropriate emotion expression and are encouraged to build emotional intelligence from a young age. Males, on the other hand, are shown that appropriate emotion expression is a lack of emotionality and often have few models of emotional intelligence. As a result, sons may be relying on their parents for modeling of appropriate emotionality more than females. In support of this theory, I found that males, as compared to females, showed a stronger association between emotional intelligence and their father's emotion regulation.

Prior findings related to gender and parental emotionality have highlighted both maternal and paternal emotionality as impactful for sons and daughters depending on the situation (Bohanek et al., 2008). My results further validate the importance of gender in the relationship between parental emotionality and child outcomes. Moreover, my findings show that paternal regulation may be particularly beneficial for sons' development of emotional intelligence and that both maternal and paternal dysregulation may be more harmful for sons, as compared to daughters, through the development of a stigma around emotionality. Future research should investigate the role of gender in the relationship between emotionality stigma endorsement and emotion concealment. Although past research and the current finding suggest that stigma does influence concealment behaviors, emotionality stigma is a novel concept that needs additional

consideration. Additionally, investigating the impact of discrepancies in parental regulation may be important. My findings illustrate the impact of maternal and paternal emotionality, but do not further explore the effect of having one highly dysregulated parent and another well-regulated. Therefore, future research should expand on my findings to study this effect of the parent-dyad emotionality, and further, to see if this impact is depended on gender; is it more beneficial to have a mother that regulates and a father that dysregulates or vice versa?

Limitations and Future Directions

Despite the interesting findings, there are several limitations to this study. First, the cross-sectional nature of this study prevents me from making any causal predictions. Furthermore, participants were asked to retroactively reflect on their childhood. Although this allowed for an interesting perspective on the relationship between parental emotionality in childhood and adult-child outcomes, results may be limited by recall bias. Similarly, this study was fully reliant on adult-child report for all variables. Therefore, the participant's perception of their parents' emotionality may be impacted by their own temperament and emotion expression, and shared variance may have influenced some of the findings. However, the fact that not all of the associations were significant suggest shared method variance was not a serious problem. Regardless, it would be beneficial for future research to examine the parents' own perceptions of their emotionality. One potential future direction would be to examine the role of parenting behaviors as a mediator between parental emotion expression and child outcomes through observational methods. This type of study would allow us to obtain unbiased observations of how parents transmit their emotionality to their children in different situations and,

furthermore, to explore how a parent's emotion regulation may change in response to the child's temperament. Additionally, future research would benefit from longitudinal analyses with both parent- and child-report ranging from childhood to adulthood. Additionally, for simplicity and comparative ability, I chose to include only adult-child depression and anxiety as outcomes. Although these outcomes allowed me to compare the impact of parental emotionality on depression and anxiety specifically, these two disorders are comorbid and often share many common symptoms (Cummings, Caporino, & Kendall, 2014). Therefore, future research would benefit from exploring the impact of parental emotionality on other child mental health outcomes (e.g. ADHD) and more general child outcomes such as current relationship quality.

Although this study is limited, the findings in this study suggest the need for further research. Aside from the aforementioned need for a longitudinal study, research needs to address potential cultural differences; specifically looking at how the relationship between parental emotionality and child outcomes changes based on cultural orientation. Culture shapes social norms and impacts the ways in which individuals interact and view the world (Triandis & Gelfand, 1998). Related to emotionality specifically, research has shown differences in emotion regulation strategies according to culture (see Ford & Mauss, 2015; Megreya, Latzman, Al-Emadi, & Al-Attiyah, 2018, for review). Therefore, parental regulation and dysregulation may not only look different cross-culturally but may also yield distinctive results in regard to child outcomes. One potential aim for future research would be to test the proposed model in a collectivistic population, thus allowing for a comparison of the pathways between parental emotionality and adult-child outcomes amongst individualistic and collectivistic cultures.

Conclusion

Emotionality impacts people every day. Emotions are useful in helping people identify needs and ultimately build connections with others. However, emotions can also be harmful when not properly regulated. With parents' modeling emotion expression to their children every day, it is essential to understand in what contexts emotionality is detrimental. This study builds on past research concerning emotionality and the parent-child relationship and identifies important factors by which to understand the impact of parental emotionality. The results of this study clearly illuminate the potential impact of parental dysregulation on a child into their adulthood, while also calling into question the impact of specific emotion expression and frequency of said expression. Additional research is needed to further investigate the impact of individual emotions and to define causal pathways between parental emotionality, stigma, emotional intelligence, and child mental health. However, my results make strides toward understanding the impact of emotionality and suggest that parental emotionality may be uniquely impactful for sons.

With mental health accounting for a large proportion of the world's burden of disease and depression and anxiety being two of the most prevalent mental disorders (Trautmann, Rehm, & Wittchen, 2016), depression and anxiety prevention measures are essential. If, in fact, parental emotionality has an impact on an adult-child's experience of depression and anxiety, community-based emotion regulation programs can be implemented to teach parents how to properly model emotionality to their children, thus creating improved family environments and benefitting child mental health outcomes long-term.

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APPENDIX A
MEASURES USED IN STUDY

Demographics and Clinical Characteristics.

1. What is your age?
2. What is your sex?
 - a. Male b. Female c. Other
3. What is your race/ethnicity?
 - a. Non-Hispanic White b. African American c. Hispanic d. Asian e. Other
4. Have you been diagnosed with any of the following mental disorders? (Please select all that apply)
 - a. Depression b. Bipolar c. Anxiety d. ADHD e. Conduct disorders
5. Who raised you?
 - a. Mother and Father b. Just Mother c. Just Father d. Legal Guardian
6. **IF ANSWERED:** Legal Guardian
 - a. Was your legal guardian male or female?
 - i. Female ii. Male iii. I was raised by a female and a male guardian
7. **IF ANSWERED:** Mother and Father, Just Mother, Female guardian, or Female and Male guardian
 - a. How would you rate your relationship with your mother?
 - i.1 - extremely negative; 5 - extremely positive
8. **IF ANSWERED** Mother and Father, Just Father, Male guardian, or Female and Male guardian
 - a. How would you rate your relationship with your father?
 - i.1 - extremely negative; 5 - extremely positive
9. What was your family's household income growing up?

- a. Less than \$25,000
- b. \$25,001 - \$34,999
- c. \$35,000 - \$49,999
- d. \$50,000- \$74,999
- e. \$75,000 - \$99,999
- f. \$100,000 - \$149,999
- g. \$150,000-\$199,999
- h. More than \$200,000)

Parental Emotionality

Emotion Regulation Checklist--Italian Versions

ERC-I, Italian ERC (Molina et al., 2014)

Think about how your (mother/father) acted when you were a child and respond to the following statements indicating how often your parent acted this way (1 = *never*; 4 = *almost always*)

LN

1. Exhibited wide mood swings (parent's emotional states were difficult to anticipate because she/he moved quickly from positive to negative moods).
2. Transitioned well from one activity to another; did not become anxious, angry, distressed or overly excited when moving from one activity to another. (r)
3. Could recover quickly from episodes of upset or distress. (r)
4. Was easily frustrated.
5. Was prone to angry outbursts easily.
6. Was able to delay a gratification. (r)

7. Took pleasure in the distress of others (for example, laughed when another people get hurt or punished; enjoyed teasing others).
8. Could modulate excitement in emotionally arousing situations (for example, did not get 'carried away' in high-energy situations, or overly excited in inappropriate contexts). (r)
9. Was whiny or clingy with others.
10. Was prone to disruptive outbursts of energy and exuberance.
11. Responded angrily to directions from other adults.
12. Was overly exuberant when attempting to engage others in conversations.
13. Responded negatively to neutral or friendly overtures by peers (for example, spoke in an angry tone of voice or respond fearfully).
14. Was impulsive.
15. Displayed exuberance that others found intrusive or disruptive.
16. Displayed negative emotions when attempting to engage others in conversation.

ER

1. Was often cheerful.
2. Responded positively to neutral or friendly overtures by children.
3. Responded positively to neutral or friendly overtures by peers.
4. Would say when she/he felt sad, angry or mad, fearful or afraid.
5. Seemed sad or listless. (r)
6. Displayed flat affect (expression was vacant and inexpressive; seemed emotionally absent). (r)
7. Was empathic towards others; showed concern when others are upset or

distressed.

8. Displayed appropriate negative emotions (anger, fear, frustration, distress) in response to hostile, aggressive or intrusive acts by peers.

Note: LN – Lability/Negativity, ER – Emotion Regulation. Participants respond to the scale for both parents if applicable.

Parent Emotion Expression

Think about how your (mother/father) acted when you were a child and respond to the following statements indicating how often your parent acted this way (1 = *never*; 4 = *almost always*)

1. My parent hid his/her emotions.
2. My parent seemed emotionless.
3. My parent exaggerated his/her emotions.
4. My parent seemed overly emotional.
5. My parent expressed positive emotions.
6. My parent expressed negative emotions (e.g. sad, depressed, etc.)
7. My parent expressed negative emotions (e.g. irritation, anger, etc.)
8. My parent explained his/her positive emotions to me.
9. My parent explained his/her negative emotions (e.g. sad, depressed, etc.) to me.
10. My parent explained his/her negative emotions (e.g. irritation, anger, etc.) to me.

Emotional Intelligence

Rotterdam Emotional Intelligence Scale (Pekaar et al., 2018).

Items

Self-focused emotion appraisal

- 1 I always know how I feel.
- 2 I can distinguish my own emotions well.
- 3 I am aware of my own emotions.
- 4 I understand why I feel the way I feel.
- 5 I know which emotions I experience.
- 6 Mostly, I am able to explain exactly how I feel.
- 7 I can judge well if events touch me emotionally.

Other-focused emotion appraisal

- 8 I am aware of the emotions of the people around me.
- 9 I know which feelings others experience.
- 10 When I look at other people, I can see how they feel.
- 11 I can empathize with the people around me.
- 12 I understand why other people feel the way they feel.
- 13 I can distinguish well between other people's emotions.
- 14 I can judge well if events touch others emotionally.

Self-focused emotion regulation

- 15 I am in control of my own emotions.
- 16 I can suppress my emotions easily.
- 17 I do not let my emotions take over.
- 18 I only show my emotions when it is appropriate.
- 19 Even when I am angry, I can stay calm.
- 20 If I want to, I put on my poker face.
- 21 I adjust my emotions when necessary.

Other-focused emotion regulation

- 22 I can make someone else feel differently.
- 23 I can alter another person's emotional state.
- 24 I can boost or temper the emotions of others.
- 25 I have great influence on how others feel.
- 26 I know what to do to improve people's mood.
- 27 I know how to influence people.
- 28 I am able to calm others down.

Note. These items were translated into English from the Dutch language. Participants were instructed to indicate the extent to which they agreed with each item on a 5-point Likert scale that ranged from 1 (totally disagree) to 5 (totally agree).

Mental Health

Beck Anxiety Inventory

(Beck, Epstein, Brown, & Steer, 1988)

Items

- | | |
|--|---|
| <input type="checkbox"/> Numbness or tingling | <input type="checkbox"/> Hands trembling |
| <input type="checkbox"/> Feeling hot | <input type="checkbox"/> Shaky |
| <input type="checkbox"/> Wobbliness in legs | <input type="checkbox"/> Fear of losing control |
| <input type="checkbox"/> Unable to relax | <input type="checkbox"/> Difficulty breathing |
| <input type="checkbox"/> Fear of the worst happening | <input type="checkbox"/> Fear of dying |
| <input type="checkbox"/> Dizzy or lightheaded | <input type="checkbox"/> Scared |
| <input type="checkbox"/> Heart pounding or racing | <input type="checkbox"/> Indigestion or discomfort in abdomen |
| <input type="checkbox"/> Unsteady | <input type="checkbox"/> Faint |
| <input type="checkbox"/> Terrified | <input type="checkbox"/> Face flushed |
| <input type="checkbox"/> Nervous | <input type="checkbox"/> Sweating (not due to heat) |
| <input type="checkbox"/> Feelings of choking | |
-

Note. The respondent is asked to rate how much he or she has been bothered by each symptom over the past week on a 4-point scale ranging from 0 (*Not at all*) to 3 (*Severely—I could barely stand it*).

Center for Epidemiological Studies Depression Scale (CES-D)

(Radloff, 1977)

Items

Below is a list of the ways you might have felt or behaved. Please tell me how often you have felt this way during the past week.

Rarely or None of the Time (Less than 1 Day)

Some or a Little of the Time (1-2 Days)

Occasionally or a Moderate Amount of Time (3-4 Days)

Most or All the Time (5-7 Days)

During the past week:

1. I was bothered by things that usually don't bother me.
 2. I did not feel like eating; my appetite was poor.
 3. I felt that I could not shake off the blues even with help from my family or friends.
 4. I felt that I was just as good as other people.
 5. I had trouble keeping my mind on what I was doing.
 6. I felt depressed.
 7. I felt that everything I did was an effort.
 8. I felt hopeful about the future.
 9. I thought my life had been a failure.
 10. I felt fearful.
 11. My sleep was restless.
 12. I was happy.
 13. I talked less than usual.
 14. I felt lonely.
 15. People were unfriendly.
 16. I enjoyed life.
 17. I had crying spells.
 18. I felt sad.
 19. I felt that people dislike me.
 20. I could not get "going."
-

Emotionality Stigma Endorsement

Internalized Stigma of Mental Illness Scale –Adapted

(Ritsher et al., 2003).

Please indicate to what extent you agree or disagree with the following statements

(1= *strongly disagree*; 4= *strongly agree*) to demonstrate to what extent they agree with each statement (e.g. “*People discriminate against individuals who are more emotional*”; “*Stereotypes about emotionality are valid*”).

Alienation

1. People should feel out of place in the world if they are emotional.
2. Emotions spoil peoples’ lives.
3. People who are not emotional could not possibly understand someone who is emotional.
4. People feel embarrassed or ashamed when they are emotional.
5. People who are emotional should be disappointed in themselves for being emotional.
6. People who are emotional feel inferior to others who are not emotional.

Stereotype endorsement

1. Stereotypes about emotionality are valid.
2. People can tell when someone is emotional by the way they look.
3. Emotional people tend to be violent.
4. When people are emotional, they need others to make most decisions for them.
5. Emotional people cannot live a good, rewarding life.
6. Emotional people shouldn’t get married

7. Emotional people can't contribute anything to society.

Discrimination experience

1. People discriminate against individuals who are emotional.
2. Others think that people who are emotional can't achieve much in life
3. People ignore people who are emotional or take them less seriously just because they are emotional.
4. People often patronize those who are emotional, just because they are emotional.
5. Nobody would be interested in getting close to someone who is emotional.

Social withdrawal

1. Emotional people don't talk about themselves much because they don't want to burden others with their emotionality.
2. Emotional people don't socialize as much as they used to because being emotional might make them look or behave "weird."
3. Negative stereotypes about emotionality keep emotional people isolated from the "normal" world.
4. Emotional people stay away from social situations in order to protect their family or friends from embarrassment.
5. Being around people who aren't emotional makes emotional people feel out of place or inadequate.
6. Emotional people avoid getting close to people who aren't emotional to avoid rejection.

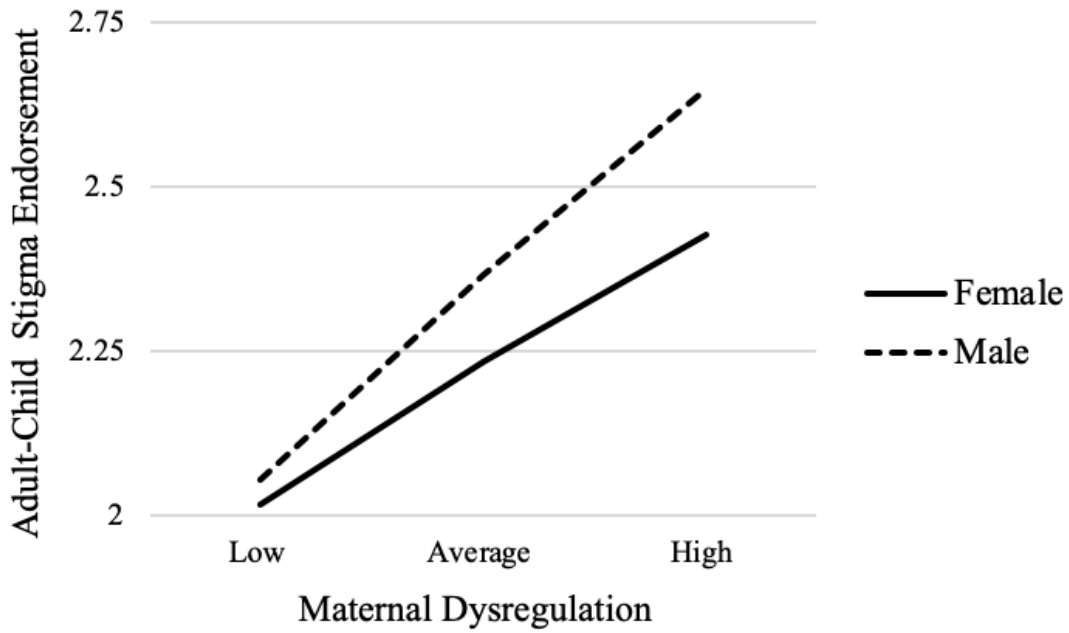
Stigma Resistance (reverse-coded)

1. People feel comfortable being seen in public with an obviously emotional person.
2. In general, emotional people are able to live life the way they want to.
3. Emotional people can have a good, fulfilling life, despite their emotionality.
4. Emotional people make important contributions to society.
5. Living with emotions makes people tough.

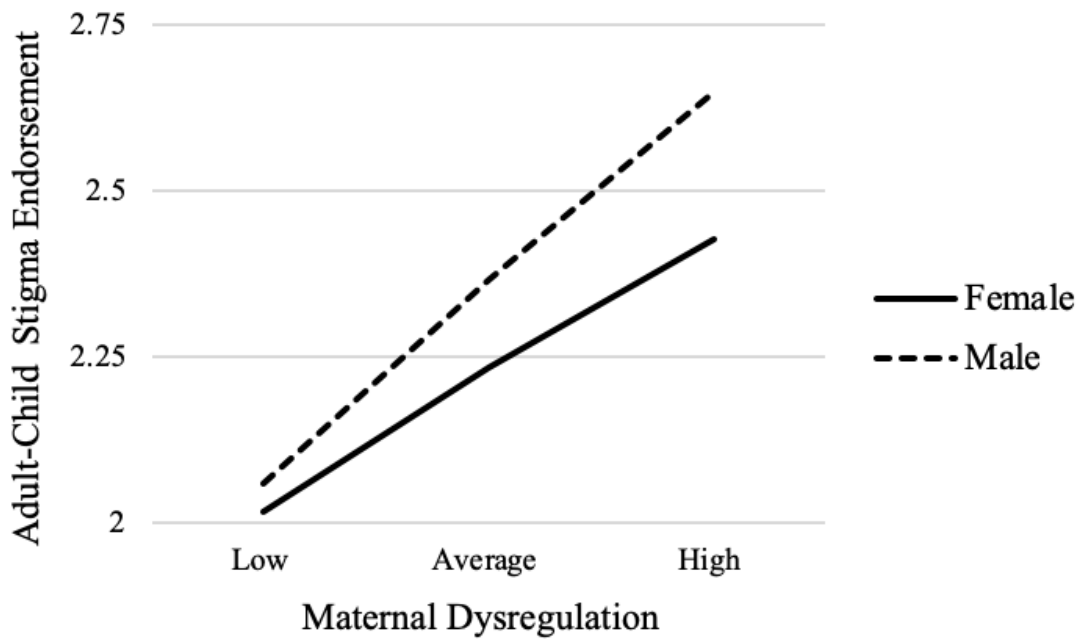
APPENDIX B

MEDIATED MODERATION PLOTS

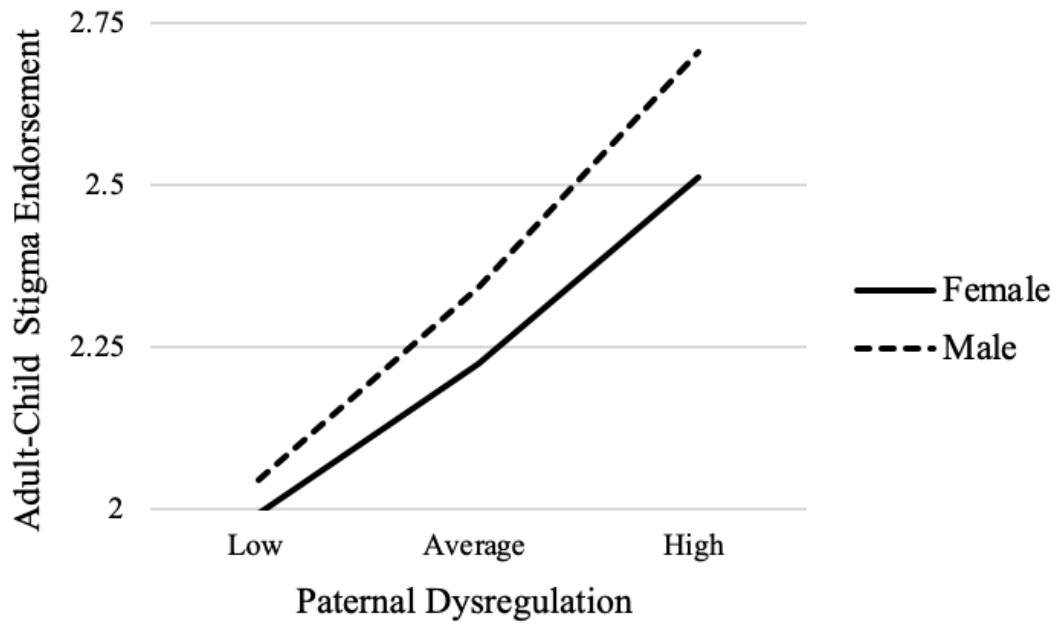
PLOT B: Anxiety



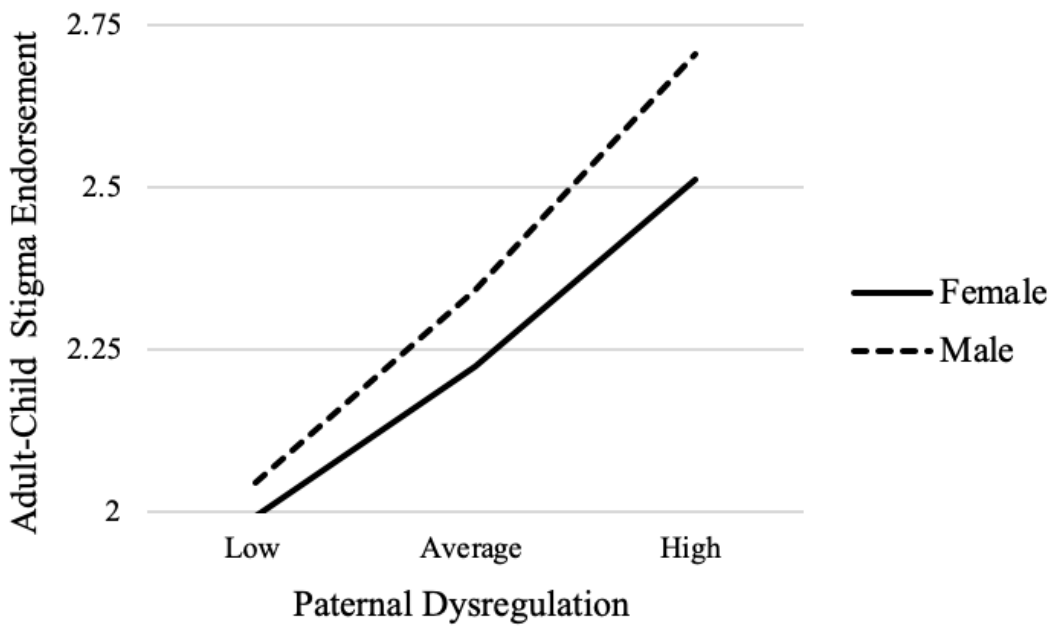
PLOT B: Depression



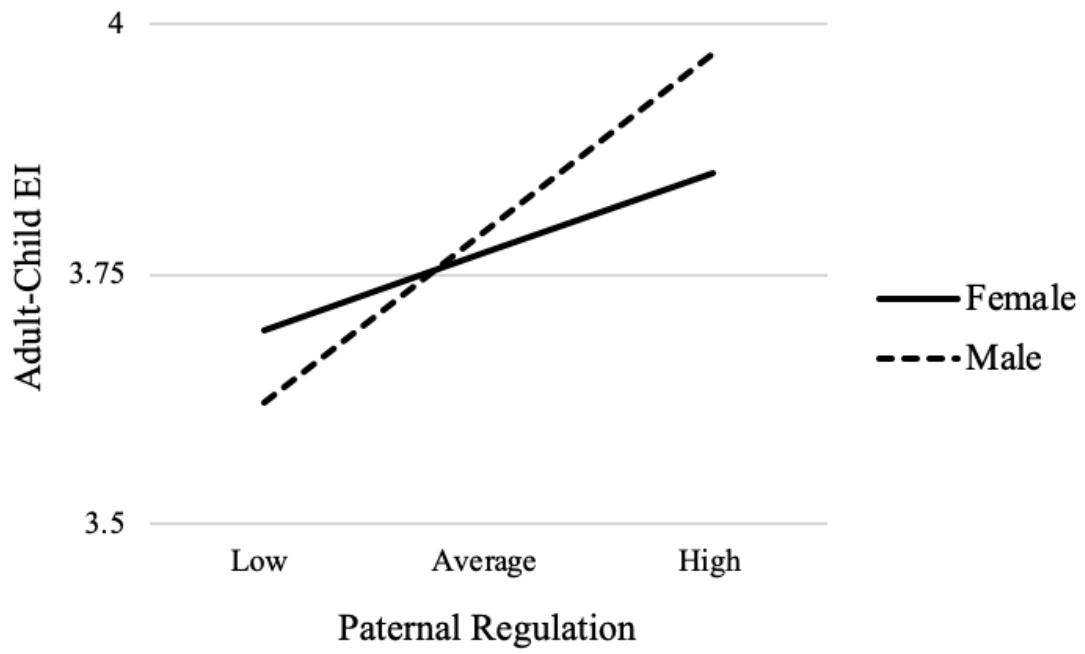
PLOT D: Anxiety



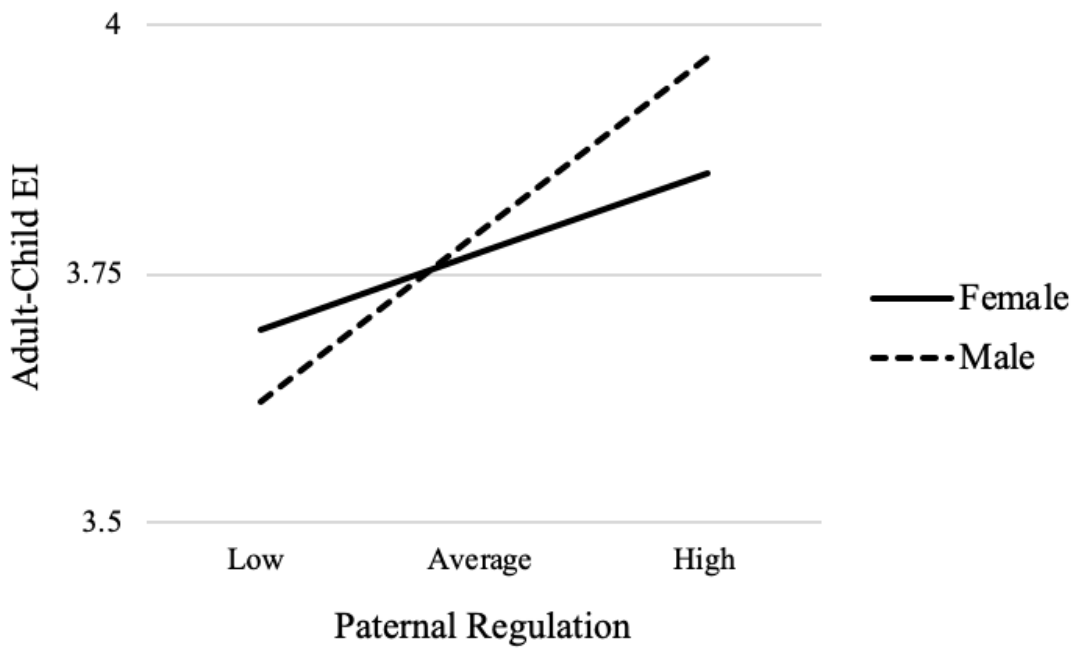
PLOT D: Depression



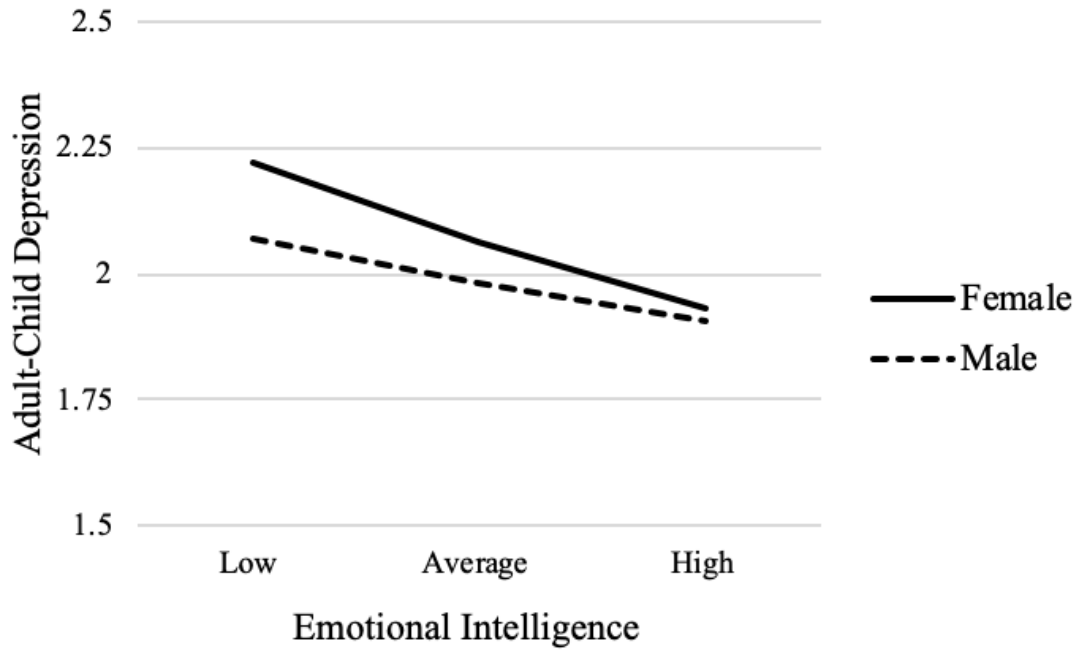
PLOT G: Anxiety



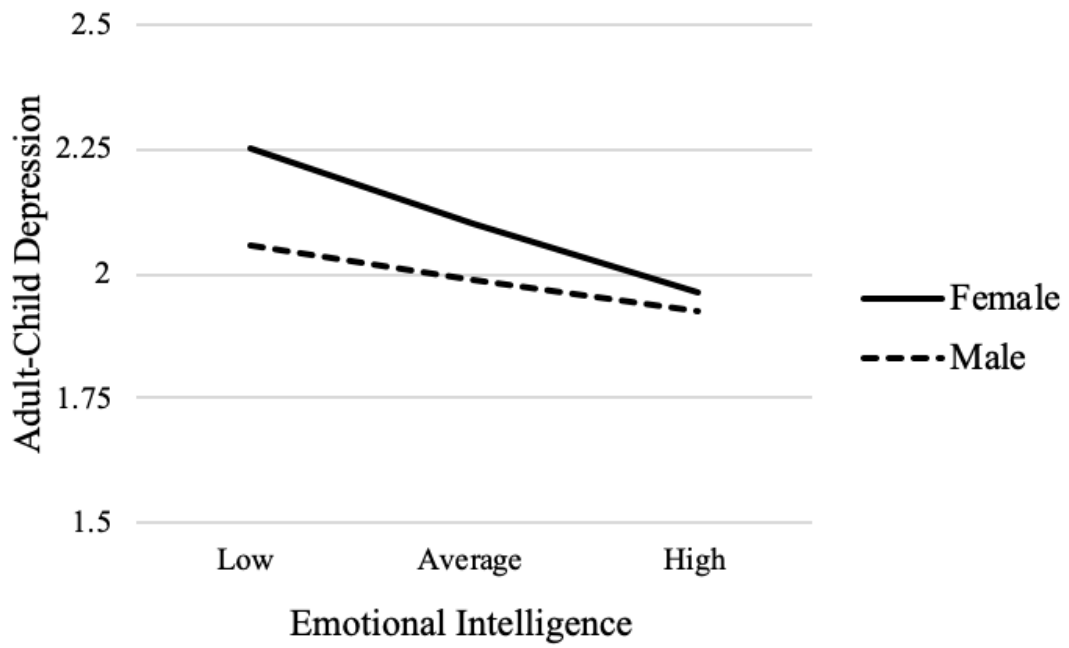
PLOT G: Depression



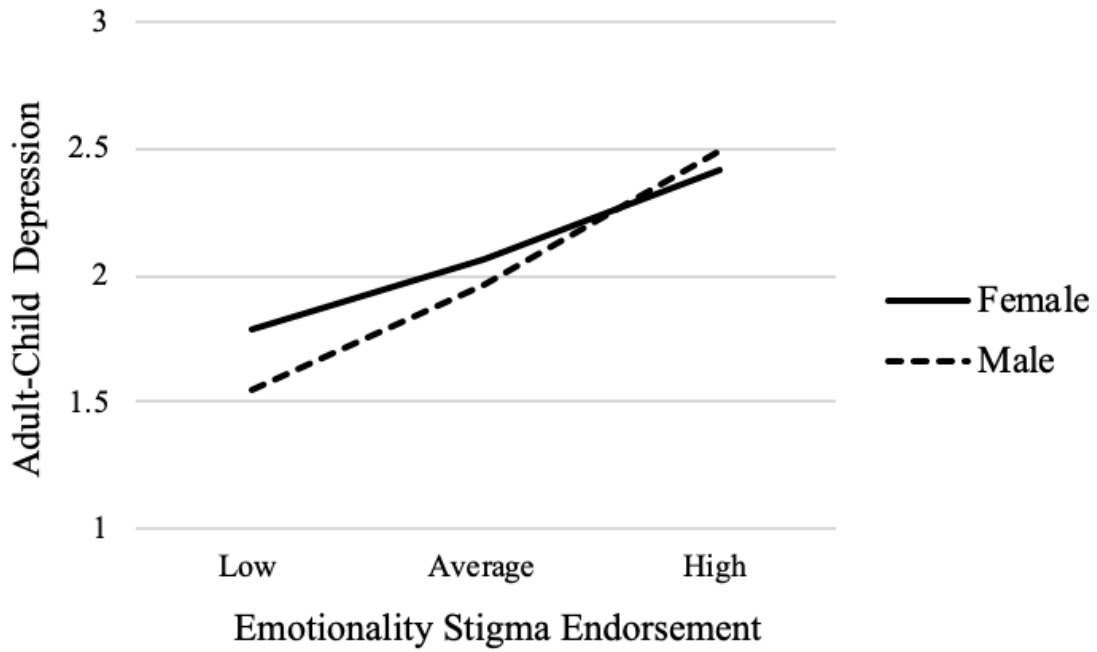
PLOT I: Maternal Dysregulation



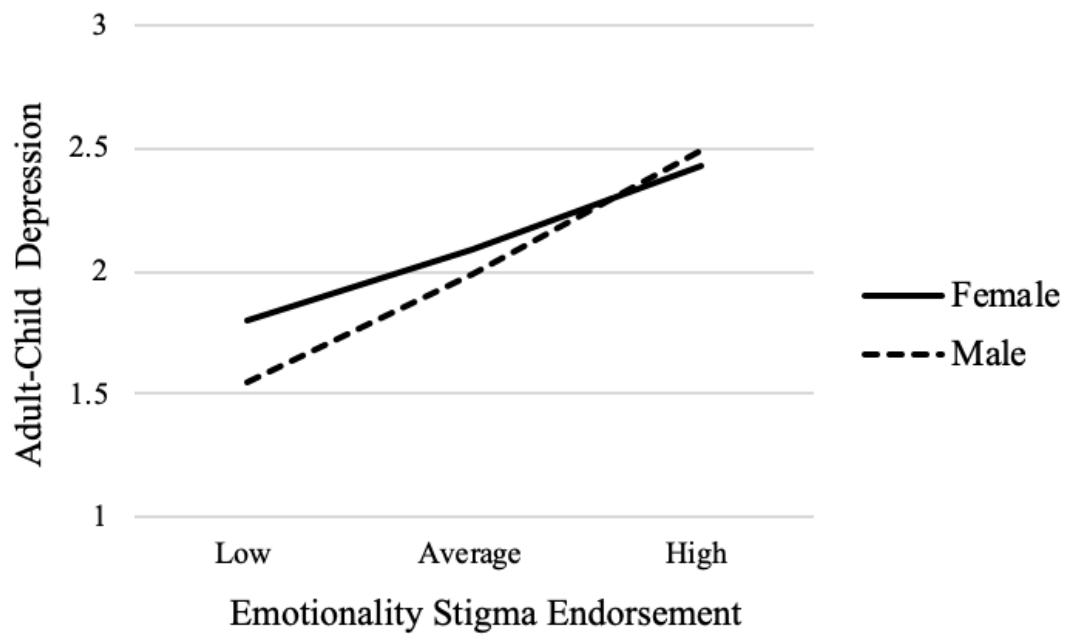
PLOT I: Paternal Dysregulation



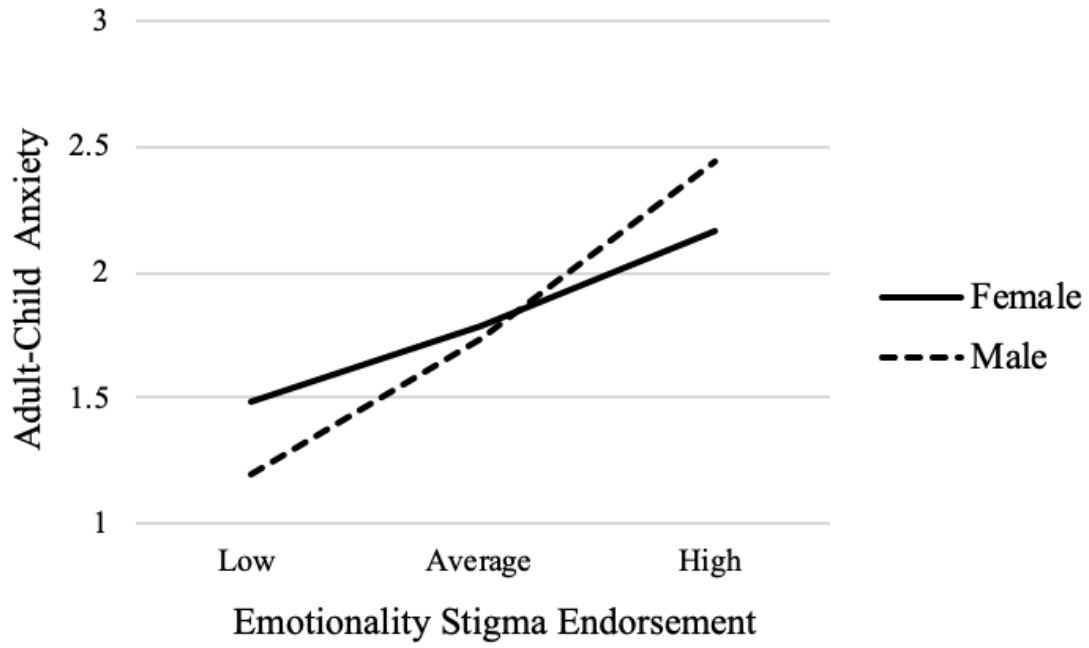
PLOT K: Maternal Regulation



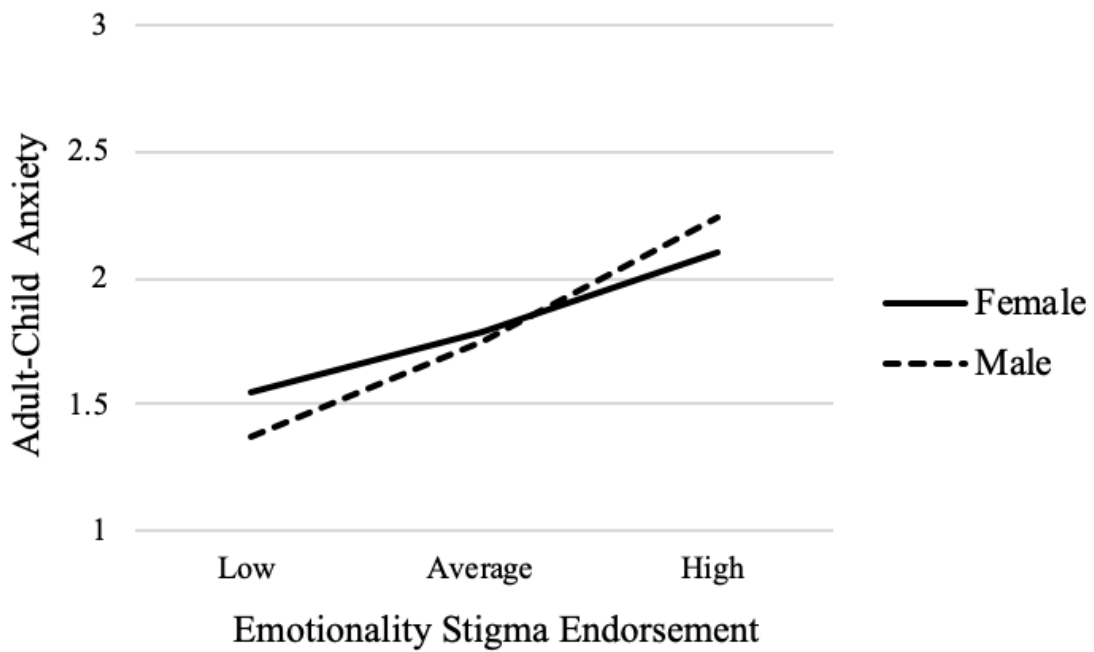
PLOT K: Paternal Regulation



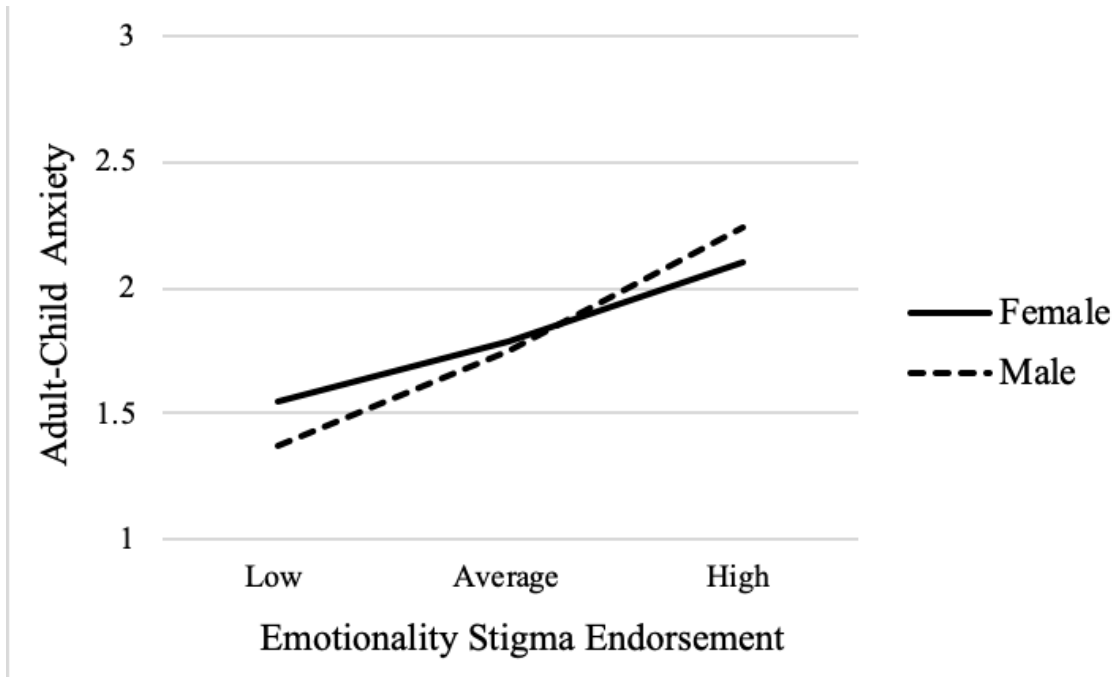
PLOT L: Maternal Regulation



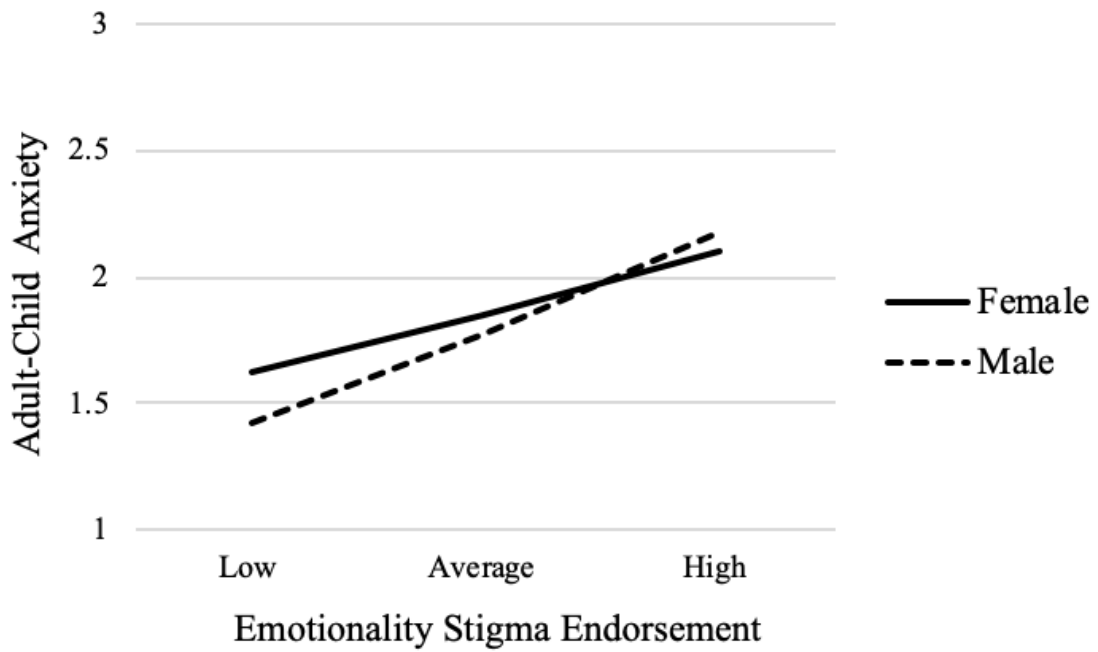
PLOT L: Maternal Dysregulation



PLOT L: Paternal Regulation



PLOT L: Paternal Dysregulation



APPENDIX C
POPULATION COMPARISONS

Demographic Information by Population (*N* = 1136 participants)

	Mturk	SONA
	%	%
Mean Age	32.09a (8.52)	21.55b (4.91)
Gender		
<i>Female</i>	37.6b	73.5a
<i>Male</i>	62.0a	25.8b
Race		
<i>Non-Hispanic White</i>	55.0	47.4
<i>African American</i>	8.5	5.2
<i>Hispanic</i>	5.8	33.7
<i>Asian</i>	28.1	7.1
<i>Other</i>	2.2	6.4
Annual Family Income		
<i>Less than \$10,000</i>	8.5	2.9
<i>\$10,000 - \$19,999</i>	10.8a	3.9b
<i>\$20,000 - \$29,999</i>	13.9	11.3
<i>\$30,000 - \$39,999</i>	11.1	10.3
<i>\$40,000 - \$49,999</i>	11.1	10.6
<i>\$50,000 - \$59,999</i>	12.9	8.6
<i>\$60,000 - \$69,999</i>	7.5	9.8
<i>\$70,000 - \$79,999</i>	7.0	7.4
<i>\$80,000 - \$89,999</i>	3.7	7.6
<i>\$90,000 - \$99,999</i>	3.7	5.2
<i>\$100,000 - \$149,999</i>	6.7b	13.3a
<i>More than \$150,000</i>	2.9	8.4
Maternal Mental Diagnosis		
<i>Yes</i>	52.9a	33.2b
<i>No</i>	8.9	12.8
Paternal Mental Diagnosis		
<i>Yes</i>	45.4a	26.8b
<i>No</i>	9.1	11.3
Participant Diagnosis		
<i>Yes</i>	61.0a	26.3b
<i>No</i>	38.5b	73.5a
Adult-Child Outcomes		
<i>Mean EI</i>	3.75 (0.55)	3.82 (0.54)
<i>Mean Stigma</i>	2.44a (0.50)	2.08b (0.39)
<i>Mean Depression</i>	2.14a (0.68)	1.94 (0.60)
<i>Mean Anxiety</i>	1.98a (0.83)	1.60b (0.54)