CALIFORNIA STATE UNIVERSITY SAN MARCOS

THESIS SIGNATURE PAGE

THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE

MASTER OF ARTS

IN

PSYCHOLOGY

THESIS TITLE: Perceptions of Maternal Love, Emotion Regulation, and Depression in College Females

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DATE OF SUCCESSFUL DEFENSE: November 18, 2013

THE THESIS HAS BEEN ACCEPTED BY THE THESIS COMMITTEE IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS
IN PSYCHOLOGY.

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Perceptions of Early Maternal Love, Emotion Regulation, and Depression in College Females

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Abstract

Attachment research has demonstrated that the early mother-child relationship plays a significant role in shaping a child’s emotional development. The purpose of this study was to examine the mediating effect of emotion regulation between the quality of early childhood mother-daughter relationships and symptoms of depression in college females. It was predicted that adult females who report higher quality of early childhood relationships will also report healthier emotion regulation and lower scores in depression than those individuals who report lower quality levels. Also, it was predicted that emotion regulation would mediate the relationship quality of mother. One-hundred nine female college students participated in the study. The Parental Bonding Inventory (PBI) and the Psychological Control Scale-Youth Self-Report (PCS-YSR) assessed the perception of early childhood mother-daughter relationships. The Adolescent Self-Regulatory Inventory (ASRI) assessed emotion regulation. The Beck Depression Inventory-II (BDI-II) assessed participants’ depression symptom levels. Two separate mediation regression analyses were conducted to determine whether emotion regulation mediated the relationship between maternal warmth and symptoms of depression and maternal psychological control and symptoms of depression. The findings demonstrated that greater maternal warmth was related to higher levels of emotion regulation and lower symptoms of depression. In contrast, greater maternal psychological control was related to lower levels of emotion regulation and higher levels of depression. In addition, the results showed that emotion regulation partially mediated the relationship between maternal psychological control and symptoms of depression, but not for maternal warmth. These findings contribute to understanding one pathway that may partly explain the relationship between maternal psychological control and symptoms of depression in college females.
Perceptions of Early Maternal Love, Emotion Regulation, and Depression in College Females

Childhood experiences set the foundation for either healthy or dysfunctional behaviors (Mallers, Charles, Neupert, & Almeida, 2010; Mills-Koonce, 2011). One of the strongest influences on a person’s mental health is the early mother-child relationship (Mallers, et al., 2010; Maselko, Kubzansky, Lipsitt, & Buka, 2011). Typically, the mother is the primary caregiver and has a significant role in the child’s emotional and psychological development. During the first few years, the mother is primarily responsible for her child’s physical and emotional well-being. For example, a mother may soothe an infant’s emotional distress by holding, feeding or singing to him or her. As the child grows, the child learns to apply new skills to self-regulate his or her emotions. Emotion-regulation, the ability to regulate one’s emotions to meet goals in appropriate social settings, begins in infancy and gradually develops throughout childhood (Colman, Hardy, Albert, Raffaelli, & Crockett, 2006). Therefore, it is important to address whether perceptions of poor maternal parenting in childhood may lead to poor emotional regulation skills and as a result, lead to poor mental health outcomes in college females.

There is cumulative research that suggests gender differences are evident in the prevalence and incidence of depression such that women may be at greater risk than men (Nolen-Hoeksema, 2012; Nolen-Hoeksema, & Aldao, 2011; Nolen-Hoeksema, Larson, & Grayson, 1999). From early adolescence through adulthood, women are twice as likely as men to experience depression (Nolen-Hoeksema, 2012; Nolen-Hoeksema, & Aldao, 2011; Nolen-Hoeksema, Larson, & Grayson, 1999). However, the reasons for this difference are not clear. One school of thought has focused on the effects of ovarian hormones, such as estrogen and progesterone on women’s mental state (Parker & Brotchie, 2010). Other theorists believe that these gender differences result from differences in self-concept (Mezulis, Hyde, & Abramson,
2006). For example, studies have found that girls have more negative self-views than boys. These differences in self-concepts may contribute to gender differences in depression. However, the findings have been mixed (Nolen-Hoeksema, 2012; Parker & Brotchie, 2010) Thus, it is important that studies also investigate possible explanations for women’s greater vulnerability to depression. The purpose of this study was to examine the mediating effects of emotion regulation between the perception of young women’s relationships with their mothers and symptoms of depression.

This literature review begins with an overview of Bowlby’s Theory of Attachment. This theory provides the theoretical framework for understanding how the quality of mother-child relationship provides children with the skills to self-regulate their emotional state. Second, the literature on the quality of mother-child relationships is explored. Third, the association between the quality of mother relationship and emotion regulation is discussed. Fourth, the relationship these variables have with symptoms of depression is examined. Last, neuroticism and childhood SES are evaluated as possible covariates. This model will lay the foundation for a study of mother-child relationships, emotional regulation, and depression symptom levels among college female students.

Theory of Attachment

The theory of attachment has established the foundation for studying the relationship between early mother-child relationships and adult psychopathology (Bowlby, 1977). John Bowlby was a child psychiatrist who worked with emotionally disturbed children in London in the 1930’s. He observed mother-child interactions and found that whenever a child was separated from the mother, the child showed emotional distress. This work led Bowlby to postulate that infants are born with the innate capacity to form an attachment with their primary
caregiver. The purpose of attachment is to provide protection and security to the defenseless infant by eliciting care and responsiveness from the mother (Mills-koonce, 2011; Surcinelli, Rossi, Monteborocci, Baldaro, 2010). In addition, the mother’s level of responsiveness to her infant’s needs plays a critical role in whether or not the infant will develop a secure attachment. This bond is unique from other bonding type relationships (e.g., romantic relationship). The mother-infant bond is rooted in the infant’s need for protection. A mother who responds appropriately and consistently to her child’s needs establishes a secure attachment with her child. This first attachment lays the foundation for future social relationships. As a result, the implications of attachment theory provide a pathway by which early mother relationship may be associated with mental health in adulthood.

According to Bowlby, the mother-child interaction plays a significant role in the development of internal working models (Mills-koonce, 2011; Russek & Schwartz, 1997; Surcinelli et al., 2010). This internal working model in turn, provide infants the first opportunity to connect with the outside world, and help themselves, make sense of the world, themselves, and others. The internal working model is a mental representation based on the day-to-day interactions that establishes a general idea of the primary caregiver’s accessibility and responsiveness (Crain, 2005). Depending on how the mother responds to the infant’s needs, the infant will establish a mental representation of how the world should respond to him or her. For example, children who experience constant neglect may form a negative view of themselves and others. As a result, these children may develop an insecure attachment to their primary caregiver. In turn, this may hinder children’s ability to develop a sense of safety and predictability in their social environment. In contrast, children who receive consistent love and
affection will establish a secure attachment with their primary caregiver and form positive views of themselves and others.

Bowlby’s early work provided explanations of why infants are born with an innate capacity to attach to their primary caregiver, but he did not identify how the mother’s behavior plays a part in the attachment process. However, other researchers have provided an explanation. Winberg (2005) emphasized that the mother helps regulate the infant’s physical and behavioral states through close body contact by regulating the baby’s temperature, energy conservation, adjustment of respiration, crying, and nursing behaviors. Schore and Schore (2008) proposed that the wiring of emotional processing in the brain is indirectly influenced by the mother’s non-verbal communication cues to the child. For instance, during social interaction, the mother responds to her child’s physical arousal through her posture, eye contact, and facial expressions. This is because implicit attachment regulatory functions mature early in development before forming verbal explicit systems (Schore & Schore, 2008). Therefore, the mother needs to be psychobiologically attuned to changes in the infant’s physical internal states of the central and automatic arousal system, which is referred as affect synchrony (Schore & Schore, 2008). Once the child develops the self-assurance that an attachment figure is there to protect him or her, this confidence becomes stable in childhood and later throughout life (Colman, et al., 2006; Maselko, Kuzansky, Lipsitt, & Buka, 2011; Von Suchodoletz, Trommsdorff, & Heikamp, 2011). Although there is empirical evidence that fathers also contribute to the healthy emotional development of their children (Amato, 1994; Maller et al., 2010; Roberts, et al., 1996), it is not of the same intensity as the contributions that mothers make (Maller et al., 2010). Consequently, it is important to focus on the quality of child’s relationship with the mother.
Quality of Mother-Child Relationship

Researchers have identified specific dimensions of maternal parenting that are associated with a child’s developmental outcomes. These specific dimensions are maternal warmth and maternal psychological control. Research demonstrates that these two specific maternal dimensions are important contributors to a child’s emotional development not only in early childhood, but also during early adolescence (Barber & Harmon, 2002; Barber, Xia, Olsen, McNeely, & Bose, 2012; Barnett, Kibria, Baruch, & Pleck, 1991). For instance, studies have found that the maternal warmth dimension plays a greater role during early childhood as compared to adolescence and adulthood because it promotes and fosters healthy emotion regulation. In addition, studies have found that high psychological control plays a greater role in mental health outcomes during adolescence and adulthood because it hinders the development of emotional self-autonomy (Maselko, et al., 2011; Von Suchodoletz, et al., 2011). For the purpose of this study, the quality of maternal relationship was operationalized using these two dimensions.

Research on social emotional development suggests that high maternal warmth in childhood may serve as a foundation for a child’s ability to self-regulate emotions (Feng, et al., 2009; Kerver, Van Son, & de Groot, 1992; Rimeaug, Wallander, & Berg-Nielsen, 2011; Walton & Flouri, 2010; Zimmermann, Eisemann, & Fleck, 2008). High maternal warmth is described by positive emotions and empathic communication, while lack of maternal warmth has been associated with poor self-regulatory skills that contribute to externalizing behavioral problems (e.g., impulsivity, hostility, and disruptive behaviors) in young children (Colman, Hardy, Albert, Raffaelli, & Crockett, 2006; Feng, Keenan, Hipwell, Henneberger, Rischall, Butch, Coyne et al., 2009). Maternal warmth is a specific parenting practice that has been shown to foster children’s
ability to self-regulate emotions and behaviors in a socially appropriate manner (Barnett, et al., 1991; Feng, et al., 2009; Maller, et al., 2010; Metsapelto & Pulkkinen, 2003; Rimehaug, et al., 2011). This may be because children who have nurturing mothers are provided with the opportunity to practice their social skills in a safe environment by modeling the appropriate social skills they have observed during these positive interactions. This reduces negative arousal that may interfere with a child’s self-regulatory ability (Moilanen, 2007; Soenens & Beyers, 2012; Von Suchodoletz, Trommsdorff, & Heikamp, 2011). For instance, a recent longitudinal study considered the relationship between quality of mother-infant interaction at eight months and symptoms of distress in middle adulthood (Maselko, et al., 2011). The authors hypothesized that higher maternal warmth would be associated with less emotional distress in adult children. The researchers observed mother-infant interaction at eight months and assessed maternal warmth with the Parental Bonding Instrument (PBI) during middle adulthood. The findings of the study demonstrated that individuals whose mothers showed higher maternal warmth (at 8 months) reported lower scores on emotional distress (anxiety and hostility) at middle adulthood. Similarly, children at age four whose mothers’ were higher in maternal warmth were better at regulating their emotions, attention, and behavior, at eight years old than those whose mothers’ showed lower maternal warmth (Colman, et al., 2006). Whereas maternal warmth seems to contribute to positive emotional health, high maternal psychological control has been found to be more detrimental to mental health outcomes during adolescence and adulthood.

Maternal psychological control refers to the tendency to control a child’s thoughts, feelings, and behaviors through intrusive means that disregard his or her developing identity and independence (El-Sheikh, et al., 2010; Mandara, & Pikes, 2008). Self-Determination Theory, a theory of human motivation and personality, provides an explanation regarding how maternal
psychological control affects developmental outcomes of children. For example, maternal psychological control does not allow children to freely express their thoughts, feelings, and behaviors. This theory focuses on three innate psychological needs that promote self-motivation: 1) competence, the need to experience mastery; 2) autonomy, the need to be the agent of one’s own life; and 3) psychological relatedness, the need to experience the love of others (Barber, et al., 2012). If the child’s social environment fosters his or her experience of these innate psychological needs, the child will develop the motivation needed to sustain psychological health and well-being. Maternal psychological control practices indirectly communicate to the child that his mother’s love and approval is conditional on his willingness to act accordingly to her demands (Soenens & Beyers, 2012). Consequently, the self-pressure to meet maternal demands may hinder the child’s opportunity to develop emotional autonomy. According to Moilanen (2007), psychological control impacts the development of healthy emotional regulation through the violation of children’s self-system. That is, parents who control their children using psychological manipulations undermine their attempts at emotion autonomy because it deprives them of the experiences of emotional autonomy. Past research has shown that lower autonomy support during childhood affects children’s ability to form their own ideas; such children are more likely to put other people’s feelings and needs first, above their own (Brown & Rosellini; 2012; Feng, et al., 2009; Zimmermann, et al., 2008). Studies that have examined this specific maternal practice have found substantive negative child and adolescent developmental outcomes. For instance, higher levels of maternal psychological control were associated with both children’s and adolescents’ low self-esteem and higher levels of depression (Barber, et al., 2012; El-Sheikh, et al., 2010; Manzeske, & Stright, 2009; Urry, Nelson, & Padilla-Walker, 2011). Even though mothers may have the best intentions for their children, a mother may unknowingly
communicate to her child that her love is conditional rather than unconditional. As a result, the child’s self-worth may be more contingent on his or her failures and successes. At face value, the mother may think that she is helping her child. To the contrary, high psychological control hinders a child’s self-esteem by not allowing the child to develop emotional autonomy.

In sum, most of the studies on mother-child relationships agree that certain dimensions of maternal parenting practices have different effects on an individual’s overall psychological well-being. Specifically, higher maternal warmth and low psychological control might play a significant role in promoting healthy emotional regulation strategies and emotional self-autonomy during childhood and adulthood. For example, feelings of love and acceptance may help children develop their own sense of self-worth. As a result, lower warmth and higher psychological control may affect a child’s sense of self-worth and self-autonomy, leading to poor emotional regulation.

**Emotion Regulation**

Although there is some disagreement in defining the concept of emotion regulation, most definitions highlight the aspect of regulating one’s emotions to meet goals in socially appropriate ways. Individuals who are able to regulate their emotional reactivity in social settings appear less prone to negative emotion (such as aggressive behavior) and better able to delay gratification than those who are unable to regulate their emotions. For instance, children rated as high in regulation skills were higher in peer social status and engaged in more socially appropriate interactions. Further, these children also exhibited less negative emotionality (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). Thus, for the purpose of this study emotion regulation was defined as the process of initiating, maintaining, modulating, or changing the occurrence, intensity, or duration of internal states, to accomplish one’s goals (Eisenberg, et al.,
2002; Feng et al., 2009; Manzeske, & Stright, 2009) and was assessed using the Adolescent Self-Regulatory Inventory (ASRI). ASRI is a theoretically-based questionnaire that taps into two temporal aspects of self-regulation: short-term and long-term. According to Moilanen (2007), short-term self-regulation is defined as impulse, attentional or emotional control in the immediate context, whereas long-term self-regulation involves the control of impulses or direction of effort over a longer period of time. It is noteworthy to mention that the literature on emotion regulation has mainly focused on children (Colman, et al., 2006; Feng, et al., 2009; Eisenberg, et al., 2004); there are not many studies that have examined the importance of emotion regulation in early adulthood (Manzeske & Stright, 2009; Moilanen, 2007).

During the first few years the mother is responsible for the child’s emotional and physical well-being. As the child develops his or her sense of self, emotions are no longer regulated by other people, but are self-regulated. That is, the early emotional transactions with the primary caregiver foster not only the maturation of the brain systems that are involved in the development of affect and self-regulation, but also provide the appropriate skills needed to deal with difficult challenges in the social environment (Schore & Schore, 2008). Healthy emotional regulation includes many skills that help children to experience and accept all emotions. Some skills that help promote healthy emotional regulation include asking for social support and refraining from impulsive behavior. Adults who have good emotional regulation skills have the ability to control impulsive behaviors (e.g., physical aggression) during difficult situations (Feng et al., 2009; Maller et al., 2010; Walton & Flouri, 2010; Mezulis et al., 2006).

The mother-child interaction provides the environment in which children learn how to interact with other people in a social setting. For example, individuals who had a higher quality relationship with their mother had more opportunities to develop confidence in their abilities.
That is, these individuals may recognize that their self-worth is unconditional and not contingent on their success or failure. Their ability to maintain their emotional stability may also help in maintaining healthy relationships, which, in turn, increases their social support network. In contrast, individuals who experienced a lower quality relationship with their mother may not have had the opportunity to develop interpersonal skills in a safe environment. These individuals may be more distrustful of others, and consequently, have less social support. Further, this may be because these early experiences may become encoded and set the foundation for the ability to self-regulate positive and negative emotions later in life. That is, attachment experiences are engraved in an internal working model that encodes strategies of affect regulation (Schore & Schore, 2008). As a result, it is important to examine the role of self-regulation in attachment.

Emotion regulation is an important component of individual functioning of behavior which includes the quality of individuals’ interactions with others, and the social competence of one’s behavior. As a result, emotion regulation in the early years is likely to influence the quality of mental health across the lifespan.

**Depression**

Depression is one of the most common psychological problems in the United States (Mezulis et al., 2006; Clark, et al., 1994). Depression is characterized as depressed mood, a reduced level of interest in many activities, a considerable change in body weight without any intentional dietary change, change in appetite, sleep difficulties, agitated or slowed behavior, thoughts of worthlessness or guilt, and cognitive abilities such as the inability to shift attention from negative thoughts (Mezulis et al., 2006). Symptoms of depression increase during adolescence and throughout adulthood. Depression is less common in children than in adults.
(Feng, et al., 2009). Prevalence rates are less than 1 percent in childhood, but by adolescence the rates are between 2 and 8 percent (Zahn-Waxler, Klimes-Dougan, & Slattery, 2000).

The inability to regulate negative emotions has been associated with symptoms of depression (Zahn-Waxler, et al., 2000). Specifically, the inability to express positive emotions and the sensitivity to negative emotions are key components of depression (Clark, Watson, & Mineka, 1994; Feng et al., 2009; Nolen-Hoeksema, 2012; Schmid et al., 2011). According to Moilanen (2007), depressed children and adolescents tend to have lower levels of self-regulation than non-depressed youths. That is, individuals who experience symptoms of depression demonstrate the inability to soothe themselves and detract their attention from negative emotions. For instance, Feng, et al. (2009) found that young adults who took longer to regulate negative emotions during childhood reported higher levels of depressive symptoms later in life than those who took less time to regulate negative emotions. Further, it is clear in the literature on childhood and adolescent depression that there is not one single risk factor that can be attributed to the development of depression. However, there is much empirical evidence that suggests early experiences with maternal parenting greatly influence adult mental health (Butler, & Nolen-Hoeksema, 1994; Kerver, et al., 1992; Nole-Hoeksema, 2003).

The parenting literature has shown a strong relationship between quality of mother relationship in early childhood and mental health in childhood and adulthood (Barber, et al., 2012; El-Sheikh, et al., 2010; Manzeske, & Stright, 2009; Urry, Nelson, & Padilla-Walker, 2011). For instance, Cicchetti and Toth (1998) emphasized that poor emotional relationship with parents in childhood has been linked with adolescent depression. Further, Feng et al. (2009) examined the relation of psychological control and the development of depression in pre-adolescent girls. Mothers and daughters were asked to engage in a problem-solving activity.
They found that daughters who received more negative feedback from their mother during the activity took longer to stabilize their emotional arousal than those who received less negative feedback from their mothers. In addition, those with mothers who displayed high psychological control reported higher levels of symptoms of depression than those with mothers who were lower in psychological control. The conclusions of this study were that high maternal psychological control is associated with higher symptoms of depression. Similarly, a recent longitudinal study (Schmid et al., 2011) examined the long-term effects of quality of the mother-child relationship and depressive symptoms from infancy to early adulthood. They found that children who received less nurturing from their mothers at three-months old scored higher on the Beck Depression Inventory (BDI) at age 19 than those who had a more nurturing mother. Interestingly, the authors emphasized that early maternal warmth was unrelated to child’s psychological outcome until adulthood. The results of the study suggest that children who are emotionally neglected by their mothers are more likely to develop lower self-esteem and poorer mental health during the transition to young adulthood (Schmid et al., 2011). These findings provide support for Bowlby’s Attachment Theory. However, it is also important to recognize that some variables, such as childhood SES and neuroticism, negatively influence individuals’ reports of the quality of their early mother-child relationships.

**Childhood SES and Neuroticism as Covariates**

Early childhood SES and personality traits such as neuroticism are important variables to consider when examining the influence of early mother-child relationships on mental health. To minimize third variable confounds, it is important to control for socio-economic status and neuroticism during childhood because these variables have been associated with influencing the quality of parent relationship (Maller et al., 2010; Roberts, et al., 1996). For instance, poor SES
conditions during childhood have been associated with fewer supportive and nurturing experiences (Maselko, et al., 2011; Maller et al., 2010). As a result, individuals who experience poorer childhood SES may be more likely to report a more negative mother relationship than those with higher childhood SES. In the current study, childhood SES was indirectly measured by asking participants to report their mothers’ and fathers’ occupational prestige status and educational level.

Another variable that may influence the relationship between the variables of interest is neuroticism. Individuals high in neuroticism experience more frequent intense levels of emotional reactivity (Maller et al., 2010; Roberts, et al., 1996; Metsapelto, & Pulkkinen, 2003; Clark, Watson, & Mineka, 1994). Researchers have suggested that neuroticism increases the likelihood of reporting negative affect (Clark, et al., 1994; Daggan, Milton, Egan, McCarthy, & Lee, 2003). As a result, individuals higher in neuroticism may report more negative experiences with their mother than individuals lower in neuroticism. In the current study, neuroticism and childhood SES were used as covariates to minimize issues with third variable confounds on the variables of interest.

In sum, based on the mother-child relationship literature, it was inferred that quality of mother relationship plays an important part in the development of effective self-regulative skills. Consistent with Bowlby’s Theory of Attachment, the current study proposed that perception of positive maternal parenting may provide a safe environment where children can freely learn and practice healthy emotional regulatory skills during positive interactions with their mother. This, in turn, reduces the risk for the development of depression in early adulthood. This may be because individuals who had a higher quality relationship with their mother during childhood are able to manage their emotional states, which decreases the risk of symptoms of depression in
childhood and adulthood. The present study was interested in the relationship between the perception of mother relationship in childhood (operationalized as maternal warmth and psychological control) and depression in adulthood (the outcome variable), and current emotion regulation as a potential mediator variable. Based on the literature review, it was hypothesized that:

**Hypotheses**

1. Female participants who report higher maternal warmth will report lower symptoms of depression than those who report lower maternal warmth.

2. Female participants who report lower psychological control will report lower symptoms of depression than those who report higher maternal psychological control.

3. Female participants who report higher maternal warmth will report higher levels of emotion regulation than those who report lower maternal warmth.

4. Female participants who report lower maternal psychological control will report higher levels of emotion regulation than those who report higher maternal psychological control.

5. Emotion regulation will mediate the relationship between maternal warmth and symptoms of depression (refer to Figure 1).

6. Emotion regulation will mediate the relationship between maternal psychological control and symptoms of depression (refer to Figure 1).
Figure 1: Mediation hypothesis

1. **Hypothesis 5**

\[ \text{Maternal Warmth} \rightarrow \text{Emotion regulation} \rightarrow \text{Depression} \]

2. **Hypothesis 6**

\[ \text{Psych. ctrl} \rightarrow \text{Emotion regulation} \rightarrow \text{Depression} \]

Note: Psych. ctrl = Maternal psychological control.

**Method**

**Participants**

Participants were 109 female college students from a medium-sized public university in southern California. The participants had the opportunity to fulfill a research requirement for a lower-division psychology course and were given one credit unit for their participation. To be included in the study participants had to be female, come from intact biological families, and childless. A total of 15 participants were excluded; 13 participants because their parents were divorced, and 2 were excluded due to incomplete data on the outcome variable. The final sample size was 94. The ethnic diversity of participants was: 51.1% Hispanics, 24.5% Whites 11.7% Asians, 8.5% mixed race, 1.1% Pacific Islander, and 3.2% other. Participants’ ages ranged from 18 to 28 years old (\( M = 20.12, SD = 1.76 \)). The participants’ parental marital status were 96.8% intact, 1.1% divorce (one participant at age 24), and 2.1% cohabiting. Of the 94 participants,
63.8% were living with parents. Of the sample, 93.6% were not on psychiatric medication and 6.4% were taking medication.

**Measures**

Participants individually completed a packet of the survey measures, which included:

**Demographic Sheet:** The demographic variables were age, parent marriage status, gender, ethnicity, whether taking psychiatric medications, whether parents remained married since the participant’s childhood, whether the participant was a parent, present status of parents’ relationship, and educational level for both parents.

**Education level:** The highest education level of father and mother indirectly measured childhood SES. Father and mother education level was measured by choosing one out of seven categories, 1 = *less than high school*, 2 = *high school degree*, 3 = *post high school technical training*, 4 = *some college*, 5 = *A.A degree*, 6 = *college B.A degree*, 7 = *graduate-MA/MS/Ph. D, JD, MD*. The educational level of participant’s parents is listed in table 1.

Table 1

<table>
<thead>
<tr>
<th>Parental Education level</th>
<th>Mom</th>
<th>Dad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than High School</td>
<td>27%</td>
<td>29.8%</td>
</tr>
<tr>
<td>High School Degree</td>
<td>19.1%</td>
<td>17.0%</td>
</tr>
<tr>
<td>Post high school technical training</td>
<td>3.2%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Some College</td>
<td>18.1%</td>
<td>20.2%</td>
</tr>
<tr>
<td>A.A Degree</td>
<td>6.4%</td>
<td>5.3%</td>
</tr>
<tr>
<td>B.A Degree</td>
<td>21.3%</td>
<td>19.1%</td>
</tr>
<tr>
<td>Graduate School</td>
<td>4.3%</td>
<td>7.4%</td>
</tr>
</tbody>
</table>

**Occupational Prestige Scale:** The Occupational Prestige scale was used as a proxy for childhood SES. Each participant was asked to list her parents' occupations and briefly describe
the occupations in a couple of sentences. Each parent’s occupational level was assessed using the system developed at the National Opinion Research Center. The participant was also asked whether her parent’s occupation applied to most of her childhood and if there had been a change in her parent’s job during the past five years. The mothers occupational prestige score range from 22.33 to 79.69 ($M = 40.07$, $SD = 13.95$) and for fathers it range from 21.16 to 86.05 ($M = 46.65$, $SD = 14.19$).

**Parental Bonding Inventory (PBI):** The warmth subscale of the PBI accessed maternal warmth. The warmth subscale is a self-report 12-item scale. A sample item is, “My mother spoke to me in a warm and friendly voice.” The items on these scales are rated on four-point Likert scale (1 = Very Like to 4 = Very Unlike). Six items were reversed scored. A high score indicates higher maternal warmth. This measure has been shown previously to have good concurrent validity, $\alpha$ ranging from .79 to .89 (Duggan, et al., 1998; Huppert, Abbott, Ploubidis, Richards, & Kuh, 2010; Walton, & Flouri, 2010), and good reliability, $\alpha = .85$ (Brewin, Andrews, & Gotlib, 1993; Huppert, et al., 2010). The mean score of the current sample ranged from 7 to 36 ($M = 27.63$, $SD = 8.14$). The current sample demonstrated good reliability, $\alpha = .94$.

**Psychological Control Scale-Youth Self-Report (PCS-YSR):** The PCS-YSR measures the extent to which individuals perceive their mother as psychologically controlling through manipulating their behaviors, thoughts, and feelings (Barber, 1996; Barber, et al., 2012). This 8-item scale assesses the degree of a mother’s psychological control practices (e.g., guilt, manipulation, and love withdrawal). A sample item is, “My mother is less friendly with me if I do not see things her way.” Participants rate each item on a 3-point Likert Scale (1 = Not like her to 3 = A lot like her). A high score indicates higher psychological control. This measure has been shown to have a reliability of $\alpha = 0.84$ (Urry, et al., 2011). The mean score of the current
The sample ranged from 8 to 24 ($M = 12.78$, $SD = 4.19$). The reliability for the scale in the current sample was $\alpha = .86$.

**Adolescent Self-regulatory Inventory (ASRI):** The ASRI was adapted from Moilanen, 2007) to assess self-regulation in young adults. This 27-item scale looks at short-term as well as the long-term context of self-regulation. It taps into multiple aspects of self-regulation that include behavioral, attentional, emotional, and cognitive domains, and their success or failure by including five components (monitoring, activating, adapting, persevering, and inhibiting) of self-regulation. A sample item is, “When I’m sad, I can usually start doing something that will make me feel better.” Participants rate each item on a scale ranging from 1 = *not at all true for me* to 5 = *really true for me*. Thirteen items were reversed scored. The mean score of the current sample ranged from 86 to 148 ($M = 122.01$, $SD = 11.97$). The authors of this measure reported an internal consistency of $\alpha = .82$; the reliability for the current sample was $\alpha = .73$.

The construct validity was evaluated by comparing the correlations between the ASRI scales and the comparison self-report questionnaire using the Children’s Reports of Parental Behavior Inventory (CRPBI, Schaefer, 1965; Schludermann & Schludermann, 1988) and four dimensions of adjustment using the Weinberger Adjustment Inventory (Moilanen, 2007). Correlations for this sample ranged from $r = .35$ to $.92$, thereby providing evidence of construct validity.

**Beck Depression Inventory II (BDI-II):** The BDI-II assessed depression symptom levels. The BDI-II contains 21 items. A sample item is “I am sad all the time and I can’t snap out of it” The participants rate each item on a 4-point scale, ranging from 0 = *not at all* to 3 = *extreme form of each symptom*. This instrument is the most commonly measure of depression (Zimmermann, Eisemann, & Fleck, 2008). The total scores range from 0-63. The suggested
interpretation of scores is as follows: minimal depression (0-13), mild depression (14-19) moderate depression (20-28), and severe depression (29-63). In the current study, the mean score ranged from 0 to 34 ($M = 10.50$, $SD = 7.53$). The scale demonstrates good psychometric properties. The internal consistency of the scale reported by authors is .93 (Stulz, & Crits-Christoph, 2010). Evidence of the scale’s validity is provided by its significant correlations with the Hamilton Depression Ratings Scale Revised ($r = .71$; Stulz, & Crits-Christoph, 2010). For the current sample, the BDI correlated with the CESD ($r = .72$).

**Center for Epidemiological Studies Depression Scale:** The CES-D assessed depression symptom levels. The CES-D contains 20 items representing six components: depressed mood; feelings of guilt and worthlessness; feelings of helplessness and hopelessness; psychomotor retardation; loss of appetite; and sleep disturbance. Respondents indicate how often within the last week they experienced the symptoms, responding from 0 “rarely or none of the time” to 3 = “most or all of the time” (3). The scores for the 20 items are summed, resulting in a range of possible total scores from 0 to 60. The mean score of the current sample ranged from 1 to 44 ($M = 16.04$, $SD = 9.56$). Reliability and validity of the scale have been tested in general and clinical populations demonstrating internal consistency with an alpha of 0.85 for the general population and 0.90 for a psychiatric population. The reliability for the current sample was $\alpha = .87$. The BDI-II correlated with the CESD, $r = .72$, $p < .001$. Convergent validity was supported by significant correlations with other scales designed to measure depression (Hann, Winter, & Jacobsen 1999).

**Eysenck Personality Questionnaire Revised-Short Form (EPQR-S):** The EPQR-S is a scale used for the measurement of personality among adults. Neuroticism was assessed using the neuroticism subscale from the EPQR-S (Eysenck, Eysenck & Barrett, 1985). It has 12 items
and each item has a dichotomous response (‘yes’ or ‘no’). A sample item is, “Would you call yourself a nervous person?” The mean score of the current sample ranged for 0 to 12 ($M = 5.50$, $SD = 2.74$). This measure has been shown to have an internal consistency reliability of $\alpha = .88$. For the current sample, the reliability was $\alpha = .68$.

**Procedure**

Participants were recruited through the human participant pool (HPP) at a public university. Students were tested individually. The students were given instructions on the study procedures (i.e., complete a questionnaire on early childhood experiences that will take approximately thirty minutes) and were provided with the opportunity to consent to participate in the study. Once consent was provided, the participant completed a brief demographic information sheet, followed by several measures. When the participant completed the questionnaire packet, the researcher conducted a post-experimental inquiry where she probed for any suspicion about the participant’s knowledge of the study. Lastly, participants were debriefed, thanked for their participation, and were given a copy of their consent form. Counseling services information was provided to all participants. Participants received (one HPP credit).

**Power Analysis**

Based on theoretical framework of this study, the required sample size to examine a mediation effect of emotion regulation with one predictor and one covariate is 74 (Frazier, Tix, & Baron, 2004). A Sobel test was used to examine the indirect effect of the predictor variables (high maternal warmth/low maternal psychological control) on the outcome variable (low symptoms of depression) via the mediator (healthy emotion regulation).
Results

Preliminary Analysis

Preliminary analyses were conducted to examine demographic variables, missing data, and whether criteria for participation were met. The assumptions of linearity and homoscedastic were met for the analyses. The distributions were normally distributed for maternal warmth, maternal psychological control, depression, parental educational level, and occupational prestige score. The tolerance ranged from .79 to .92. The education variable was dummy coded because it contained more than two levels. Education and occupational prestige variables did not correlate with maternal warmth, maternal psychological control, and depression, so it was dropped from the analysis (see Tables 2 and 3). Even though the study specifically emphasized that only participants who were raised by both biological parents and who were not parents themselves were needed, a total of 15 participants were excluded from the study because they did not meet the criteria.

Table: 2

Correlations for all variables

<table>
<thead>
<tr>
<th>Measures</th>
<th>Mom/Ed</th>
<th>Dad/Ed</th>
<th>Mom OP</th>
<th>Dad OP</th>
<th>Neurotic</th>
<th>Warmth</th>
<th>Psych Ctrl</th>
<th>ER</th>
<th>BDI-II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mom Ed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dad Ed</td>
<td>.71***</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Mom/OP</td>
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<td>.39***</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dad/OP</td>
<td>.45***</td>
<td>.65***</td>
<td>.25**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neurotic</td>
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<td>-.06</td>
<td>-.21*</td>
<td>.06</td>
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<td></td>
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<tr>
<td>Warmth</td>
<td>.07</td>
<td>.13</td>
<td>-.23*</td>
<td>.09</td>
<td>-.23**</td>
<td></td>
<td></td>
<td></td>
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</tr>
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</table>
Partial Correlations

To test hypotheses 1 through 4, partial correlations were conducted with neuroticism as a controlled variable (see Table 3). As predicted, while controlling for neuroticism, greater maternal warmth was related to higher levels of emotion regulation ($r = .25, p = .014$) and lower symptoms of depression ($r = -.29, p = .004$). Conversely, greater maternal psychological control was related to lower levels of emotion regulation ($r = -.37, p < .0001$) and higher levels of depression ($r = .35, p < .0001$).

Table 3

Partial correlations while controlling for neuroticism

<table>
<thead>
<tr>
<th>Measure</th>
<th>Warmth</th>
<th>PsyCtrl</th>
<th>Emotion/R</th>
<th>BDI-II</th>
<th>Mom/OP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warmth</td>
<td>-.75***</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>PsyCtrl</td>
<td></td>
<td></td>
<td>-.37***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotion/R</td>
<td>.25*</td>
<td>-.37***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BDI-II</td>
<td>-.29**</td>
<td>.35***</td>
<td>-.24*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mom/OP</td>
<td>.04</td>
<td>-.14</td>
<td>.09</td>
<td>.12</td>
<td></td>
</tr>
</tbody>
</table>

Note: Warmth = Maternal warmth, PsyCtrl = Maternal psychological control, Emotion/R = Emotion regulation, Mom = mother’s occupational prestige, BDI-II = Beck Depression Inventory-II

*** = p < .001, ** = p < .01, * = p < .05.
Mediation Analyses

The four steps recommended by Baron and Kenny (1986) were used to test whether emotion regulation mediated the effect of maternal warmth on symptoms of depression while controlling for neuroticism. First, a regression analysis was conducted to determine if maternal warmth predicted symptoms of depression. This path was significant \((b = -0.24, t(92) = -2.92, p = 0.004)\). Next, it was examined whether maternal warmth predicted emotion regulation. This path was significant, \(b = 0.37, t(92) = 2.47, p = 0.016\). The third step examined whether maternal warmth predicted symptoms of depression while controlling for the mediator, emotion regulation in the first step. This path was significant \((b = -0.20, t(90) = -2.42, p = 0.018\), refer to Table 4 and Figure 2). The degree of mediation is defined as the amount of reduction in the effect of maternal warmth on symptoms of depression. According to the Sobel test, the indirect effect of the predictor variable (maternal warmth) on the outcome variable (symptoms of depression) via the mediator (emotion regulation) was not significant (Sobel test, \(Z = -1.74, p = 0.08\)). Therefore, hypothesis 5 was not supported.

Figure 2: Paths in mediation

Note: Warmth= Maternal warmth, Reg. = Regulation X= predictor variable, M= mediator variable, Y= Outcome variable.
A second mediation analysis was conducted to determine if maternal psychological control predicted symptoms of depression while controlling for neuroticism in the first step. This path was significant ($b = .57, t (91) = 3.61, p < .0001$). Next, it was examined whether maternal psychological control predicted emotion regulation. This path was significant ($b = -1.10, t (91) = -3.85, p < .0001$). The third step examined whether maternal psychological control had an effect on symptoms of depression while controlling for the mediator, emotion regulation. This path was significant ($b = .50, t (90) = 2.91, p = .005$). The effect of maternal psychological control on symptoms of depression dropped from $b = .57, p = .0001$ to $b = .50, p = .005$, refer to Table 5 and Figure 3). According to the Sobel test, the indirect effect of the predictor variable (maternal psychological control) on the outcome variable (symptoms of depression) via the mediator (emotion regulation) was significant (Sobel test, $Z = -2.32, p = 0.02$). The results demonstrated that the relationship between maternal psychological control and depression was partially mediated by emotion regulation. Lower maternal psychological control was associated with better emotion regulation, which was associated with lower levels of depression in female college students. The data were consistent with hypothesis 6.

Figure 3: Paths in mediation

![Diagram of mediation analysis](image)

Note: PsyC= Maternal Psychological control, Reg. = Regulation X= predictor variable, M= mediator variable, Y= Outcome variable
## Table 4

### Testing Mediator Effects Using Multiple Regression: Maternal Warmth

<table>
<thead>
<tr>
<th>Testing Steps in mediation</th>
<th>$b$</th>
<th>$SE$</th>
<th>$\beta$a</th>
<th>$F$</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Testing step 1</strong> (Path c)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neuroticism (constant)</td>
<td>1.22</td>
<td>2.44</td>
<td>.44</td>
<td>31.46***</td>
<td>.25</td>
</tr>
<tr>
<td>Outcome: Symptoms of depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictor: Warmth</td>
<td>-.24*</td>
<td>.08</td>
<td>-.26</td>
<td>31.46***</td>
<td>.25</td>
</tr>
<tr>
<td><strong>Testing Step 2</strong> (Path a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neuroticism (constant)</td>
<td>-.47**</td>
<td>.45</td>
<td>-11</td>
<td>4.45*</td>
<td>.09</td>
</tr>
<tr>
<td>Outcome: emotion regulation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictor: Warmth</td>
<td>.37</td>
<td>.15</td>
<td>.25</td>
<td>4.45*</td>
<td>.09</td>
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<td><strong>Testing Step 3</strong> (Path b and c”)</td>
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<tr>
<td>Neuroticism (constant)</td>
<td>1.17</td>
<td>.24</td>
<td>.43</td>
<td>19.32***</td>
<td>.28</td>
</tr>
<tr>
<td>Outcome: Symptoms of depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mediator: Emotion regulation(Path b)</td>
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<td></td>
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</tr>
<tr>
<td>Predictor: Warmth</td>
<td>-.20**</td>
<td>.08</td>
<td>-.22</td>
<td>19.32***</td>
<td>.28</td>
</tr>
</tbody>
</table>

Note Warmth= Maternal warmth, $b$ = Unstandardized $\beta$eta, *$p$<.05, **$p$<.02, ***$p$<.001

## Table 5

### Testing Mediator Effects Using Multiple Regression: Maternal Psychological control

<table>
<thead>
<tr>
<th>Testing Steps in mediation model</th>
<th>$b$</th>
<th>$SE$</th>
<th>$\beta$a</th>
<th>$F$</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Testing step 1</strong> (Path c)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neuroticism (constant)</td>
<td>1.14</td>
<td>.24</td>
<td>.42</td>
<td>31.46***</td>
<td>.25</td>
</tr>
<tr>
<td>Outcome: Symptoms of depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictor: PsyCtrl</td>
<td>.57***</td>
<td>.16</td>
<td>.32</td>
<td>31.46***</td>
<td>.25</td>
</tr>
<tr>
<td><strong>Testing Step 2</strong> (Path a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neuroticism (constant)</td>
<td>-.26</td>
<td>.43</td>
<td>-.06</td>
<td>8.93***</td>
<td>.15</td>
</tr>
<tr>
<td>Outcome: emotion regulation</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictor: PsyCtrl</td>
<td>-1.10</td>
<td>.29</td>
<td>-.38</td>
<td>8.93***</td>
<td>.15</td>
</tr>
</tbody>
</table>
Testing Steps in mediation model

<table>
<thead>
<tr>
<th>Testing Step 3 (Path b and c')</th>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism (constant)</td>
<td>1.12</td>
<td>.24</td>
<td>.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcome: Symptoms of depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mediator: Emotion regulation</td>
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<td>.06</td>
<td>-.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictor: PsyCtrl</td>
<td>.50**</td>
<td>.17</td>
<td>.28</td>
<td>19.32***</td>
<td>.28</td>
</tr>
</tbody>
</table>

Note. PsyCtrl = Maternal psychological control, b = Unstandardized βeta, *p<.05, **p<.02, ***p<.001

Discussion

A mother’s warmth and promotion of self-exploration contribute to her daughter’s healthy emotional and mental well-being. This is because these maternal practices create the environment where a daughter is able to learn how to solve interpersonal conflicts in a non-threatening way. The current study examined the mediation effects of emotion regulation between the quality of early mother child relationship and depression in college females. The early quality of mother child relationship was operationalized using two constructs: maternal warmth and maternal psychological control. The results of the study demonstrate that females who reported perceiving greater maternal warmth in childhood also reported higher levels of emotion regulation and lower symptoms of depression than those who reported lower maternal warmth. In contrast, females who reported greater maternal psychological control reported lower levels of emotion regulation and higher levels of depression than those who reported lower psychological control. Finally, emotion regulation partially mediated the relationship between maternal psychological control and symptoms of depression, but not for the relationship between maternal warmth and symptoms of depression.
One of the findings of the current study shows that perception of greater maternal warmth was associated with higher levels of emotion regulation and lower symptoms of depression. This may be because mothers who are high in maternal warmth provide a safe environment in which their child can learn and practice social skills without the fear of failure or criticism. Walton and Flouri (2010) found that lower maternal warmth was associated with poorer emotion regulation. Also, the findings of the current study show that perception of greater maternal warmth was associated with lower symptoms of depression. This may be because mothers who are low in warmth do not attend to their child’s emotional needs. As a result, these children may not develop the skills needed to deal with difficult situations, such as seeking social support as they transition to young adulthood. Duggan, et al (1998) and Feng (2009) found that low parental care was associated with higher levels of depression in adolescent girls. These findings are consistent with the parenting literature which demonstrates that maternal warmth influences emotional and mental well-being.

A second finding of the current study demonstrated that greater maternal psychological control was associated with lower levels of emotion regulation, and higher levels of depression. There is plenty of evidence that greater psychological control is associated with poor emotion regulation and symptoms of depression. For example, Feng (2009) found that psychological control increased depression in pre-adolescent girls with poor emotion regulation. Similarly, Mandara and Pikes, (2008) found that high maternal psychological control was associated with higher levels of depression in adolescent girls. This may be because maternal psychological control hinders a child’s ability to develop emotional self-autonomy (Manzeske & Stright, 2009). These findings demonstrate that perception of higher quality of mother-daughter relationship in
early child is associated with higher levels of emotion regulation and lower symptoms of depression. These findings are consistent with the parenting literature.

A third finding of the current study demonstrated that emotion regulation partly mediated the relationship between maternal psychological control and symptoms of depression. These findings suggest that lower psychological control is associated with better emotion regulation which, in turn, is associated with lower symptoms of depression in college females. Maternal psychological control has been associated with negative outcomes in children and adolescents, even across diverse cultures (Barber, 2012; Barber, & Harmon, 2002; Manzeske & Stright, 2009). These findings are not unexpected given that psychological control has been described as a form of controlling that exploits the trust of the parent-child bond. This form of control hinders the psychological development of the child by not allowing the child to develop the emotional maturity that will prepare her to face the world alone. By not allowing a child to explore her emotional independence, it puts her at a higher risk of developing symptoms of depression in adulthood. The current study is the first to examine the mediating effect of emotion regulation on the relationship between maternal psychological control and depression in college females.

Finally, emotion regulation did not mediate the relationship between maternal warmth and symptoms of depression. These findings suggest that maternal warmth alone may be sufficient to lower symptoms of depression in college females. That is, maternal warmth may not affect symptoms of depression via emotion regulation in young adult females.

Future studies should examine if maternal warmth affects symptoms of depression via emotion regulation in younger children since maternal warmth plays a greater role during early childhood. This may be because in early childhood, children are still learning to self-regulate their emotions. Also, it is important to mention that emotion regulation is a multifaceted
For example, effortful control has been an aspect of emotion regulation that has been investigated in young children. The current study is the first to examine the mediating effect of emotion regulation between maternal psychological control and maternal warmth and symptoms of depression in college females. As a result, it is important to replicate the findings with different samples. These findings contribute to the literature by providing a pathway that may partly explain the relationship between maternal psychological control and symptoms of depression in college females.

**Strengths & Limitations**

This study had several strengths. First, neuroticism was controlled because this variable has been identified as a third variable confound when examining the variables of interest. Second, the study used standardized measures which helped with the adequacy of operationalization and minimized threats to external validity. Third, excluding males from the current study removed gender as an alternative explanation for the relationship among the variables of interest. Last, quality of maternal relationship was explored by examining two different maternal parenting practices. This approach allowed the opportunity to see how each individual practice was associated with the outcome of interest.

In contrast, this study had several weaknesses. First, a non-representative sample was a limitation. The sample of the study was a convenience sample which reduces generalizability of the results. Second, the use of obtrusive measures possibly increased the level of reactivity and threatens the external validity of the study. That is, participants knew that they were in a study. However, participants completed the survey in an individual room where they were provided privacy. Third, the use of mediation with a cross-sectional approach is a limitation of the current study. A cross-sectional approach does not allow time to elapse between an independent
variable and outcome variable. Mediation processes occur over time. Therefore, a longitudinal approach would be more appropriate for establishing mediation (Maxwell & Cole, 2007). Last, participants from non-intact families were excluded from the study, so there is no way of knowing if the results generalize to those who are raised with adopted parents or by a single parent. However, it was decided to exclude these participants because there is empirical evidence that divorce outcomes have negative long-term effects on children’s emotional state (Amato, 1994; Barnett, Kibria, Baruch, & Pleck, 1991). For instance, the influence of divorce may affect the participant’s perception of her mother. Moreover, the difficulties that come from divorce (e.g., financial problems) may influence the way a mother reacts to her child. This in turn, may increase the likelihood of development of symptoms of depression. Although mothers are granted full custody of their children in most cases, the effect of divorce may still be a confounding variable. This is because of the distress that is associated with divorce on children.

**Conclusion**

The results of the current study demonstrated the important influence that maternal warmth has on the emotional and mental health well-being in college females. These findings are consistent with previous studies. Also, the results of this study contribute to the parenting literature by providing one pathway that may partly explain how maternal psychological control can influence the mental health in college females. These findings demonstrate that it is important that mothers are educated on the importance of providing a safe environment in which their daughters are able to develop the social skills that will prepare them to face the world, especially as they enter college. Additionally, it is important that mothers understand that they will not always be there to rescue their daughters from harm. However, if they provide their
daughters the necessary coping skills early in life, their daughters will feel more secure about confronting the challenges that arise in a college environment.
References


Maternal Love and Mental Health


Personality and Individual Differences, 39(6), 1105-1111.


