

Perceived Parenting, Emotion Regulation, and Adult Depression

by

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ABSTRACT

Previous studies have established a link between parenting style (e.g. authoritarian, authoritative, permissive) and depression in children and adolescents. Parenting factors are also implicated in the development of emotion regulation. There is a gap in the literature, however, concerning perceptions of parenting in relation to adult depression. The current study examined the effect of parenting on reported adult depressive symptoms. Of interest was the role of emotion regulation strategies in this relationship. Participants were recruited through Amazon Mechanical Turk, and the sample consisted of 302 adults (125 males, 177 females) ranging in age from 18 to 65. Measures of how participants were parented by their mothers and fathers, emotion regulation strategies most frequently utilized, and current depressive symptoms were collected using an online survey. The emotion regulation strategy, positive reappraisal, was found to moderate the relation between maternal authoritative parenting and depression. Permissive parenting was also significantly predictive of depression, but catastrophizing fully mediated only the relation between maternal permissive parenting and depressive symptoms. Authoritarian parenting was unrelated to depression and emotion regulation in this study. The findings of this study indicate that the effects of how an individual was parented may persist into adulthood. Implications of these findings and future directions for further research are discussed.

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Chapter 1: Introduction

Evidence suggests that depression persists across the life course. Kovacs and colleagues (2003) found that children diagnosed with depression are 40%-60% more likely to experience recurring depressive symptoms in adolescence. In addition, children and adolescents who suffer depression are more likely to experience symptoms in adulthood (Kovacs, Gatsonis, Paulauskas, & Richards, 1989; Costello, Angold, & Keeler, 1999). It is widely established that parenting experiences are associated with depressive symptoms in both children and adolescents (Blatt & Homann, 1992; Downey & Coyne, 1990; Ge, Lorenz, Conger, Elder, & Simmons, 1994). It has also been shown that parenting practices have an integral role in the development of a child's self-regulation, including emotion regulation (Morris, Silk, Steinberg, Myers, & Robinson, 2007). Furthermore, emotion regulation is consistently related to and predictive of depressive symptoms in children and adults (Betts, Gullone, & Allen, 2009). However, there is a lack of literature examining the persisting effects of parenting in adult psychopathology. Given the prevalence (Clarke, Hawkins, Murphy, & Sheeber, 1993) and debilitating nature (Murray & Lopez, 1996) of depression, it is important to understand the etiology of this disorder in order to inform prevention and treatment. The current study investigates the role of retrospective accounts of parenting and emotion regulation in adult depression.

Depression

In the present study, a developmental psychopathology conceptualization of depression is presented. While there are disagreements regarding the accuracy of diagnosis of a depressive disorder in children due to cognitive, emotion, and language

constraints (Cicchetti & Schneider-Rosen, 1986), it is estimated that the prevalence of major depressive disorder in children ranges from 0.4% to 2.5% (Birmaher et al., 1996). Adolescence constitutes a peak risk period for developing depressive symptoms (Lewinsohn, Joiner, & Rohde, 2001); in a community sample, 9.2% to 18% of adolescents were diagnosed with major depressive disorder (Saluja et al., 2004). In addition, one in four adolescents will report symptoms of depression by age 18 (Clarke, Hawkins, Murphy, & Sheeber, 1993), and these symptoms frequently persist into adulthood (Achenbach, Howell, McConaughy, & Stanger, 1995). In fact, lifetime rates of depression are estimated to be 15 to 20 per cent (Cicchetti & Toth, 1998). In the United States, 6.7% of adults experienced depression for 12 months or more, and of this population, 30.4% experience severe depressive symptoms (Kessler, Chiu, Demler, & Walters, 2005).

While the current study does not explore the role of genetic influences in the relation between parenting and depression, previous research supports the heritability of depression. For example, the serotonin transporter (5-HTT) gene has been implicated as a risk factor for depression (Caspi et al., 2003). In addition to genetic risk factors for depression, a number of environmental factors have been identified to explain the role of maternal depression in the etiology of depression, and the evidence suggests an interaction between the two. Children of depressed mothers are at increased risk for psychopathology (Goodman & Gotlib, 1999), including depression. Dodge (1990) asserted that depression leads to disruptions in parenting and the family context, and these disruptions lead to dysregulated emotion function in the child. In support of this theory, the relation between maternal depression and child depression was moderated by

negative maternal parenting behavior (Lovejoy, Graczy, O'Hare, & Neuman, 2000).

Given that individuals who experience depressive symptoms as youths are more likely to experience a depressive episode as an adult, it is important to explore and understand environmental factors that contribute to the development and maintenance of depression, such as parenting.

Defining Parenting Constructs

Parenting style reflects parental attitudes and behaviors toward a child. Parenting styles are traditionally defined on the basis of two dimensions of parental behavior: control and warmth (Gronlick & Gurland, 2002). Parental control can be conceptualized as both behavioral and psychological. Behavioral control is defined as a parent's attempt to control or manage a child's activities or behaviors. This aspect of parenting includes providing rewards (e.g. verbal praise, attention) for good behavior as well as punishments (e.g. removal of privileges) for bad behavior. Behavioral control includes other aspects of parenting, such as parental monitoring (tracking and surveillance of a child's behavior; Stattin & Kerr, 2000) and intrusiveness (unnecessary interventions by the parent to manage a child's behavior; Adam, Gunnar, & Tanaka, 2004). Parental monitoring is also referred to as parental supervision. Psychological control, however, refers to "control attempts to intrude into the psychological and emotional development of the child (e.g. thinking processes, self-expression, emotions, and attachment to parents)" (Barber, 1996). Intrusiveness can also be part of the definition of psychological control when referring to a parent's attempt to negate a child's autonomy and reinforce the child's dependence on the parent (Adam et al., 2004). Parental warmth includes the expression of interest in the child's activities and friends, involvement in the child's activities, praise of

child's accomplishments, acceptance of the child, and demonstration of affection (Amato, 1990). Baumrind (1971) created three profiles of parenting combining these dimensions, which have been widely accepted and utilized in the parenting literature.

Authoritarian parenting. Simply, authoritarian parenting is characterized by high psychological and behavioral control and low parental warmth. Baumrind identified the goal of authoritarian parenting as shaping, controlling, and evaluating "the behavior and attitudes of the child in accordance with a set standard of conduct, usually an absolute standard, theologically motivated and formulated by a higher authority" (Baumrind, 1968, p. 261). The authoritarian parent employs punitive, forceful measures to achieve absolute obedience from the child. This type of parenting also discourages the child to question the parent's authority. Authoritarian parents are characterized as "discontent, withdrawn, and distrustful," "detached and controlling", and "somewhat less warm than other parents" (Baumrind, 1971, pp. 1-2). Evidence supports that children of authoritarian parents score high on measures of obedience conformity but have low self-esteem (Lamborn, Mounts, Steinberg, & Dornbusch, 1991) and other internalizing symptoms (Barber, 1996).

Authoritative parenting. The authoritative parenting style is defined by moderate behavioral control and low psychological control. It is further distinguished from authoritarian parenting in that the definition includes high parental warmth. Baumrind (1968) described the goal of authoritative parenting as directing "the child's activities...in a rational, issue-oriented manner" (p. 261). In addition, authoritative parents are oriented to teach the child, rather than achieve strict conformity to the parents' rules. This type of parent encourages verbal give and take and explains the

reasoning behind their rules. The authoritative parent recognizes their authority as a parent but also respects the child's thoughts and opinions. Baumrind noted that parents of the children who "were the most self-reliant, self-controlled, explorative, and content were themselves controlling and demanding; but they were also warm, rational, and receptive to the child's communication" (Baumrind, 1971, p. 2). Research studies consistently find that this parenting style is associated with positive psychological outcomes (Piko & Balázs, 2012).

Permissive parenting. There are two types of permissive parents: indulgent and neglectful. Both types of permissive parents are typically low in psychological and behavioral control but differ in regards to warmth: indulgent permissive parents are high in warmth, while neglectful parents are low in warmth. For the purpose of this paper, permissive parenting is conceptualized as indulgent. The goal of the permissive parent is "to behave in a nonpunitive, acceptant, and affirmative manner toward the child's impulses, desires, and actions" (Baumrind, 1971, p. 256). This type of parenting style values the child's opinion and input regarding family policy and decisions. The permissive parent "presents herself to the child as a resource for him to use as he wishes, not as an active agent responsible for shaping or altering his ongoing or future behavior" (p. 256). Permissive parents allow their child to regulate their own behavior and activities and do not exert control over the child. Baumrind observed that parents of the "least self-reliant, explorative, and self-controlled children were themselves noncontrolling, nondemanding, and relatively warm" (Baumrind, 1971, p. 2). Children of permissive parents report high on measures of self-esteem but also have more behavior problems and increased school misconduct (Lamborn et al., 1991; Maccoby, & Martin, 1983).

Parenting and Depression

The aforementioned parenting constructs identified by Baumrind have been consistently related to youth's psychological outcomes, including depression. For example, Radziszewska, Richardson, Dent, and Flay (1996) found that there was a significant main effect of parenting style on adolescents' depressive symptoms, with the authoritative parenting style being related to the lowest levels of depressive symptoms, followed by permissive parenting and authoritarian parenting. Lamborn and colleagues (1991) reported similar findings: their study revealed a significant main effect of parenting style on depressive symptoms with authoritative parenting associated with the lowest levels of depression, followed by indulgent, authoritarian, and neglectful parents. However, the parenting styles did not significantly differ from one another.

In another study, MacKinnon, Henderson, and Andrews (1993) investigated the role of affectionless control, a construct defined by low parental care (i.e. warmth) and overprotection (i.e. control), as a risk factor in adult depression. Affectionless control is conceptually similar to the authoritarian parenting style. MacKinnon and colleagues discussed the interactive and additive effects of control and warmth: they found that low parental care was more strongly related to symptoms of depression than overprotection, and their results did not support any additive or interactive effects between these two dimensions. These authors mentioned, however, that their operationalization of overprotection might not have accurately assessed parental control. Therefore, in order to understand the mechanisms explaining the relation between parenting and adult depression, the parenting styles (authoritarian, authoritative, and permissive parenting)

have been deconstructed by type of dimension (i.e. control and warmth) and examined separately.

Parental control. Parental control has been described as both inhibitive and facilitative of development, which has been described as “paradoxical” (Steinberg, 1990). Psychological control is more commonly associated with inhibiting psychosocial development, while behavioral control has been considered to facilitate development. In a longitudinal study, Barber (1996) found that increased psychological control significantly predicted depression in adolescents, while low behavioral control was significantly predictive of delinquency and other externalizing behaviors. In addition, high behavioral control was not predictive of depression in this study. Due to the difference in outcomes, behavioral and psychological control are explored individually in relation to depression.

Behavioral control. Behavioral control is more commonly associated with external outcomes (i.e. school achievement, delinquency, substance abuse) than with internalizing problems. Moderate levels of behavioral control (i.e. behavior is managed but not restricted) are associated with children’s positive emotional and behavioral adjustment (Barber, Stolz, & Olsen, 2005). In addition, Kurdek and Fine (1994) found curvilinear effects of perceptions of family control on adjustment such that the positive effects of parental behavioral control reached a plateau at moderate levels of control. This evidence suggests that low behavioral control is associated with negative outcomes, but moderate behavioral control is associated with optimal outcomes.

Psychological control. High psychological control is consistently associated with depressive symptoms (Barber, 1996; Manzeske & Stright, 2009). Psychological control involves expression of disappointment of the child, guilt, shaming, isolation of the child,

and withholding of love (Barber, 1996). A number of studies have provided evidence to support the association between depressive symptoms with guilt (e.g. Ghatavi, Nicolson, MacDonald, Osher, & Levitt, 2002) and shame (e.g. Cheung, Gilbert, & Irons, 2004). Psychological control often results in the child's emotional dependence on the parent, which may inhibit or adversely affect the child's future development of peer relationships. Social relationships have been implicated in the study of depression, as social isolation has been found to be associated with the development of depressive disorders (Hagerty & Williams, 1999).

One pathway in which parent psychological control may lead to the development of depressive symptoms is through a feedback loop. Parents provide their children with information about the causes, consequences, and interpretation of negative events. This feedback is internalized by the child and contributes to the development and activation of cognitive schemas (Ingram, 2003). In parenting that emphasizes psychological control of the child, parental feedback may directly or implicitly suggest to the child that negative events in the child's life are attributable to stable, global causes. Children who develop this attributional style may be more susceptible to feelings of helplessness, which is associated with depression (Miller & Seligman, 1975). Parental feedback may also imply negative characteristics about the child or lead to negative consequences for the child that, in conjunction with negative events in the child's life, may predict a more depressogenic cognitive style (Mezulis, Hyde, & Abramson, 2006).

To illustrate, Alloy and colleagues (2001) discussed the role of negative inferential feedback from parents regarding causes, consequences, and interpretation of negative events in the child's life in the development of depressogenic cognitive styles.

They found that compared to parent's of college students with low cognitive vulnerability to depression, cognitively high-risk students' mothers exhibited more negative dysfunctional attitudes and inferential styles. Specifically, both mothers and fathers of cognitively high-risk students attributed more stable, global attributional feedback and negative consequence feedback for stressful events in their children's lives. In addition, for both mothers and fathers, inferential feedback was predictive of students' diagnosis of a depressive episode.

Parental warmth. Parental warmth has been theorized to be a social and emotional resource that provides children with a sense of security, which allows them to explore their environment (Bowlby, 1969). Warm, affectionate, and responsive parenting behaviors have been found to promote cooperative and affiliative behaviors in children in addition to social competence (Booth, Rose-Krasnor, McKinnon, & Rubin, 1994; Hipwell, Keenan, Kasza, Loeber, Stouthamer-Loeber, & Bean, 2008). This positive parenting dimension fosters prosocial behaviors in children, which in turn contributes to children developing healthy and positive relationships. The development of positive, supportive social relationships has been consistently found to have a buffering effect against symptoms of depression (Cohen & Wills, 1985).

Parenting and Emotion Regulation

Definitions of emotion regulation. There are many conceptualizations of emotion regulation. From a functionalist perspective, emotion regulation is defined as “the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotion reactions, especially their intensive and temporal features, to achieve one's goals” (Thompson, 1994, pp. 27-28). This definition of emotion regulation

includes: maintaining, enhancing, inhibiting, and/or diminishing emotion arousal; acquired strategies of self-management as well as external regulatory influences; and use of strategies to regulate emotion arousal in order to achieve objectives (e.g. social goals). Cicchetti, Ganiban, and Barnett (1991) defined emotion regulation as “the intra- and extraorganismic factors by which emotional arousal is redirected, controlled, modulated, and modified to enable an individual to function adaptively in emotionally arousing situations” (p. 15). These authors also emphasized that the purpose of emotion regulation is not only to achieve goals, but also to maintain emotion arousal at an optimal level.

Building off of these definitions, Eisenberg and Spinrad (2004) broadly defined emotion regulation as “the process of initiating, avoiding, inhibiting, maintaining, or modulating the occurrence, form, intensity, or duration of internal feeling states, emotion-related physiological, attentional processes, motivational states, and/or the behavioral concomitants of emotion in the service of accomplishing affect-related biological or social adaptation or achieving individual goals” (p. 338). While both internal and external strategies are considered in many definitions of emotion regulation, this paper focuses specifically on internal strategies involving cognitive emotion regulation.

The development of emotion regulation. There is a well-established link between parenting and the development of emotion regulation. When children are young, emotion regulation is from a primarily external source (e.g. parents soothing a crying child). In order for children to develop effective emotion regulation strategies, children must first be exposed to adaptive strategies, such as parental guidance or modeling by the parent (Grolnick & Farkas, 2008). Children then need the opportunity to practice these strategies with the support of their parent, under conditions where emotion distress is

mild or moderate, and when the regulatory task is within the child's emotional capacity (Grolnick & Farkas, 2008).

Grolnick, Kurowski, McMenemy, Rivkin, and Bridges (1998) explored the way mothers assist their young children regulate emotional distress. Twelve- to 32-month-old children completed a wait task in which they waited to receive a present or eat goldfish crackers. There were two conditions in this study, where parents were asked to either actively help the child or refrain from interacting with the child during the task. Mothers who initiated engagement with the child and maintained a high level of interaction once the child's level of distress had diminished had children who were less able to regulate themselves. The findings of this study indicate that parents who exert a high level of control over their children may actually inhibit the child's ability to learn to regulate their own emotions. This study provides evidence to support the assertion that high parental control is predictive of poor emotion regulation strategies.

Parenting has also been shown to have a role in the development of emotion regulation in older children and adolescents. Youths learn how to effectively regulate their emotions through observational learning, modeling, and social referencing (e.g. Morris, Silk, Steinberg, Myers, & Robinson, 2007). In their longitudinal study, Gottman, Katz, and Hooven (1996) found that children five to eight years in age have more difficulty managing their negative emotions when their parents dismiss negative emotions. Parents who teach their children to manage negative emotions (Gottman, Katz, and Hooven, 1997) and do not punish negative emotion expression (Eisenberg et al., 1999), however, have children who are better able to regulate their emotions. Authoritarian and permissive parenting styles are more frequently associated with

minimizing or ignoring negative emotion expression, while authoritative parents use a child's negative expression of emotion as an opportunity to teach the child how to respond to unpleasant emotional arousal.

There are a limited number of studies that have examined the effects of parenting style on the adult emotion regulation. Manzeske and Stright (2009) found that high maternal control, particularly psychological control, was associated with poor emotion regulation abilities in a sample of young adults. In their study, emotion regulation was measured using a scale of the authors' creation, which assessed whether participants were emotionally regulated or dysregulated. Surprisingly, maternal warmth was unrelated to emotion regulation in this study. To explain, these authors proposed that their measure of parenting factors might not have been valid, as mothers of participants self-reported feelings of warmth towards their children.

Emotion Regulation and Depression

Dysregulated emotion has been implicated in explaining, in part, the development of psychopathology (Chaplin, Cole, & Zahn-Waxler, 2005; Keltner & Kring, 1998), including depression. Three maladaptive emotion regulation strategies (rumination, catastrophizing, self-blame) and an adaptive emotion regulation strategy (positive reappraisal) are defined and discussed in the following sections. Rumination, catastrophizing, and self-blame have been shown to be consistently related to more depressive symptoms, while positive reappraisal is associated with fewer depression symptoms (Garnefski & Kraaij, 2006a; Martin & Dahlen, 2005). These relations between emotion regulation strategies and depression remain stable across childhood and adolescence to adulthood (Garnefski & Kraaij, 2006b)

Rumination. Rumination is defined as the persistence of negative thoughts (Garnefski & Kraaij, 2006a). The Response Styles Theory of Nolen-Hoeksema and Wells proposes to account for the role of ruminating in depression. The Response Styles Theory posits that the manner in which individuals respond to the experience of depressed mood affects the course of their moods (Kuehner & Weber, 1999). For example, Morrow and Nolen-Hoeksema (1990) found that rumination maintained and exacerbated the experience of an individual's depressed mood. In addition, nondepressed individuals who reported utilizing rumination as a response to negative events or emotions are more likely to experience a depressive episode than nondepressed individuals who used other emotion regulation strategies (e.g. distraction; Just & Alloy, 1997). Rumination also has been found to have negative effects on the prognosis of a diagnosis of depression in clinical populations (Kuehner & Weber, 1999).

Self-blame. Self-blame refers to thoughts attributing blame and responsibility to the self regarding the occurrence of negative events (Garnefski & Kraaij, 2006a). Two well established theories account for the role of self-blame in the course of depression: the learned helplessness model of depression (Miller & Seligman, 1975) and Beck's cognitive theory of depression (Beck, 1967).

The learned helplessness theory posits that depressed mood may result from a perceived lack of control over one's life. In a sample of women recently diagnosed with breast cancer, characterological self-blame (e.g. "I'm the kind of person to whom bad things happen") was significantly predictive of depressive symptoms (Bennett, Compas, Beckjord, & Glinder, 2005). Characterological self-blame ascribes blame to one's personal attributes or character. This type of self-blame could elicit feelings of lack of

control, as personality is considered unchangeable. This is consistent with the learned helplessness model of depression.

The cognitive theory of depression is essentially a diathesis-stress model of depression, in which it is proposed that stable, cognitive structures, or latent schemas, predispose vulnerable individuals to depressed mood. Schemas are defined as “stored bodies of knowledge that affect the encoding, comprehension and retrieval of information” (Abela & D’Alessandro, 2002, p. 112). Schemas influence attention and information processing, as individuals tend to more readily notice information that is consistent with their established schemas. When depressogenic schemas are activated, individuals have access to “a complex system of negative themes and cognitions that contribute to the onset of a pattern of negative self-referent information processing characterized by systematic errors in thinking” (p. 112). These cognitive processes may lead to the development of a negative cognitive triad, which is defined by Beck as a negative view of the self, world, and future. The negative cognitive triad has a significant role in explaining depression. Jacobs and Joseph (1997) found that in a sample of depressed adolescents, the negative cognitive triad accounted for up to 39% of the variance in depression scores. Self-blame is conceptually similar to the negative cognitive triad (regarding the self), which may explain the mechanism by which self-blame is associated with depression.

Catastrophizing. This emotion regulation strategy refers to dwelling on the worst possible outcome of a negative or stressful situation (Beck, 1976). A hopelessness theory of depression has been proposed to explain the relation between catastrophizing and depressed mood (Abramson, Metalsky, & Alloy, 1989). This theory includes components

from previously established theories of depression, including learned helplessness theory and Beck's cognitive theory. The hopelessness theory of depression proposes that there is a subtype of depression referred to as hopelessness depression. Hopelessness depression is defined by a subset of symptoms of major depressive disorder (i.e. delayed initiation of voluntary responses, sad affect, suicidal ideation, lack of energy, apathy, psychomotor retardation, sleep disturbance, difficulty in concentration, and mood exacerbated negative cognitions; Abramson et al., 1989). This theory of depression identifies three inferential styles that are considered to place individuals at risk for depression: a negative attributional style; consistent catastrophizing of negative life events; and negative self-evaluation. Together, these inferential styles can be conceptualized as a depressogenic inferential style. These risk factors, or diatheses, coupled with negative life events, may result in hopelessness depression. Specifically, catastrophizing has been found to be significantly related to symptoms of depression in a sample of seven- and 13-year-olds, even after controlling for anxiety (Noël, Francis, Williams-Outerbridge, & Fung, 2012).

Positive reappraisal. Positive reappraisal refers to thoughts of reframing a negative event positively and in terms of personal growth (Garnefski & Kraaij, 2006a). Gross (2008) proposed a process model of emotion regulation, which can explain the mechanism by which positive reappraisal predicts fewer depressive symptoms. He identified five ways in which people regulate their emotions: situation selection, situation modification, attentional deployment, cognitive change, and response modulation. In situation selection, individuals choose situations that typically evoke positive emotional experiences and avoid situations that evoke negative emotional experiences. Situation modification involves doing something to change a situation in order to produce a more

desirable emotional experience. Both situation selection and situation modification involve altering the situation in order to regulate the emotion experience, and subsequently the emotion response. Attentional deployment, however, is characterized by using internal or external methods to redirect attention in order to mediate an undesirable emotional response. Cognitive change refers to reappraising the significance of an emotional situation in order to elicit a more desirable emotion experience (e.g. positive reappraisal). All of these methods of emotion regulation occur prior to the experience of emotion. Response modulation, on the other hand, refers to actions that reduce the expression of undesirable emotional responses after they have already been experienced.

The process model of emotion regulation explains individuals' vulnerability to depression in terms of regulating one's initial processing of a negative event (Gross, 2002; Ehring, Tuschen-Caffier, Schnulle, Fischer, & Gross, 2010). Antecedent-focused emotion regulation strategies (i.e. strategies applied prior to an emotion response being fully activated), such as positive reappraisal, alter the trajectory of the emotion response such that there is a reduced experiential, behavioral, and physiological reaction. Preventing a full, negative emotion response to a stressful event functions as a buffer against depressed mood.

Perceived Parenting, Emotion Regulation, and Depression

The current study uses a cognitive-behavioral model of depression within a developmental perspective to explain the relation among individuals' perceptions of parenting style, cognitive emotion regulation, and depression. To summarize, early parenting experiences are associated with the creation of cognitive schemas and behaviors. Specifically, negative parent-child interactions may result in distortions (e.g.

self-blame), which are then consolidated into negative cognitive schemas. These fixed patterns persist into adulthood and may predispose individuals to depression or become part of the experience of depression. Therefore, it is reasonable to hypothesize that the effects of parenting on depression may also persist into adulthood.

The Present Study

To date, no study has explored the relation between perceived parenting style, cognitive emotion regulation, and adult depression. The current study seeks to investigate whether perceptions of parenting style are related to adult depression, and whether emotion regulation strategies mediate this relationship.

Hypothesis 1. Authoritarian parenting will be related to higher depression scores, and maladaptive cognitive emotion regulation strategies (i.e. rumination, catastrophizing, self-blame) will mediate this relation.

Hypothesis 2. Authoritative parenting will be related to lower depression scores, and adaptive cognitive emotion regulation strategies (i.e. positive reappraisal) will mediate this relation.

Hypothesis 3. No predictions were made regarding the relation between permissive parenting, emotion regulation, and depression.

Chapter 2: Method

Participants

Data from 302 participants were included in this study (125 males, 177 females). Ages ranged from 18 to 65 ($M = 34.10$, $SD = 10.44$). The participants self-reported ethnicity was as follows: 78.9% Caucasian, 7.0% African American, 5.3% Asian American or Pacific Islander, 5.3% Hispanic, 0.3% Native American, and 2.3% other (e.g. Middle Eastern). In this sample, participants reported their childhood family income: 17.5% below \$25,000; 35.4% between \$25,000 and \$50,000; 34.8% between \$50,000 and \$100,000; 11.6% between \$100,000 and \$250,000; and 0.7% greater than \$250,000. Participants also provided information regarding by whom they were raised: 98.3% of participants reported that they were raised by their mother or female caregiver, and 81.1% indicated that their father or male caregiver was involved in raising them.

Procedures

Participants were recruited through Amazon Mechanical Turk (MTurk). This website is an open, online marketplace where requesters post tasks, such as surveys or online searches, for workers to complete. According to a recent study, MTurk participants are somewhat more demographically diverse than other Internet samples and significantly more diverse than the traditional university population (Buhrmester, Kwang, & Gosling, 2011). This study also found that data obtained via MTurk is at least as reliable as those collected via traditional methods. These authors observed that overall, the absolute levels of mean alphas were in an acceptable range (i.e. $\alpha > .70$). In addition, test-retest reliability was high and comparable to traditional methods (i.e. $r > .80$).

MTurk workers are compensated monetarily, but the amount paid is typically small (e.g. \$0.10 for a 10-minute task). However, Buhrmester and colleagues (2011) found that MTurk workers typically participated in online studies for reasons other than monetary compensation, such as enjoyment. They also discovered that lower compensatory rates did not affect data quality. Other studies have found that MTurk users complete online surveys in order to supplement their income (Paolacci, Chandler, & Ipeirotis, 2010). Participants in the current study were paid \$1.00 for completing an online survey, which included questions regarding a participant's demographic information, perceptions of how they were parented, emotion regulation strategies, and current symptoms of depression.

Measures

Perceived Parenting. The *Parental Authority Questionnaire (PAQ)* was developed by Buri (1991) to reflect Baumrind's (1971) conceptualization of the following parenting styles: authoritarian, authoritative, and permissive. The PAQ consists of three subscales reflecting these parenting constructs with 10 items for each subscale (30 items total). Participants were asked to report their perceptions of how they were parented as a child. Each of the 30 items were asked separately in reference to the participants' mother/female caregiver (PAQ-M) and father/male caregiver (PAQ-F), if applicable. Responses to each item are made using a 5-point Likert scale, ranging from *strongly disagree* (1) to *strongly agree* (5). Sample items include: "Even if her children didn't agree with her, my mother felt that it was for our own good if we were forced to conform to what she thought was right" (authoritarian subscale); "As I was growing up, once family policy had been established, my father discussed the reasoning behind the

policy with the children in the family” (authoritative subscale); and “While I was growing up my mother felt that in a well-run home the children should have their way in the family as often as the parents do” (permissive subscale). Buri (1991) found that the PAQ demonstrated adequate test-retest reliability, internal consistency reliability, discriminant-related validity, and criterion-related validity. Internal consistency for each of the subscales in the present study was acceptable ($\alpha = .84$ for mother’s authoritarianism, $\alpha = .93$ for father’s authoritarianism, $\alpha = .93$ for mother’s authoritativeness, $\alpha = .92$ for father’s authoritativeness, $\alpha = .86$ for mother’s permissiveness, and $\alpha = .84$ for father’s permissiveness).

Emotion Regulation. The *Cognitive Emotion Regulation Questionnaire (CERQ)* is a 36-item measure of cognitive emotion regulation strategies (Garnefski, Kraaij, & Spinhoven, 2001). This measure is divided into nine subscales: self-blame, acceptance, rumination, positive refocusing, refocus on planning, positive reappraisal, putting into perspective, and catastrophizing. Garnefski and Kraaij (2006) found that four of these subscales were significantly related to symptoms of depression: self-blame ($B = .25, p < .001$), rumination ($B = .28, p < .001$), positive reappraisal ($B = -.35, p < .001$), and catastrophizing ($B = .29, p < .001$). In this scale, self-blame refers to thoughts of blame on oneself; rumination refers to persistent thoughts associated with stressful or negative events; positive reappraisal refers to reconceptualizing the negative event in terms of personal growth; and catastrophizing refers to thoughts that emphasize the stress of the event. The present study is interested in depression as a dependent variable, and thus participants were only asked to report on these four subscales. Sample items include: “I feel that I am the one who is responsible for what has happened” (self-blame); “I often

think about how I feel about what I have experienced” (rumination); “I think I can learn something from the situation” (positive reappraisal); and “I often think that what I have experienced is the worst that can happen to a person” (catastrophizing).

Participants were asked to indicate the extent to which each statement was true of them when they faced a stressful or negative event. Responses to each item are made using a 5-point Likert scale, ranging from *almost never* (1) to *almost always* (5). The four items within each subscale were summed into a total score, with higher scores indicating that the participant typically utilized that emotion regulation strategy. Garnefski and Kraaij (2006) reported that reliability for the CERQ is acceptable. Internal consistency for each of the four subscales in the present study was good ($\alpha = .80$ for self-blame, $\alpha = .78$ for rumination, $\alpha = .81$ for positive reappraisal, and $\alpha = .79$ for catastrophizing).

Depressive Symptoms. The *Center for Epidemiologic Studies Depression Scale (CES-D)* is a 20-item measurement of depression (Radloff, 1977). This scale is designed to measure depression in nonclinical, community populations. A 4-point Likert scale is utilized to assess the frequency of experiencing depression symptoms during the past week (0 = *rarely*, 1 = *some of the time*, 2 = *moderate amount of time*, and 3 = *all of the time*). The scale includes four positively worded items (e.g. “I felt hopeful”) and 16 negatively worded items (e.g. “I felt lonely”). The positive items are reverse coded, and all items are summed into a total score that range from 0 (no depressive symptoms) to 60 (severe depressive symptoms). A score greater than 16 is indicative of depression. In the present study, the CES-D demonstrated high internal consistency ($\alpha = .92$).

Analytic Strategy

The current study sought to explore the relation between perceived parenting and reported depressive symptoms in adulthood and whether emotion regulation mediated this relation. Following the procedures established by Baron and Kenny (1986), the following steps were completed in order to test for mediation. First, a simple regression was performed to determine whether perceived parenting predicted depression. Second, a simple regression was completed to determine the direct effect of perceived parenting on emotion regulation. Third, a multiple regression was performed with perceived parenting predicting depression after removing the effects of emotion regulation. Fourth, a multiple regression was completed with emotion regulation as a predictor of depression, controlling for the effects of perceptions of parenting. Partial or full mediation is supported if the variance from perceived parenting to the depression is significantly reduced or eliminated, respectively. An analysis of mediation was also completed using PROCESS software (Hayes, 2012). Finally, a Sobel test (Sobel, 1982) was conducted in order to test the significance of the mediation effect.

Chapter 3: Results

Preliminary Analyses

Descriptive Statistics and Correlations. Means and standard deviations were calculated for all measures (Table 1). Distributions of each measure were examined, and all scores were within normal range (absolute values of skewness ranged from .10 to .83). Bivariate correlations between study variables (Table 2) revealed that age was significantly and positively correlated with maternal authoritarian parenting, and significantly and negatively correlated with maternal authoritative and permissive parenting. Age was also significantly and negatively correlated with the emotion regulation strategy, rumination, and depressive symptoms. Small but significant correlations between socioeconomic status and positive reappraisal, catastrophizing, and depression also emerged.

For both mothers and fathers, authoritarian parenting was negatively and moderately correlated with authoritative and permissive parenting. In addition, maternal and paternal authoritarian, authoritative, and permissive parenting was positively and moderately correlated. Maternal and paternal permissive parenting were significantly correlated with catastrophizing and depression, respectively. In addition, maternal authoritative parenting was significantly and positively correlated with positive reappraisal.

As expected, the measured emotion regulation strategies, self-blame, catastrophizing, rumination, and positive reappraisal, were moderately correlated. The negative emotion regulation strategies (i.e. self-blame, catastrophizing, rumination) were positively correlated with one another, while positive reappraisal was negatively

correlated with the negative emotion regulation strategies. Consistent with other studies (e.g. Garnefski & Kraaj, 2006), emotion regulation strategies were moderately correlated with reported symptoms of depression: self-blame, catastrophizing, and rumination were positively correlated with depression symptoms, and positive reappraisal was negatively correlated with depressive symptoms.

Table 1

Means and Standard Deviations for Measures of Perceived Parenting, Emotion Regulation, and Depression

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Range</i>
PAQ-M (authoritarian)	297	34.12	7.96	13-50
PAQ-M (authoritative)	297	31.81	8.81	10-50
PAQ-M (permissive)	297	23.65	7.07	10-48
PAQ-F (authoritarian)	245	35.94	8.85	11-50
PAQ-F (authoritative)	245	29.46	8.78	10-50
PAQ-F (permissive)	245	23.49	7.21	9-46
CERQ (self-blame)	302	12.39	2.88	4-20
CERQ (positive reappraisal)	302	14.28	2.97	6-20
CERQ (rumination)	302	13.13	3.23	4-20
CERQ (catastrophizing)	302	9.58	3.26	4-19
CES-D	302	15.75	10.71	0-45

PAQ = Parental Authority Questionnaire; CERQ = Cognitive Emotion Regulation Questionnaire; CES-D = Center for Epidemiological Studies Depression Scale.

Table 2

Bivariate Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	-												
2. SES	-.05	-											
3. MPAQ-A	.12*	.002	-										
4. MPAQ-F	-.17**	.09	-.50**	-									
5. MPAQ-P	-.15*	-.04	-.62**	.40**	-								
6. PPAQ-A	-.02	-.003	.53**	-.27**	.24**	-							
7. PPAQ-F	-.12	.07	-.30**	.57**	.25**	-.55**	-						
8. PPAQ-P	-.07	-.03	-.31**	.24**	.50**	-.61**	.39**	-					
9. CERQ-SB	-.10	-.11	-.003	-.10	.05	.01	-.02	.09	-				
10. CERQ-PR	.07	.12*	.01	.13*	.02	-.05	.10	-.01	-.12*	-			
11. CERQ-R	-.22**	-.08	.02	.02	.01	-.05	.08	.13	.40**	-.01	-		
12. CERQ-C	-.09	-.20**	-.01	.004	.20**	.05	.01	.24**	.39**	-.22**	.48**	-	
13. CES-D	-.22**	-.18**	-.08	-.05	.20**	.07	-.07	.13*	.42**	-.31**	.41**	.53**	-

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

SES = Socioeconomic status; MPAQA = Maternal authoritarian parenting; MPAQF = Maternal authoritative parenting; MPAQP = Maternal permissive parenting; PPAQA = Paternal authoritarian parenting; PPAQF = Paternal authoritative parenting; PPAQP = Paternal permissive parenting; CERQ-SB = Self-blame; CERQ-PR = Positive reappraisal; CERQ-R = Rumination; CERQ-C = Catastrophizing; and CES-D = Depression score.

Main Effects.

Age. An Analysis of Variance (ANOVA) was completed in order to determine whether perceived parenting, emotion regulation, and depression scores varied with a participant's age. Depression scores decreased with age, $F(1, 291) = 14.714, p < .001$. Participants' utilization of rumination as an emotion regulation strategy also decreased with age, $F(1, 291) = 15.046, p < .001$. Older participants reported less perceived maternal permissive parenting and authoritative parenting, $F(1, 286) = 6.639, p = .01$ and $F(1, 286) = 8.215, p = .004$, respectively, and more maternal authoritarian parenting, $F(1, 286) = 4.295, p = .04$. Age was unrelated to paternal parenting.

Gender. *T*-tests were performed to examine gender differences in perceived parenting, emotion regulation, and depression. Men reported higher instances of maternal authoritative parenting, $t(295) = 2.43, p = .02$, and paternal authoritarian parenting, $t(243) = 2.65, p = .01$, than women. Women indicated that they more frequently utilized catastrophizing, $t(300) = -1.97, p = .05$, and rumination, $t(300) = -4.02, p < .001$, as emotion regulation strategies. Female participants also reported significantly more symptoms of depression than males, $t(300) = -2.03, p = .04$.

SES. An ANOVA and post-hoc Bonferroni test were used to examine whether there were differences in socioeconomic status levels and perceived parenting, emotion regulation, and depression. There was a main effect for socioeconomic status and depression, $F(4, 297) = 4.60, p = .001$, indicating that participants whose childhood family income was between \$0 and \$25,000 reported significantly more depression symptoms ($M = 18.34$) than participants whose childhood family income was between \$50,000 and \$100,000 ($M = 12.54$), $p = .01$.

In addition, participants whose childhood family income was between \$25,000 and \$50,000 ($M = 17.99$) reported significantly more depression symptoms than participants whose childhood family income was between \$50,000 and \$100,000, $p = .002$. The emotion regulation strategy, catastrophizing, was found to be significantly related to socioeconomic status, $F(4, 297) = 3.20, p = .01$. Participants who reported a childhood income of less than \$25,000 used catastrophizing as an emotion regulation strategy at a higher incidence ($M = 10.47$) than those with a childhood family income of \$100,000 and \$250,000 ($M = 8.40$), $p = .03$. Socioeconomic status was not related to perceived parenting.

Ethnicity. An Analysis of Variance (ANOVA) and post-hoc Bonferroni test were used to examine the relation between reported ethnicity and the variables explored in this study. Perceived parenting, emotion regulation, and depression did not vary as a function of ethnicity.

Primary Analyses

Hypothesis 1. It was predicted that negative emotion regulation strategies (i.e. rumination, catastrophizing, and self-blame) would mediate the relationship between authoritarian parenting and depression. According to the precepts established by Baron and Kenny (1986), the first criterion for testing mediation is to determine authoritarian parenting significantly predicts depression. Neither maternal nor paternal authoritarian parenting were significantly related to depression. Since the first criterion of mediation was not met, further analyses were not pursued.

Hypothesis 2. It was hypothesized that positive reappraisal would mediate the relation between authoritative parenting and depression. Maternal and paternal

authoritative parenting was found to be unrelated to depression, so further mediation analyses were not completed. However, as maternal authoritative parenting and positive reappraisal were significantly correlated, moderation analysis was performed to further explore this relationship. A hierarchical regression was performed in order to determine whether positive reappraisal moderated the relation between maternal authoritative parenting and depression (Table 3).

As main effects of gender and age were found for authoritative parenting and depression, and a main effect of socioeconomic status for depression also emerged, these variables were also entered into the model as covariates at Step 1. At Step 2, maternal authoritative parenting and positive reappraisal were entered as predictors of depression symptoms. The interaction term (maternal authoritative parenting X positive reappraisal) was created and then entered into the model at Step 3. Both independent variables and the interaction term were standardized prior to being entered into the model (Aiken & West, 1991).

At Step 2, the main effect of positive reappraisal on depression was significant, $t(282) = -5.17, p < .001$, such that increased utilization of positive reappraisal as an emotion regulation strategy was associated with lower reports of depression symptoms. However, the main effect of maternal authoritative parenting on depression was nonsignificant, $t(282) = -.456, p = ns$. At Step 3, maternal authoritative parenting was not significantly predictive of depression scores, $t(281) = -.71, p = ns$. Positive reappraisal remained a significant predictor of depression, $t(281) = -4.98, p < .001$. The interaction of maternal authoritative parenting and positive reappraisal on depression was significant, $t(281) = 2.43, p = .02$. Furthermore, R^2 increased between Steps 2, $R^2 = .41, p < .001$, and

Step 3, $R^2 = .43$, $p = .02$, indicating that the proportion of variance explained by this model significantly increased when the interaction term was entered at Step 3.

Table 3

Hierarchical Regression on Maternal Authoritative Parenting, Positive Reappraisal, and Depression

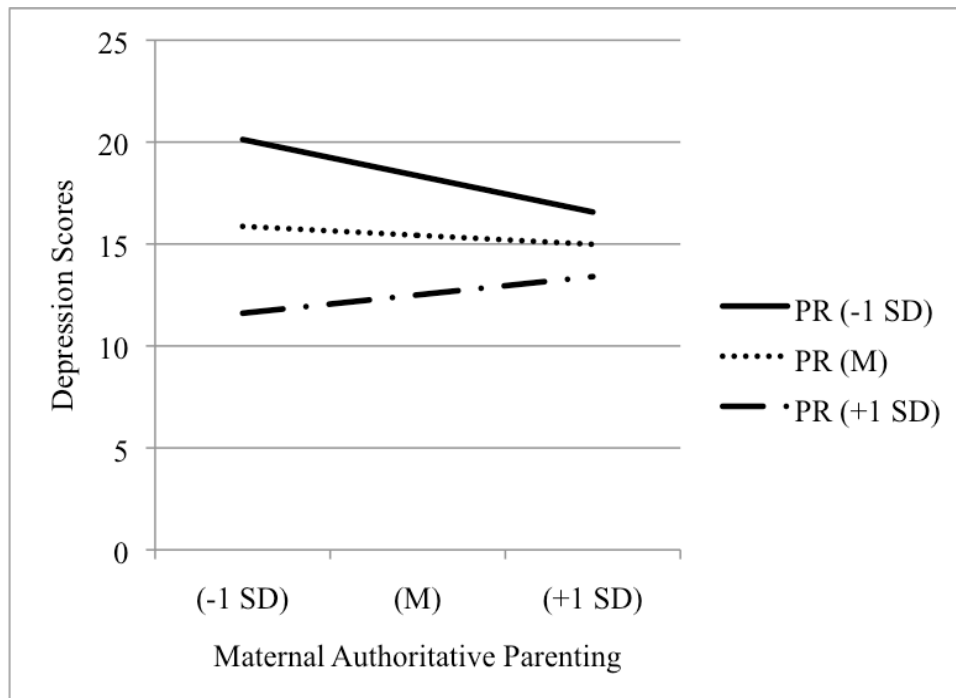
	ΔR^2	B	SE	β
Step 1	.083**			
Age		-.222**	.057	-.220
Gender		-1.799	1.224	-.084
SES		.1869*	.654	-.164
Step 2	.084**			
Age		-.207**	.056	-.205
Gender		-2.122	1.188	-.099
SES		-1.363*	.633	-.120
Maternal Authoritative Parenting		-.271	.595	-.026
Positive Reappraisal		-3.037**	.587	-.288
Step 3	.017*			
Age		-2.06**	.055	-.204
Gender		-2.107	1.177	-.099
SES		-1.327*	.628	-.116
Maternal Authoritative Parenting		-.423	.593	-.040
Positive Reappraisal		-2.914**	.585	-.277
Maternal Authoritative Parenting X Positive Reappraisal		1.329*	.548	.132

* p < .05

** p < .001

The two-way Maternal Authoritative Parenting X Positive Reappraisal interaction was probed by testing the simple slopes for significance as discussed by Aiken and West (1991). The relation between maternal authoritative parenting was significant when positive reappraisal scores was one standard deviation below the mean, $B = -.20$, $t(281) = -2.07$, $p = .04$. The relation between maternal authoritative parenting and depression was nonsignificant, however, when positive reappraisal was at the mean and one standard deviation above the mean, $B = -.05$, $t(281) = -.74$, $p = .46$ and $B = .10$, $t(281) = 1.18$, $p = .24$, respectively. The simple slopes are plotted in Figure 1.

Maternal Authoritative Parenting as a Predictor of Depression Moderated by Positive Reappraisal



PR = Positive Reappraisal

Figure 1. The simple slopes of maternal authoritative parenting and depression scores at varying levels of the cognitive emotion regulation strategy, positive reappraisal.

Hypothesis 3. No predictions were made regarding the relation between permissive parenting and depression. However, as there were significant correlations among permissive parenting, the emotion regulation strategy of catastrophizing, and depression, a mediation analysis was performed (Baron & Kenny, 1986).

Maternal permissive parenting. In Step 1 of the mediation model, the regression of maternal permissive parenting on depression scores, ignoring the mediator, catastrophizing, was significant, $\beta = .16$, $t(283) = 2.88$, $p = .004$. Maternal permissive parenting also uniquely explained a significant proportion of the variance in depression scores, $R^2 = .33$, $F(1, 283) = 8.69$, $p < .001$. Step 2 showed that the regression of maternal permissive parenting on the mediator was also significant, $\beta = .18$, $t(283) = 3.18$, $p = .002$. Step 3 of the mediation process showed that the mediator, controlling for maternal permissive parenting, was significantly predictive of depressive symptoms, $\beta = .48$, $t(282) = 9.30$, $p < .001$. Step 4 of the analysis revealed that maternal permissive parenting, controlling for the mediator, was no longer significantly related to depression, $\beta = .08$, $t(282) = 1.51$, $p = ns$. Age, gender, and SES were entered as covariates at each step. The relationship between maternal permissive parenting and depression was mediated by catastrophizing. As Figure 5 indicates, the standardized regression coefficient between maternal permissive parenting and depression decreased significantly when controlling for catastrophizing.

Further analysis using Process (Hayes, 2012) indicated that the lower confidence level for the indirect effect was .04, and the upper confidence level for the indirect effect was .24. Mediation is indicated when the confidence interval did not include zero. A

Sobel Test also was also completed and found full mediation for the model ($z = 3.02$, $SE = .04$, $p = .002$).

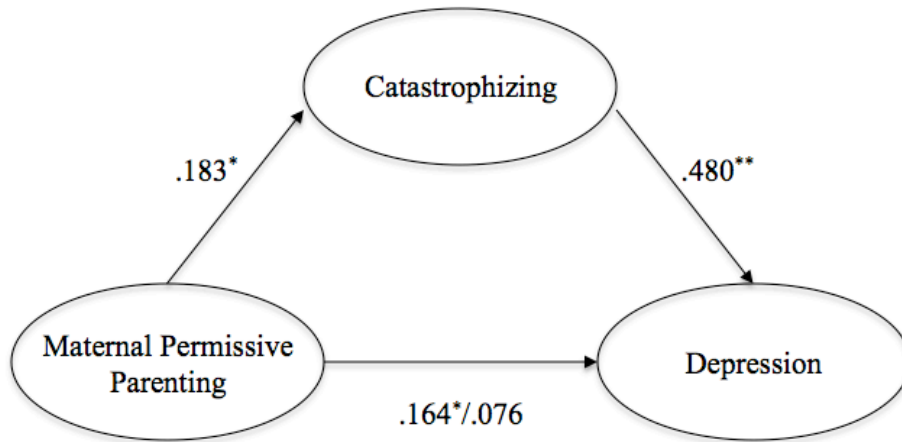


Figure 2. Full Mediation Model of Maternal Permissive Parenting, Emotion Regulation, and Depression

Paternal permissive parenting. Similarly, paternal permissive parenting was found to be a related to depression. At Step 1, a simple regression was completed to confirm that paternal permissive parenting significantly predicted depression. However, with age, gender, and SES entered as covariates, paternal permissive parenting did not significantly predict depression, $\beta = .10$, $t(234) = 1.61$, $p = ns$. Since the first criterion of Baron and Kenny (1986) was not met, further analysis was not pursued.

Chapter 4: Discussion

The purpose of the current study was to explore the relations between perceptions of parenting, cognitive emotion regulation strategies, and adult depression. The findings of this study provided insights regarding the predictions made: the relation between authoritarian parenting and depression would be mediated by negative emotion regulation styles (e.g. self-blame, rumination, catastrophizing), and authoritative parenting would be mediated by positive reappraisal. The effects of age, gender, socioeconomic status, and ethnicity were also considered.

In the current study, depression scores decreased with age. A study by Jorm, Windsor, Dear, Anstey, Christenson, and Rodgers (2005) reported similar findings: depression scores decreased between ages 20 and 64. Women were found to more frequently use catastrophizing and rumination as emotion regulation strategies. Consistent with the literature, women reported more depression symptoms than men (Hankin, Abramson, Moffit, Silva, McGee, & Angell, 1998; Kessler et al., 2005). Significant differences between socioeconomic status and depression also emerged, such that participants who were raised in lower income households reported significantly more depression symptoms than participants raised in middle and upper income households. Participants raised in lower income households also reported using catastrophizing as an emotion regulation strategy more frequently than participants raised in higher income households. These findings are consistent with other studies (e.g. Lorant, Deliège, Eaton, Robert, Philippot, & Ansseau, 2003), which support socioeconomic inequality in depression such that low socioeconomic individuals are significantly more at risk for developing a depressive disorder. Although minorities are consistently found to be more

at risk for depression than Caucasians (e. g. Plant & Sachs-Ericsson, 2004), depression scores did not vary as a function of ethnicity in the current study. This could be attributed to the predominance of Caucasians in the sample.

In the current study, authoritarian parenting was found to be unrelated to depression or emotion regulation strategies. This is inconsistent with the existing literature, which supports a relation between the authoritarian parenting style and depression in children and adults (Barber, 1996; Milevsky et al., 2007; Manzeske & Stright, 2009). In addition, longitudinal studies of adolescent populations have found that the effects of authoritarian parenting are stable over time (Lamborn et al., 1991; Steinberg et al., 1994), which lends support to the initial prediction that the effects of authoritarian parenting might persist into adulthood. However, while there is limited research concerning the influence of perceptions of parenting on adult depression and emotion regulation, the existing literature states that parenting styles high in psychological control are predictive of negative emotion regulation strategies in adulthood (see Manzeske & Stright, 2009). One possible explanation for the discrepancy in the findings from the current study is that a cohort effect emerged in the sample. The authoritarian parenting style was more consistent with parenting norms for participants above 40. In addition, for older participants, it may be less socially acceptable to discuss issues of mental health, which may have influenced older participants to minimize their reporting of depression symptoms. This was reflected in the findings of the study, such that older participants reported higher instances of authoritarian parenting as children and less depression symptoms.

Although the predicted relation between authoritative parenting and depression

did not emerge, a significant interaction between positive reappraisal and maternal authoritative parenting was found. Simple slopes analysis indicated that for participants low on positive reappraisal, the relation between maternal authoritative parenting and depression was significant and negative. However, for participants who reported more frequent use of positive reappraisal as an emotion regulation strategy, the relation between maternal authoritative parenting and depression was no longer significant. These findings indicate that maternal authoritative parenting may be functioning as a buffer when individuals less frequently utilize adaptive coping strategies. These results are consistent, in part, with other literature that states that maternal authoritative parenting is associated with decreased symptoms of depression (Radziszewska et al., 1996; Milevsky, & Schlechter, & Netter, & Keehn, 2007). The lack of a significant relation between authoritative parenting and depression could be attributed to a sampling error, as a positive relation between maternal authoritative parenting and depression is not supported by the literature.

Maternal and paternal permissive parenting were significantly related to depression in this sample. Participants who reported being raised by permissive parents also reported being more depressed. While research studies investigating the relation between permissive parenting and adult depression are limited, the available literature on permissive parenting and depression in children and adolescents supports that permissive parenting is associated with poor psychological outcomes. In a sample of adolescents, Milevsky and colleagues (2007) found that permissive parenting was significantly different from authoritative parenting in relation to depression, with authoritative parenting predicting low depression scores. In addition, adolescents who reported being

parented by permissive mothers and fathers reported high depression scores second only to neglectful parents. The deleterious consequences of permissive parenting, including depressed mood, also increase over time (Lamborn et al., 1991; Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994). This pattern could explain why the findings from previous studies on permissive parenting and depression were mixed but a significant relation emerged in adulthood.

An important contribution of the current study is that the mediating role of cognitive emotion regulation strategies in the relation between parenting and adult depression was investigated. The relation between maternal permissive parenting and adult depression was fully mediated by catastrophizing as an emotion regulation strategy. These findings contribute to explaining why this parenting style increases individuals' risk for depression in adulthood. Parenting styles characterized by low control result in parents who do not teach their young children how to effectively respond to negative emotional arousal. Since these children do not learn to effectively regulate their emotions through mechanisms facilitated by parenting, such as social referencing, they develop alternative responses to emotional arousal that may be maladaptive. When this child matures, they may develop an emotion response style characterized by catastrophizing, as their caregiver did not teach them how to reframe a negative event in order to reduce emotional arousal. In the current study, the emotion regulation strategies catastrophizing and positive reappraisal were negatively and moderately correlated, which supports the proposed explanation for why permissive parenting affects emotion regulation and depression scores in adulthood.

Limitations of this Study

MacKinnon, Henderson, and Andrews (1993) discussed a general limitation in the parenting literature in relation to depression: there is a long period of time between exposure to the risk factor (i.e. parenting) and the manifestation of psychopathology. This limitation is particularly salient in the current study, as the participants, some of whom were in their 60s, were asked to report their perceptions of how they were parented as children. In addition, the participants' depressive symptoms may have influenced their perceptions of how they were parented as children, as noted by Zemore and Rinholm (1989). In cross-sectional research, such as the present study, the bidirectionality of outcomes related to parent-child relationships cannot be controlled for. As parenting permeates all aspects of a child's life, parenting is also associated with a number of other risk factors (e.g. genetics, temperament) that may account for the relation between perceptions of parenting and adult depression. Lastly, the interactive or indirect effects between mother and father's parenting behavior were not addressed in this study. In homes that have two parents, there are unique contributions of individual parenting behaviors from mothers and fathers, which may mitigate the negative effects of one parents' parenting style (Martin, Ryan, & Brooks-Gunn, 2007). This may account for the lack of differences noted in the current study.

Conclusion

Perception of parenting style was significantly related to adult depression in this sample. Cognitive emotion regulation strategies were also found to be associated with perceptions of parenting and depression. The findings from the current study indicate that there may be an enduring relation between parenting, emotion regulation, and depression.

This is the beginning step in understanding adult depression from a developmental perspective. Longitudinal studies to examine the persistent effects of parenting on depression from adolescence into adulthood are the next step in better understanding the etiology of depression.

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APPENDIX A

LETTER OF INFORMED CONSENT

Dear Participant,

I am a graduate student under the direction of Dr. Paul Miller in the Division of Social and Behavioral Sciences at Arizona State University at West Campus.

I am interested in individual's perceptions of parenting practices, cultural values, and mood. I am inviting your participation, which will involve completing an online questionnaire for approximately 25 minutes. In return for your participation, you will be paid \$1.00.

Your participation in this study is voluntary. You can skip questions if you wish. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. You must be 18 years old or older to participate in this study. Although there is no direct benefit of participating in this study, there is the potential for you to gain a better understanding of the process of conducting psychological research. There are no foreseeable risks or discomforts to your participation.

The responses you provide in this study will be anonymous—that is, the researchers can in no way link the responses you provide in the study to any personally identifying information. The only record of your participation will be in the form of your randomly generated study completion code, which will allow MTurk to process your payment upon study completion. The results of this study may be used in reports, presentations, or publications but your name will not be known. All data collected in this study will be reported in aggregate form.

If you have any questions concerning the research study, please contact the researcher at: Ivanhuis@asu.edu. If you have any questions about your rights as participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board at Arizona State University, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788.

Return of this questionnaire will be considered your consent to participate.

Sincerely,

Lauren van Huisstede
Graduate Student
Division of Social and Behavioral Sciences
Arizona State University at West Campus
4701 West Thunderbird Road
Phoenix, Arizona 85069
Ivanhuis@asu.edu

APPENDIX B

DEMOGRAPHIC INFORMATION QUESTIONNAIRE

1. Age: _____
2. Gender:
 - a. Male
 - b. Female
 - c. Other
3. Ethnicity
 - a. African American
 - b. Asian/Pacific Islander
 - c. Caucasian
 - d. Hispanic/Latin American
 - e. Native American
 - f. Other (please describe): _____
4. Socioeconomic Status: Please indicate the socioeconomic status of the household in which you were raised.
 - a. \$0-\$25,000
 - b. \$25,000-\$50,000
 - c. 50,000-\$100,000
 - d. \$100,000-\$250,000
 - e. \$250,000 or more
5. Number of Siblings
 - a. 0
 - b. 1
 - c. 2
 - d. 3
 - e. 4 or more

APPENDIX C
THE PARENTAL AUTHORITY QUESTIONNAIRE
(PAQ-MOTHER)

Instructions: Please answer the following questions about how you were parented. If you were not parented by your biological parents, please answer the questions about your female and male caregiver, if applicable.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree

1. While I was growing up my mother felt that in a well-run home the children should have their way in the family as often as the parents do.
2. Even if her children didn't agree with her, my mother felt that it was for our own good if we were forced to conform to what she thought was right.
3. Whenever my mother told me to do something as I was growing up, she expected me to do it immediately without asking any questions.
4. As I was growing up, once family policy had been established, my mother discussed the reasoning behind the policy with the children in the family.
5. My mother has always encouraged verbal give-and-take whenever I have felt that family rules and restrictions were unreasonable.
6. My mother has always felt that what her children need is to be free to make up their own minds and to do what they want to do, even if this does not agree with what their parents might want.
7. As I was growing up my mother did not allow me to question any decision she had made.
8. As I was growing up my mother directed the activities and decisions of the children in the family through reasoning and discipline.
9. My mother has always felt that parents should use more force in order to get their children to behave the way they are supposed to.
10. As I was growing up my mother did not feel that I needed to obey rules and regulations of behavior simply because someone in authority had established them.
11. As I was growing up I knew what my mother expected of me in my family, but I also felt free to discuss those expectations with my mother when I felt that they were unreasonable.
12. My mother felt that wise parents should teach their children early just who is boss in the family.
13. As I was growing up, my mother seldom gave me expectations and guidelines for my behavior.
14. Most of the time as I was growing up my mother did what the children in the family wanted when making family decisions.

15. As the children in my family were growing up, my mother consistently gave us direction and guidance in rational and objective ways.
16. As I was growing up my mother would get very upset if I tried to disagree with her.
17. My mother feels that most problems in society would be solved if parents would not restrict their children's activities, decisions, and desires as they are growing up.
18. As I was growing up my mother let me know what behavior she expected of me, and if I didn't meet those expectations, she punished me.
19. As I was growing up my mother allowed me to decide most things for myself without a lot of direction from her.
20. As I was growing up my mother took the children's opinions into consideration when making family decisions, but she would not decide for something simply because the children wanted it.
21. My mother did not view herself as responsible for directing and guiding my behavior as I was growing up.
22. My mother had clear standards of behavior for the children in our home as I was growing up, but she was willing to adjust those standards to the needs of each of the individual children in the family.
23. My mother gave me direction for my behavior and activities as I was growing up and she expected me to follow her direction, but she was always willing to listen to my concerns and to discuss that direction with me.
24. As I was growing up my mother allowed me to form my own point of view on family matters and she generally allowed me to decide for myself what I was going to do.
25. My mother has always felt that most problems in society would be solved if we could get parents to strictly and forcibly deal with their children when they don't do what they are supposed to as they are growing up.
26. As I was growing up my mother often told me exactly what she wanted me to do and how she expected me to do it.
27. As I was growing up my mother gave me clear direction for my behaviors and activities, but she was also understanding when I disagreed with her.
28. As I was growing up my mother did not direct the behaviors, activities, and desires of the children in the family.
29. As I was growing up I knew what my mother expected of me in the family and she insisted that I conform to those expectations simply out of respect for her authority.
30. As I was growing up, if my mother made a decision in the family that hurt me, she was willing to discuss that decision with me and to admit it if she had made a mistake.

APPENDIX D
THE PARENTAL AUTHORITY QUESTIONNAIRE
(PAQ-FATHER)

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree

1. While I was growing up my father felt that in a well-run home the children should have their way in the family as often as the parents do.
2. Even if his children didn't agree with him, my father felt that it was for our own good if we were forced to conform to what he thought was right.
3. Whenever my father told me to do something as I was growing up, he expected me to do it immediately without asking any questions.
4. As I was growing up, once family policy had been established, my father discussed the reasoning behind the policy with the children in the family.
5. My father has always encouraged verbal give-and-take whenever I have felt that family rules and restrictions were unreasonable.
6. My father has always felt that what his children need is to be free to make up their own minds and to do what they want to do, even if this does not agree with what their parents might want.
7. As I was growing up my father did not allow me to question any decision he had made.
8. As I was growing up my father directed the activities and decisions of the children in the family through reasoning and discipline.
9. My father has always felt that parents should use more force in order to get their children to behave the way they are supposed to.
10. As I was growing up my father did not feel that I needed to obey rules and regulations of behavior simply because someone in authority had established them.
11. As I was growing up I knew what my father expected of me in my family, but I also felt free to discuss those expectations with my father when I felt that they were unreasonable.
12. My father felt that wise parents should teach their children early just who is boss in the family.
13. As I was growing up, my father seldom gave me expectations and guidelines for my behavior.
14. Most of the time as I was growing up my father did what the children in the family wanted when making family decisions.
15. As the children in my family were growing up, my father consistently gave us direction and guidance in rational and objective ways.
16. As I was growing up my father would get very upset if I tried to disagree with him.

17. My father feels that most problems in society would be solved if parents would not restrict their children's activities, decisions, and desires as they are growing up.
18. As I was growing up my father let me know what behavior he expected of me, and if I didn't meet those expectations, he punished me.
19. As I was growing up my father allowed me to decide most things for myself without a lot of direction from him.
20. As I was growing up my father took the children's opinions into consideration when making family decisions, but he would not decide for something simply because the children wanted it.
21. My father did not view himself as responsible for directing and guiding my behavior as I was growing up.
22. My father had clear standards of behavior for the children in our home as I was growing up, but he was willing to adjust those standards to the needs of each of the individual children in the family.
23. My father gave me direction for my behavior and activities as I was growing up and she expected me to follow her direction, but she was always willing to listen to my concerns and to discuss that direction with me.
24. As I was growing up my father allowed me to form my own point of view on family matters and he generally allowed me to decide for myself what I was going to do.
25. My father has always felt that most problems in society would be solved if we could get parents to strictly and forcibly deal with their children when they don't do what they are supposed to as they are growing up.
26. As I was growing up my father often told me exactly what he wanted me to do and how he expected me to do it.
27. As I was growing up my father gave me clear direction for my behaviors and activities, but he was also understanding when I disagreed with her.
28. As I was growing up my father did not direct the behaviors, activities, and desires of the children in the family.
29. As I was growing up I knew what my father expected of me in the family and he insisted that I conform to those expectations simply out of respect for his authority.
30. As I was growing up, if my father made a decision in the family that hurt me, he was willing to discuss that decision with me and to admit it if he had made a mistake.

APPENDIX E
THE COGNITIVE EMOTION REGULATION QUESTIONNAIRE
(CERQ)

Directions: Everyone gets confronted with negative or unpleasant events now and then, and everyone responds to them in his or her own way. In the following questions, you are asked to indicate what you generally think when you experience negative or unpleasant events.

1	2	3	4	5
Almost Never	Rarely	Occasionally	Usually	Almost Always

1. I feel that I am the one to blame for it.
2. I am preoccupied with what I think and feel about what I have experienced.
3. I think that I can become a stronger person as a result of what has happened.
4. I think about the mistakes I have made in this matter.
5. I want to understand why I feel the way I do about what I have experienced.
6. I think that basically the cause must lie within myself.
7. I often think that what I have experienced is the worst that can happen to a person.
8. I often think about how I feel about what I have experienced.
9. I often think that what I have experienced is much worse than what others have experienced.
10. I dwell upon the feelings the situation has evoked in me.
11. I think that the situation also has its positive sides.
12. I think I can learn something from the situation.
13. I look for the positive sides to the matter.
14. I keep thinking about how terrible it is what I have experienced.
15. I feel that I am the one who is responsible for what has happened.
16. I continually think how horrible the situation has been.

APPENDIX F

THE CENTER FOR EPIDEMIOLOGIC STUDIES DEPRESSION SCALE

(CES-D)

Directions: For each statement below, check the box that best describes how often you felt or behaved this way during the past week, including today.

0	1	2	3
None of the time	A little of the time	A moderate amount of the time	Most of the time

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 and 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 disliked me.
20. I could not "get going."