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Emotion socialization and psychological distress: The mediating roles of emotion recognition and emotion regulation

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Emotion socialization and psychological distress: The mediating roles of emotion recognition and emotion regulation

by

Madelyne M. Losby

A thesis submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of
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The student author, whose presentation of the scholarship herein was approved by the program of study committee, is solely responsible for the content of this thesis. The Graduate College will ensure this thesis is globally accessible and will not permit alterations after a degree is conferred.

Iowa State University

Ames, Iowa

2019

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ABSTRACT

The strategies parents use when responding to their child's emotions, particularly negative emotions such as anger, fear, and sadness, have been shown to be associated with distress later in life. In addition, both supportive and non-supportive strategies, have been correlated with emotional development, particularly emotion recognition and emotion regulation. These processes comprise, emotional intelligence, which has been linked to psychological distress. Much of the research in this area has been done with children, predominantly preschoolers, and as such, research is needed with older populations, particularly emerging adults (ages 18 to 29), who are within a developmental period where psychological distress is more prevalent. As such, the current study asked emerging adults ($N = 497$) to retrospectively examine the way their parents responded to their negative emotions, and assessed current symptoms related to psychological distress, as well as emotional intelligence (i.e., emotion recognition and emotion regulation). Path analyses were conducted using PROCESS (Hayes, 2013) to explore two parallel mediation models in which emotion recognition and emotion regulation mediated the association between both supportive socialization strategies and non-supportive socialization strategies and psychological distress. The current results support a partial mediation between emotion socialization and distress through emotion recognition and emotion regulation. Importance is derived from the novelty of the study, evidence for the conceptual model, and intervention implications for clinicians with clients. Limitations and future directions are discussed.

CHAPTER 1. INTRODUCTION

There was an acclaimed movie from 2015, *Inside Out*, that gave an inside look of the mind of a girl named Riley. The movie uses the personification of emotions to convey what emotions are, how to recognize them within ourselves, and the impact of our ability to regulate emotions. The way in which people recognize and regulate emotions is a key aspect researched and is commonly referred to as emotional intelligence (Mayer, Salovey, & Caruso, 2002; MacCann & Roberts, 2008). Such abilities are learned in family and social contexts and can thus be negatively affected by problems with attachment, emotional expressiveness, and general parenting styles (Morris, Silk, Steinberg, Myers, & Robinson, 2007; Zimmermann & Iwanski, 2014). Research in developmental psychology is devoted to this topic, in particular, examining parental practices such as supportive and non-supportive emotion socialization strategies and their association with psychological distress in youth (Eisenberg et al., 1999; Johnson, Hawes, Eisenberg, Kohlhoff, & Dudensy, 2017; Klimes-Dougan, 2007; Teo, Raval, & Jansari, 2017; Rodas, Chavira, & Baker, 2017). Consistent with this, emotion socialization has been linked to the development of emotional intelligence (i.e., recognizing and regulating emotions; Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006; Kafetsios, 2004; Zeidner, Roberts, & Matthews, 2002; Zimmermann & Iwanski, 2014). However, much of this work has been done with early childhood samples. In particular, one study examined a mediation model where emotional competence (or emotional intelligence) mediates the relationship between socialization strategies and adjustment outcomes with preschoolers (Mirabile, 2010). However, the role of these variables (see Figure 1.1) may be especially important for emerging adults (ages 18-29), who are at a time when many of them are moving away from their parents for the first time, and

now they are practicing their skills of emotional intelligence (Hamdi & Iacono, 2014; Zimmermann & Iwanski, 2014). The goal of this research is to fill these gaps in the literature by examining the potential role of emotional intelligence in the association between the socialization process and psychological symptoms in emerging adults.

Emotion Socialization, Emotional Intelligence, and Distress

Emotion socialization, or the strategies used by parents when responding to their child's emotions (i.e., rewarding, punishing, overriding, neglecting and magnifying; Klimes-Dougan et al., 2007), has been found to be linked to their children's adjustment (Eisenberg et al., 1999; Johnson, Hawes, Eisenberg, Kohlhoff, & Dudensy, 2017; Teo, Raval, & Jansari, 2017). Research has found that the unsupportive strategies (i.e., punishing, neglecting, and overriding) in response to negative emotions (anger, fear, and sadness) have the strongest relationship to adjustment (Eisenberg et al., 1999; Klimes-Dougan et al., 2007). One study retroactively examined young adults' perceptions of their emotion socialization from their parents and found that parents' use of punishing and neglecting strategies with negative emotions was positively correlated with self-reported psychological distress (Garside & Klimes-Dougan, 2002). The strategies of punishment, neglect, and magnification when used in response to anger are reported more in youth with internalizing and externalizing problems and the strategy of reward when used with fear, anger, and sadness are reported more in youth without these problems (Klimes-Dougan et al., 2007).

Researchers have found that parental emotion socialization is linked to a child's developing ability of the specific skill called emotion regulation (Bariola, Gullone, & Hughes, 2011; Eisenberg, Cumberland, & Spinrad, 1998), as well as their ability to recognize different emotions (McElwain, Halberstadt, & Volling, 2007). Both emotion regulation and emotion recognition are components of overall emotional intelligence (Mayer, Salovey, &

Caruso, 2002; MacCann & Roberts, 2008). Researchers have found that emotional intelligence is associated with social functioning and adjustment (e.g., Ciarrochi, Heaven & Supavadeepravit, 2008; Elfenbein, Marsh, & Ambady, 2002; Gross & John, 2003). For example, existing research has found that EI modestly predicts lower states of depression, anxiety, and stress, with correlations in the .10 to .30 range (MacCann & Roberts, 2008), and low emotion recognition correlates to higher rates of depression (Taylor & Bagby, 2004).

Whereas the correlations between variables have been established (Mirabile, 2010), the influence of emotional socialization on psychological distress through emotional intelligence has not been thoroughly examined. For example, when parents punish their child's experience of sadness, the children may not learn how to recognize and regulate their sadness in the future. This could impact psychological distress later in life, in the form of symptoms of depression, anxiety, etc. As such, there is a need to address the gap in the literature by examining the potential mediating role of the development of the skill of emotional intelligence on emotion socialization and psychological distress for emerging adults. Figure 1.1 depicts the conceptual model guiding the current study, and a more specific model (that discuss two distinct types of emotional intelligence mediators: emotion recognition, and emotion regulation) will be presented in the next section.

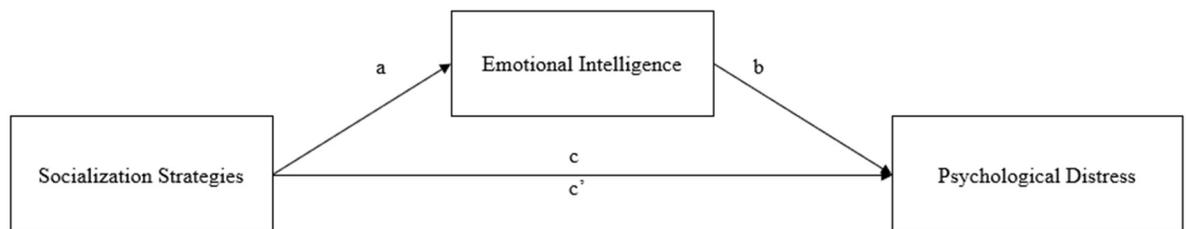


Figure 1.1 *Conceptual Model of variables*

CHAPTER 2. LITERATURE REVIEW

The goal of this research project is to examine the potential mediating role of emotional intelligence in the association between emotion socialization and psychological distress in emerging adults. First is the construct of emotion socialization and its link to psychological distress. The next section describes in detail emotional intelligence and its potential mediating role of the link between emotion socialization and psychological distress. I will also discuss the important phase of life emerging adulthood (ages 18-29) where these emotional processes may be particularly salient. Lastly, I will describe my hypotheses.

Emotion Socialization

Emotion socialization is defined as the process of “teaching children about the emotion itself, its causes, consequences, its expression and regulation” (Eisenberg, Cumberland & Spinrad, 1998, p. 245). In other words, emotion socialization includes the behaviors parents use to orient and model emotions for their children. Studies examining the beginning of the socialization process have found that infants begin recognizing and understanding emotions by imitating their parents’ facial expressions as early as 2.5 months old (Malatesta, Grigoryev, Lamb, Albin, & Culver, 1986). For example, Malatesta et al. followed 111 infants and their mothers from ages 2.5 months to 7.5 months. The researchers measured emotion socialization as the degree to which the infant imitated the mother’s facial expressions (i.e., interest, joy, surprise, sadness, anger, ‘knit brow’, and pain; [consistent with Ekman, 1969]). There were differences across age, with infants displaying a decrease in negative emotions versus an increase in positive emotions over the course of the study. The imitation patterns suggest the start of emotion socialization occurs with observational learning and conditioning of facial expressions of emotions in infants (Malatesta et al., 1986).

Researchers have been discussing the ways that parents may be influencing their child's emotional development for more than 30 years. One key theory is Meta-emotional theory (Gottman, Katz, & Hooven, 1996) which describes the theoretical pathways through which parents and children interact in ways that influence the child's emotional development and outcomes. These pathways include both cognitive and behavioral components and the theory suggests that parenting strategies and responses to child emotions are predicted by cognitive processes, conscious or not, embedded within parents' meta-emotion philosophy. Parental socialization processes, both intentional and unintentional, are likely to impact the child's emotional development (Denham, Bassett, & Wyatt, 2007). For example, using a semi-structured interview with 56 families, Gottman, Katz, & Hooven (1996) asked the parents about their own emotional experiences, and their philosophy around emotional expression. Specifically, conscious feelings, attitudes and behaviors about their child's anger and sadness were identified. Gottman and colleagues (1996) found that positive parent behaviors (e.g., being aware of and talking about emotions when the child is upset or coaching the child to soothe him or herself) were positively associated with both child outcomes and children's ability to regulate emotions. Outcomes included child academic achievement (e.g., math, reading recognition and comprehension and child-peer interactions), and fewer behavior problems like hyperactivity, anti-social behaviors, hostility, and aggression (Gottman, Katz, & Hooven, 1996). Children's emotion regulation was measured by an uncommon measure that asked parents about the instances in which they had to down regulate the child to reduce the child's level of activity (Katz & Gottman, 1986). Gottman and colleagues measured parenting (e.g. warmth and scaffolding-praising), which includes structured, responsive, and affectionate behaviors. For example, a parent with an

authoritative parenting style would provide their child with directions beforehand and wait until the child did something right to enthusiastically praise them.

Around the same time as Gottman's Meta-Emotional theory, other researchers have also discussed the importance of parenting factors on children's emotional development (while Gottman uses the term scaffolding-praising, and Eisenberg uses the term coaching). Most notably, Nancy Eisenberg suggested that certain family factors (e.g., discussion of emotion; emotion expressiveness within the family) and, specifically, parental reactions to children's emotions play a huge role in their child's emotional development (Eisenberg, Cumberland & Spinrad, 1998). When children have emotional reactions to day-to-day events (e.g., car rides, getting ready for bed) and more stressful situations (e.g., car accidents, death in the family), the socialization occurs when the parents respond to their child's emotions. Such discussions naturally involve labeling the emotion and describing the situation that caused the emotion (Denham, Mitchell-Copeland, Strandberg, Auerbach, & Blair, 1997). These discussions have an impact on how children build their understanding of emotions, both within themselves and of others, and help build an appropriate way to regulate their own emotions (e.g., which emotions should be expressed or not, and when; Fabbes et al., 2002; Gottman, Katz, & Hoover, 1997). Conversely, parents who over or under express emotions themselves and utilize more extreme socialization strategies impact their child's emotional development negatively, so that when children are in emotional situations, they use emotion dysregulation (discussed in detail later) instead of emotion regulation (Denham et al., 1997).

Even though parents' responses to children's emotions may be part of their general parenting style, all emotion-related parenting behaviors are typically thought of as part of emotion socialization (Morris, Silk, Steinberg, Sessa, Avenevoli, & Essex, 2002).

Researchers have started to expand upon the types of parental reactions to their children's emotions by distinguishing between supportive and non-supportive strategies (Fabes, Poulin, Eisenberg, & Madden-Derdich, 2002).

Socialization Strategies

While researchers tend to use differing nomenclature, the general literature suggests that parental responses to emotions of their children can be categorized in terms of supportive and non-supportive socialization strategies (Fabes et al., 2002; Guo, Mrug, & Knight, 2017).

Supportive Strategies. Supportive strategies foster healthy emotional development through emotion and problem focused strategies and encouraging the expression of emotions (Eisenberg, Cumberland & Spinrad, 1998). Specifically, researchers have studied strategies such as *rewarding* (such as providing comfort and empathizing) and *magnifying* (matching the expression of the child) emotions (Cunningham, Kliewer, & Garner, 2009; Eisenberg et al. 1996; Kliewer, Fearnow, & Miller, 1996; Magai, 1996; Miller-Slough, Zeman, Poon, & Sanders, 2016). For example, a rewarding strategy would be when a parent asks what's wrong, and helps you deal with the situation and a magnifying strategy would be a parent becoming sad themselves when a child expresses sadness (Klimes-Dougan, 2002). In a study with 117 dyads (mostly mothers and their child ages 8-11), researchers measured their emotion socialization using a discussion task, including both the children and the mothers and found that mothers' supportive emotion socialization, (e.g. rewarding responses that encouraged and validated the children's emotions) were positively related to children's management of their own anger and sadness (Miller-Slough, Zeman, Poon, & Sanders, 2016). Similarly, Cunningham, Kliewer, and Garner (2009) found that in 69 African-American dyads (88.6% mothers 13.4% fathers and their children, ages ranging 9-13), the parent's supportive strategies (e.g. rewarding and accepting their child's emotions) lead to

positive outcomes (e.g., academic achievement, social skills, and internalizing and externalizing behaviors) for their children, particularly for boys. In particular, these supportive strategies led to improved emotion regulation.

Non-Supportive Strategies. On the other hand, non-supportive strategies are contingent reactions that do not foster healthy emotional development by restricting emotional expression either through punishing or expressing disapproval of or even ignoring their child's expression of emotions (Eisenberg, Cumberland, & Spinrad, 1998). Some researchers have been using the terminology "punitive and minimizing" (i.e., Denham et al., 1997), while others have addressed the non-supportive strategies as "punishing, overriding, and neglecting" (i.e., Magai, 1996). *Punish*, for example, would be when a parent expresses disapproval or makes fun of a child when the child expresses an emotion. Punishing strategies also include an actual punishment. The next strategy would be when a parent *overrides* their child's emotions by being dismissive, telling a child who expresses sadness to cheer up, or buying a present for the child. Finally, a *neglectful* strategy would include parental behaviors that ignore a child's expression of emotion or the child identifies that their parent usually does not notice. Studies that have found that the non-supportive strategies parents use when responding particularly to their child's negative emotions (like sadness, fear, and anger) have lifelong implications for the child's emotional development (Chaplin, Cole, & Zahn-Waxler, 2005; Fabes, Leonard, Kupanoff, & Martin, 2001; McElwain, Halberstadt, & Volling, 2007). Punishing and minimizing strategies foster emotion suppression in children, however theoretically the external displays of emotion are suppressed, but not always the internal experiences of negative emotions (Richards & Gross, 2000). This dampens the potential for emotion understanding (Denham, et al., 1997).

Taken together, supportive and non-supportive strategies have been explained by five main strategies that parents commonly use to socialize their children's emotions (Malatesta-Magai, 1991). As discussed above, they are: reward, punish, override, neglect and magnify (Magai, 1996). Importantly, Magai also found that it may not be as simple as whether a strategy is 'supportive or not'; the implications depend upon the specific emotion used with each strategy. For example, magnification of anger has different outcomes than magnification of happiness. An example of magnification of anger would be a parent yelling back at the child while magnification of happiness would be parents becoming happy themselves (Magai, 1996). Some studies have found this to be true for positive and not negative emotions. There are also some discrepancies around the emphasis on the type of emotion, some being labeled as "negative" (Denham et al., 1997; Eisenberg, Fabes, Shephard, Murphy & Reiser, 1999; Suveg & Zeman, 2004), or positive. There are implications for each strategy when used with the universal emotions, for example, magnification of anger has different outcomes than magnification of happiness.

Socialization and Distress

As noted in some of the research above, parent strategies impact not only the children's emotion development but also children's well-being. A recent meta-analysis compiled the research on the role that emotion socialization has on child conduct problems with 49 studies and found "the association between parental emotion socialization behaviors and conduct problems resulted in a small but significant negative effect size, $r = -0.08$, 95% CI $[-0.11, -0.05]$, $p < 0.001$ " (Johnson, Hawes, Eisenberg, Kohlhoff, & Dudeney, 2017, p. 70). Additionally, they found that non-supportive socialization strategies were more predictive of conduct problems in response to negative emotions, compared to supportive socialization strategies (Johnson et al., 2017).

One study longitudinally examined these negative strategies (i.e., magnification, neglect, and punishment) of negative emotions with mothers (55 with a history of depression and 57 without a history of depression) and their children 3- to 9-years old. Researchers found that the mothers with depression were more likely to use non-supportive strategies (e.g., punishing or threatening to punish the child for displaying the emotion, or failing to attend to the child's emotion; Silk, Shaw, Prout, O'Rourke, Lane, & Kovacs, 2011). These children, a year later, were more likely to show internalizing symptoms (measured by the Child Behavior Checklist; Achenbach, 1991) like depression, anxiety, and social withdrawal (Silk et al., 2011).

In another study, Hastings and De (2008) examined both mothers' and fathers' reactions ($n = 133$) to children's anger, and found that paternal override, maternal neglect, and both paternal and maternal magnification responses to children's emotions, in particular sadness and fear, were correlated with many outcome variables. The children differed in their social competence (measured with teacher's reports of skills of interacting with peers) and internalizing (e.g. anxiety and depression) and externalizing problems (e.g. aggressive behaviors).

One study examined these three factors in 134 families with preschoolers (ages 3 to 4 years old) using in-home observations and interviews. Observations were coded for children's emotions (happiness, sadness, anger, and fear) and parents' reactions to their child's emotions, and families were interviewed about their experiences of emotions and results showed that maternal positive emotions and attentiveness to their children's emotions predicted greater emotion knowledge in their preschoolers (Denham & Kochanoff, 2002). Further, consistent with Gottman's theory of meta-emotion, the experience of emotions as

reported by mothers was associated with subsequent attitudes towards parenting that predicted young children's emotion knowledge. This study provides additional evidence for the role of both parental cognitions as well as behaviors, using both self-report and observational measures. Given the existing literature, the current study will focus on the relationship of the socialization strategies on three emotions (fear, sadness, and anger), on these outcomes of psychological distress.

The path from early emotion socialization to later psychological distress is not straightforward, which points researchers towards mediation models (Preacher & Kelley, 2011). A review of existing literature found that emotion regulation served as a mediator between parenting practices (or emotion socialization) and adjustment (Morris, Silk, Steinberg, Myers, & Robinson, 2007). One study examined similar variables with preschoolers and findings "suggest that children's maladaptive emotion regulation may mediate the association between parents' unsupportive direct emotion socialization and children's externalizing behavior" (Mirabile, 2010, p. 82). In a study of adults, researchers examined a mediating relationship between unsupportive emotion socialization (i.e., neglect, punish, and magnify) and depression through a mediating variable called attitudes towards sadness (Boucher, Lecours, Philippe, & Arseneault, 2013). Building from this study, the 'attitudes towards emotions' have been already been identified in another body of literature as emotional intelligence and can also lead to symptoms of distress like depression or anxiety. Next, emotional intelligence will be described in more detail.

Emotional Intelligence

In 1983, Gardner first established the theory of multiple intelligences, which included not only things like visual/spatial, musical, and mathematical/logical abilities but also intrapersonal and interpersonal abilities. Building on this, the term Emotional Intelligence

was first described by Mayer, DiPaolo and Salovey in 1990 as the “accurate appraisal and expression of emotions in oneself and others and the regulation of emotion in a way that enhances living” (p. 772). The components of emotional intelligence included appraisal and expression of emotion, regulation of emotion, and utilization of emotion (Salovey & Mayer, 1990). Since its initial discussion in the early 90s, emotional intelligence has received increased attention linked to number of constructs in psychology including academic performance (Cook, Cook, & Hilton, 2016; Libbrecht, Lievens, Carette, & Côté, 2014), leadership ability (Caruso, Mayer, & Salovey, 2002; Carter, 2013; Harms & Credé, 2010; Kerr, Garvin, Heaton, & Boyle, 2006; Mittal & Sindhu, 2012; Saggiu, 2011), satisfaction with life (Martinez-Pons, 1997; Nelis et al., 2011), and psychological distress (Ciarrochi, Heaven & Supavadeeprasit, 2008; Gross & Munoz, 1995; Gross & John, 2003, Gratz & Roemer, 2004; Mennin, Heimberg, Turk, & Fresco, 2002; Perez-Gonzalez, Javier Cejudo, Rodrigo-Ruiz, Mestre, & Guil, 2015; Schultz, Izard, & Bear, 2004).

Despite the increasing number of studies examining emotional intelligence, the literature has been split in how emotional intelligence is conceptualized and measured (Joseph & Newman, 2010). Some researchers have focused on emotional intelligence in terms of *functions*. Functions focus on the adaptive reasons why emotions assist individuals in different situations and for different emotions (Holodyski & Friedlmeier, 2005). For example, a function is to signal an individual’s motives and concerns to others and to possibly influence future actions of others (Campos, Campos, & Barrett, 1989). In turn, other researchers have focused on emotional intelligence in terms of *forms*. The forms focus on the way in which an individual enacts emotional intelligence (Matthews, Zeidner, & Roberts, 2007). For example, how an individual can identify an emotion (Holodyski & Friedlmeier,

2005). These conceptual differences have led to different ways of assessing emotional intelligence. Next, I will discuss these two distinctions (functions and forms) in detail.

Functions. Much of the early work in emotional intelligence focused on assessing the functions related to emotional intelligence based on the work of Mayer and colleagues (1999). Mayer and colleagues developed the Multifactor Emotional Intelligence Scale (MEIS) which included four dimensions (perceiving, assimilating, understanding, and managing emotions) measured with 402 items. Specifically, the four dimensions were largely assessing why (i.e., functions) an individual perceives, assimilates, understands, and manages emotions in a certain way. A sample item of this is “I am able to control my temper and handle difficulties rationally” (Mayer, Salovey, & Caruso, 2002, p. 128). This measure uses general and expert consensus scoring so that each one of a respondent’s answers is scored against the proportion of the sample (and experts) that endorsed the same answer (Mayer, Salovey, Caruso, & Sitarenios, 2003). “For example, if a respondent indicated that surprise was “definitely present” in a face, and the same alternative was chosen by 45% of the sample, the individual’s score would be incremented by the proportion, .45” (Mayer, Salovey, Caruso, & Sitarenios, 2003, p. 100). This is similar to how *g* factor, or general intelligence is scored (Legree, Psocka, Tremble, & Bourne, 2005).

While this was the first attempt to develop a measure of EI, there was some criticism of the measure not being valid due to the consensus scoring and its complicated measurement (i.e., too many items and too many different types of assessment). To start to address this criticism, Mayer, Salovey, Caruso, and Sitarenios (2003) examined the factor structure of the original MEIS scale. Using confirmatory factor analyses on a more condensed set of items, they examined a hypothesized four-factor model (consistent with the four dimensions from

the literature) to one-factor and two-factor models, with a community sample of adults ($N = 2,112$). Their results supported the use of four factors. The factors identified were perceiving, facilitating (previously called assimilating), understanding, and managing emotions. The four factors mentioned were largely consistent with previous factors, although *assimilating*, defined as the ability to assimilate emotions into perceptual and cognitive processes (Mayer, Caruso, & Salovey, 1999) was changed to *facilitating*, defined as the ability to generate, use, and feel emotion as necessary to communicate feelings or employ them in other cognitive processes (Mayer, Salovey, & Caruso, 2002). This new 141-item scale was renamed the Mayer, Salovey, Caruso Emotional Intelligence Test or MSCEIT (Mayer et al., 2002).

Forms. While the literature on emotional intelligence increased in popularity as a result of the work of Mayer and colleagues, researchers suggested that the focus on functions, was limited in scope, as it was missing a theoretical understanding of how emotional intelligence is enacted by an individual in each situation (i.e., form). This focus on how emotional intelligence is measured grew out of the application of Appraisal theory (Roseman, 2001). Within the cognitive conceptualization of emotion, appraisal theory is widely accepted and states “emotions are elicited by evaluations, or appraisals, of events and situations” (Roseman, 2001, p. 3), or more simply, our emotions occur as a result of our appraisals of our environment. This research began when psychologists became more interested in emotions and pondered why some people would react differently to the same situation. Early researchers, such as Arnold (1950), put forth the idea that we intuitively seek out positive appraisals of situations, avoid negative and ignore indifferent. Lazarus expanded upon this idea by suggesting that individuals differ in the ways they think about emotions based on the type of emotion (e.g. sadness, fear, anger, etc.) and the situation in which the

emotion occurs (e.g. harmful, beneficial, or benign; Lazarus, Averill, & Opton, 1970). For example, imagine a situation in which an employee is called into their manager's office. If the employee interprets the tone of voice as stern, the employee's heart rate increases and experiences fear. However, if the employee interprets the tone of voice as congratulatory, the employee's heart rate increases but experiences joy (Lazarus & Lazarus, 1991).

Researchers examining the ways in which emotional intelligence is enacted within specific situations initially have suggested four dimensions, (1) appraisal and expression of emotion in oneself, (2) appraisal and expression of emotion in others, (3) regulation of emotion in oneself, and (4) use of emotion to facilitate performance (Davies, Stankov, & Robets, 1998). Subsequently however, researchers (Joseph & Newman, 2010; Tett, Fox, & Wang, 2005) have suggested collapsing these constructs down to the two dimensions of emotion recognition and emotion regulation. Given the importance of these forms in understanding emotional intelligence, next I will discuss these concepts in more detail.

Emotion Recognition. As a *form* of emotional intelligence, emotion recognition is one of the ways in which an individual portrays their emotional development. Emotion recognition is defined as the ability to perceive and identify emotions (Ekman et al., 1969), and can be applied to recognition of your own emotions, as well as recognition of the emotions of others. The ability to recognize emotions begins at a very young age (Campos, Campos, & Barrett, 1989; Saarni, 2000; Walker-Andrews, 1997) and develops over the lifetime (Ciarrochi, Heaven, & Supavadeeprasit, 2008; Durand, Gallay, Seigneuric, Robichon, & Baudouin, 2007). When children are learning how to recognize emotions, they are using the cues from their caretakers such facial expressions by examining the changes in eyebrows, mouth, etc. (Busso et al., 2004; Walker-Andrews, 1997).

Emotion recognition varies by the type of emotion is being expressed. For example, one study examined 100 children ages five to twelve and 26 adults (mean age 22), using an emotion recognition task of identifying emotions from faces. The children as young as five years old could accurately recognize happiness and sadness from the pictures near the same accuracy level of the adults in the study (Durand, Gallay, Seigneuric, Robichon & Baudouin, 2007). However, the five-year-olds were less accurate at identifying other emotions like fear, anger, and disgust. The group of 10- and 11-year-olds had near adult accuracy for fear, anger, and neutrality (Durand et al., 2007). Further discussion points to their inaccuracy because of a lack of knowledge about these emotions' effects on facial expressions, and not from ignorance of these emotion words (Durand et al., 2007).

One study followed 90 four-year-old's through their pre-school year to examine emotion recognition of their classmates. Researchers took pictures of the preschoolers exhibiting five expressions: happy, sad, angry, surprise, and afraid, and had their classmates identify the emotions from the facial expressions (Barth & Bastiani, 1997). Researchers found that although children were told their expression choices for each picture, most children did not use the words surprised or afraid to describe their classmates' facial expressions. However, researchers are unsure if the low accuracy of emotion recognition is due to the nature of the stimuli or due to children's inability to recognize these expressions. Because of this measurement error, researchers calculated three (happy, sad, and anger) recognition bias scores based on how often they used that emotion divided by their total number of answers (Barth & Bastiani, 1997). Results indicate that recognition biases may be more predictive of social behavior when compared to recognition accuracy, especially when

children used anger to identify a higher proportion of facial expressions suggesting that they have hostile perceptions and view anger more often in the faces of their classmates (Barth & Bastiani, 1997).

One of the difficulties in measuring emotion recognition is its external validity with real-life emotional situations. As adults, we still use facial expressions to recognize emotions in others, but we also use many other contextual factors like the tone of voice and the surrounding situational cues. In the emotion field, recognition is typically measured by how well an individual can identify an emotion from a picture of a facial expression (Elfenbein, Marsh, & Ambady, 2002; Guarnera, Hichy, Cascio, & Carrubba, 2015; Mayer, DiPaolo, & Salovey, 1990; Matsumoto et al., 2000). The newer measures focus on the context and appraisals instead of the early developmental facial expression recognition tasks (MacCann & Roberts, 2008).

Emotion Recognition and Distress. On the other hand, the inability to accurately name and recognize emotions has clinical implications in others is sometimes referred to as alexithymia (Ciarrochi, Heaven & Supavadeeprasit, 2008) and is a key symptom in Autism Spectrum Disorder (Bal, Harden, Lamb, Van Hecke, Denver, & Porges, 2010).

However, in non-clinical samples, decreased emotion recognition also has been associated with increased anxiety (Hattingh, Ipser, Tromp, Syal, Lochner, Brooks & Stein, 2013), lower social competence (e.g., Mirabile, 2010), perceived lack of social support (e.g., Ciarrochi, Heaven & Supavadeeprasit, 2008), and relationship dissatisfaction (e.g., Croyle & Waltz, 2002; Smith, Heaven, & Ciarrochi, 2008). In one study, 56 heterosexual couples were asked “how would the other person feel?” (Croyle & Waltz, 2002, p. 437) and results indicated that discrepancies in scores between partners on emotional awareness (i.e., emotion

recognition) were associated with decreased relationship satisfaction. Emotion recognition in adolescents is particularly important due to the increased awareness of emotions in social interactions amongst peers (Ciarrochi, Heaven, & Supavadeeprasit, 2008). When comparing adolescents ($n = 667$) on their ability to recognize emotions, participants who were better at emotion identification (e.g., “It is difficult for me to find the right words for my feelings”; Ciarrochi, Heaven, & Supavadeeprasit, 2008, p. 7) were more likely to have reported increased social support.

In a recent meta-analysis, the relationship between emotion recognition and anxiety were examined from brain images (obtained from functional magnetic resonance imaging [fMRI]) from 91 individuals with social anxiety disorder, and 93 individuals without. Researchers found that “limbic regions were consistently more active in those with social anxiety disorder, in response to emotional stimuli, than compared to those without (Bal, Harden, Lamb, Van Hecke, Denver, & Porges, 2010). This further confirms the path between emotion recognition and psychological distress variables like anxiety. Within emotional intelligence, there is another commonly researched aspect called emotion regulation. These two constructs are often related, but add distinct aspects to the literature, and these two aspects may provide parallel mediators in the link between emotion socialization and psychological distress.

Emotion Regulation. Additionally, as a *form* of emotional intelligence, as how we regulate our emotions. Emotion regulation research has included the awareness and understanding of one's emotions, acceptance of emotions, and the ability to successfully use appropriate strategies to regulate one's emotions in a given situation (e.g., Brackett et al., 2013; Eisenberg, 2000; Larsen, 2000; Mayer, Salovey, Caruso, & Sitarenios, 2003;

Thompson, 1994). Larsen relates emotion regulation to a thermostat in that people will compare their current mood to their ideal baseline and work to return to that set point (2000). Individual differences, based in the desires, beliefs and values about an optimal state, in mood regulation have many implications for psychological distress that may involve a failure of mood regulation (Larsen, 2000).

Emotion regulation is developed with children as early as six months displaying quality responses to the absence and return of its mother indicating that regulation is occurring (Thompson, 1994). The developmental goal is that as a child ages emotion regulation ability increase in order to increase the experience positive emotions and decrease negative emotions (MacCann & Roberts, 2008). Emotion regulation is also expected to shift in early adulthood due to additional brain development and situations that require suppression (e.g., a professional work setting; John & Gross, 2004).

Gross and John (2003) proposed that emotion regulation consists of reappraisal (e.g., when an individual reconstructs the way they think about their emotions) and suppression (e.g., when an individual choose or tries not to feel an emotion). An example of item reappraisal is “When I’m upset, I take time to figure out what I’m really feeling” and an example of suppression is “When I’m upset, I become angry with myself for feeling that way” (Gratz & Roemer, 2004, p. 48). Emotional reappraisal, when compared to emotional suppression, was related to greater positive emotion and lesser negative emotion, better interpersonal function and subjective well-being (Gross & John, 2003).

There are individual differences in emotion regulation, which led some to absorb emotional cues better than others and depending on the situation (whether it is appropriate to express your emotions or not), an individual with better emotion regulation will thrive more

in these social environments (Gross & John, 2003). Moreover, due to the interpersonal nature of emotion regulation, it has been found to be related to relationship satisfaction (Tamminen & Crocker, 2013; Zaki & Williams, 2013) and extraversion (Tamir, 2009). In a study with female athletes, interpersonal emotion regulation was crucial to team cohesion and therefore more competition wins (Tamminen & Crocker, 2013). One athlete reflected on her behavior following a loss, saying that “I will get mad at myself, and that can easily transfer to the teammates, so I have to be very controlled in how I manage my own anger” (Tamminen & Crocker, 2013, p. 741). Additionally, emotion regulation was found to be related to individual differences identified by the Big Five personality trait Extraversion (Tamir, 2009). Tamir (2009) examined 227 college undergraduates and found that those with higher levels of extraversion were more motivated to exert the effort to return to a baseline (similar to the thermostat example from above (Larson, 2000). Although reappraisal appears to lead to better outcome than suppression, both are acceptable regulation processes, when compared to emotion dysregulation (Cole, Michel, & Teti, 1994).

Conversely, the term emotion dysregulation describes when an individual's emotion behavior is deviant, chaotic, or dysfunctional -- not simply ‘unregulated’ (Cole, Michel, & Teti, 1994). Clinically, emotion dysregulation tends to present as either over regulation or under regulated and has been used to conceptualize Borderline Personality Disorder (Linehan, 1993) as well as Posttraumatic Stress Disorder (Cloritre, 1998). For example, reacting in anger and acting aggressively consistently (over regulation) instead of experiencing sadness (under regulation) in situations that would elicit sadness in others (Cole, Michel, & Teti, 1994).

Emotion Regulation and Distress. Decreased emotion regulation, specifically, has been found to be related to components of distress. In a 2005 study of 362 college students (median age 19), Martin and Dahlen (2005) found correlations between low emotion regulation and increased distress, measured by the Depression, Anxiety, and Stress Scale (DASS; Lovibond & Lovibond, 1995). All three distress variables were associated with the coping strategies self-blame, and rumination (Martin & Dahlen, 2005).

In one recent study, 73 currently non-depressed university students, were divided into groups based on their previous distress (Ehring, Tuschken-Caffier, Schnulle, Fischer, & Gross, 2010). Thirty participants had previously experienced at least one major depressive episode in the past (recovered-depressed group), whereas 43 had never been depressed (never-depressed group). Both groups were shown a sadness-inducing film and then were given a questionnaire that examined their emotion regulation strategies with items like, “I control my emotions by changing the way I think about the situation I’m in.” (ERQ; Gross & John, 2002)”. The group in recovery reported to have suppressed their emotions in response to the sadness-inducing film significantly more than the control group (Ehring et al., 2010).

Similarly, another study used a sample of a currently depressed group ($n = 30$), a remitted depression group ($n = 99$), and a control group ($n = 101$) to examine differences in emotion recognition as it relates to depression (Anderson et al., 2011). Like in earlier studies, they found that happiness was recognized most accurately, and that anger recognized the least accurately (Anderson et al., 2011). Also relevant to the current discussion, participants currently showing depression were less accurate at recognizing emotions, especially with decreased discrimination as to whether an emotion was present. Next is the relationship between the two variables previously discussed in depth.

Emotion Socialization and Emotional Intelligence

As stated above, Eisenberg and colleagues have made the connection between emotion socialization and emotional intelligence from a developmental psychology perspective and found that as children move through childhood into adolescence children should “be able to express and regulate their emotions in socially desirable and valued ways” (1998, p. 242). According to theory, there is a clear link between parental emotion socialization on the emotion development of their children (Eisenberg et al., 1999). Going beyond theory, researchers have examined this link in recent research, and have found results that support the link between non-supportive emotion socialization and lower emotional intelligence (Denham & Grout, 1993; Fabes, Leonard, Kupanoff, & Martin, 2001; Fabes et al., 2002; McElwain, Halberstadt, & Volling, 2007). In a study with 39 preschoolers, some of whom have physically neglected, abused, were compared to a control group of non-maltreated children (Pollak, Cicchetti, Hornung, & Reed, 2000). Results indicated that the neglected children had more difficulties discerning differences between emotional expressions, which suggests that “the nature of children's emotional learning environments results in nonrandom effects on the development of their emotion recognition abilities (Pollak, Cicchetti, Hornung, & Reed, 2000 To further specify emotional intelligence, both emotion recognition and emotion regulation will be addressed.

Specific to emotion recognition, one study examined emotion socialization with 57 mothers and their preschoolers and found that more distressed parents were more likely to use non-supportive socialization strategies (e.g., punishing, override, and magnifying) with negative emotions (i.e., anger, sadness, and fear) which then lead to the child’s intense emotion expression and recognition (Fabes, Leonard, Kupanoff, & Martin, 2001). Another study also examined the non-supportive strategies used by parents with their child’s negative

emotions, but these researchers examined the child's emotional understanding, which can be assessing the understanding of two emotions mixed and appears to be similar to the construct previously described, emotion recognition (McElwain, Halberstadt, & Volling, 2007).

Additionally, emotion regulation is an aspect of emotional intelligence more commonly researched. One review found that existing literature can be arranged into a tripartite model which begins with emotion socialization variables such as observation, parenting practices and emotional climate of the family, and all of them have associations with emotion regulation which in turn have associations with adjustment (Morris, Silk, Steinberg, Myers, & Robinson, 2007). One study from this review reported that, specifically, non-supportive strategies appear to impact their child's emotional competence (regulation) negatively (Denham & Grout, 1993). Emotional competence included concepts like emotion expressivity within social relationships and had implications for an individual's social competence. Researchers were able to examine 47 preschoolers longitudinally and found that the mothers' reactions to their child's emotion displays (i.e., emotion socialization) was associated with the reactions they had to others' emotions (i.e., emotion regulation; Denham & Grout, 1993). Results did support some differences between the child's use of emotions depending on the individual the social interaction was (e.g., peer, teacher, or parent) and suggests that the child's emotional competence may differ according to the interpersonal relationship studied (Denham & Grout, 1993; Dunn, 1994).

Unfortunately, most of the existing literature has examined the associations between emotion socialization and emotional intelligence with children, and more work needs to focus on other populations.

Emerging Adults

Literature discussed up until this point builds the conceptual mediation model (see Figure 1.1) for children, but there is not much, if any, research with other populations. One study in particular examined a similar model to Figure 1.1 with preschoolers, but was limited in scope, however, due to a small sample size ($n = 64$; Mirabile, 2010). The article offers future directions for research with a different developmental period as children age.

Following Mirabile's (2010) example, I expect these paths to be present in a model that examines emotional development to a population older than four years old. Since psychological distress tends to become more prominent with individuals in their twenties (Hamdi & Iacono, 2014), I plan on examining these variables with 18 to 29-year olds, who have been termed emerging adults (Arnett, 2007). In 2007, Arnett compiled existing literature regarding emerging adults, which has been identified as individuals ages 18 to 29 years old. Within this developmental period, individuals are expected to be exploring their identity, focusing on their own development, experiencing instability and 'in-between', while staying optimistic for the future (Arnett, 2007). In addition, emerging adults are building relationships with their peers, experimenting with different romantic partners, and possibly moving away from parents to attend college or begin working (Arnett, 2007). There have been a few researchers have examined the impact of past emotion socialization strategies with this age (Guo, Mrug, & Knight, 2017; Klimes-Dougan, Brand, Zahn-Waxler, Usher, Hastings, Kendziora, & Garside, 2007; Magai, Consedine, Gillespie, O'Neal, & Vilker, 2004). Although the original measure of emotion socialization is used with children (Magai, 1996), one measure builds from this by asking emerging adults to recall how their parents have responded to their emotions (punish, magnify, neglect, override, and reward) in the past

(Klimes-Dougan, Brand, & Garside, 2001). Findings clearly indicate emotion socialization is important to study with both child and emerging adults' populations (Kehoe, Havighurst & Harley, 2014; Klimes-Dougan, Brand, Zahn-Waxler, Usher, Hastings, Kendziora, & Garside, 2007; Klimes-Dougan, Brand, & Garside, 2001). Therefore, it is critical to continue to study emotion socialization across the lifespan and in different age groups.

Current Study

Given these findings and the relatively understudied nature of emotional socialization with emerging adults, one of the purposes of the current study is to examine the relationships between emotion socialization, psychological distress, and emotional intelligence in a sample of emerging adults. The current study aims to add to existing literature with a sample of emerging adults, with separate models for supportive socialization strategies and non-supportive socialization strategies. Emotional intelligence variables will be measured separately as emotion recognition and emotion regulation and analyzed as parallel mediators.

Hypotheses

Directional Hypothesis. There will be a positive relation between supportive emotion socialization and emotion recognition. There will be a positive relation between supportive emotion socialization and emotion regulation. There will be negative relation between non-supportive emotion socialization and emotion recognition. There will be a negative relation between non-supportive emotion socialization and emotion regulation. There will be a negative relation between supportive emotion socialization and psychological distress. There will be a positive relation between non-supportive emotion socialization and psychological distress. There is will a negative relation between emotion recognition and psychological distress. There is will a negative relation between emotion regulation and psychological distress.

Mediation Hypothesis. Emotion recognition and emotion regulation will both be unique mediators of the relationship between supportive emotion socialization and psychological distress (see Figure 1.2). Emotion recognition and emotion regulation will also both be unique mediators of the relationship between non-supportive emotion socialization and psychological distress (see Figure 1.3). Furthermore, it is expected that emotion recognition and emotion regulation will fully mediate the links between both supportive and non-supportive emotion socialization strategies and psychological distress.

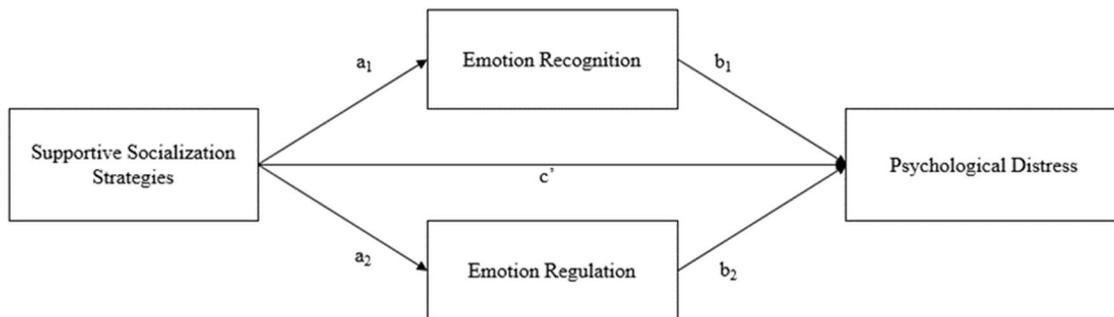


Figure 2.1 *Supportive Strategies Model.*

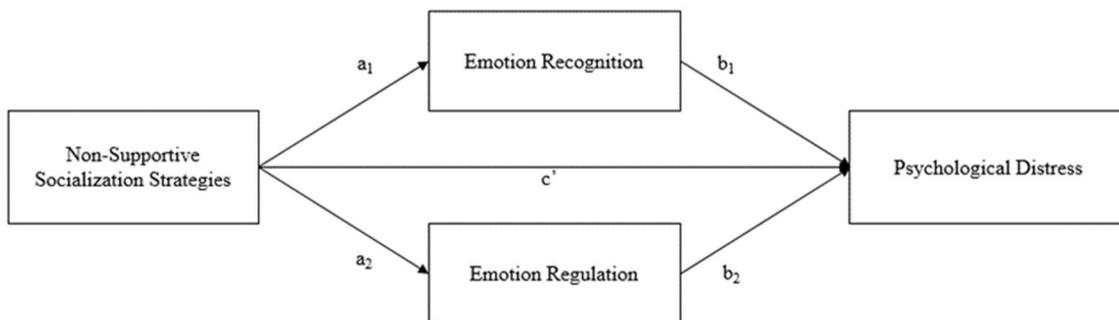


Figure 2.2 *Non-Supportive Strategies Model.*

CHAPTER 3. METHODS

Participants

Participants ($N = 497$) identified as a man ($n = 244$, 49.1%), woman ($n = 246$, 49.5%), transgender ($n = 2$, 0.4%), and gender non-binary ($n = 5$, 1%). Participants also identified their sexual orientation as heterosexual ($n = 329$, 66.2%), with many other identifying as bisexual ($n = 136$, 27.4%), gay ($n = 8$, 1.6%), lesbian ($n = 5$, 1%), other ($n = 25$, 5%). In addition, participants identified their ability status as not disabled ($n = 288$, 57.9%), having a mental health disability ($n = 73$, 14.7%), a mobility disability ($n = 32$, 6.4%), a sensory disability ($n = 20$, 4%), a temporary disability such as a broken ankle ($n = 14$, 2.8%), a learning disability ($n = 13$, 2.6%), a long-term medical illness such as epilepsy or cystic fibrosis ($n = 10$, 2%), or a combination of any of the above ($n = 41$, 8.2%). Racial and ethnic identities are presented in Table 1. Age was not a demographic that was collected, however, MTurk criteria was set so that Workers were between the ages of 18 and 29.

Table 1

Racial and Ethnic Group Identification

	<i>n</i>	<i>%</i>
White	268	53.9%
American Asian	90	18.1%
Black or African-American	38	7.6%
Hispanic, Latino, or Spanish Origin	37	7.4%
American Indian or Alaska Native	13	2.6%
American-Middle Eastern or American-North African	5	1%
Hawaiian or Other Pacific Islander	1	0.2%
Another race or ethnicity	15	3%
Multi-racial	26	5.2%
Prefer not to disclose	4	0.8%

Procedures

Before data collection began, all study materials and procedures were approved by the Institutional Review Board at Iowa State University (19-010-01; see Appendix E and F for acceptance letter and modification letter). Before completing the survey, all participants were provided with an online informed consent document. The informed consent informed participants that their participation is voluntary, and they can skip any questions at any time, and their participation in the study at any time without penalty. The survey consisted of demographic questions (e.g. gender, sexual orientation, race/ethnicity, ability status, family structure) and measures of emotion socialization (e.g. Emotions as a Child), emotional intelligence (e.g. Situational Test of Emotion Understanding, Situational Test of Emotional Monitoring) and distress (e.g., Brief Symptom Inventory).

Participants were recruited using Amazon Mechanical Turk (MTurk), a crowdsourcing platform for research data collection from MTurk users (Workers). In order to be eligible to participate, criteria were set for emerging adults (ages 18-29) and have self-identified as a fluent English speaker. Initially, participants ($n = 282$) were compensated \$0.25. However, we increased the amount, based on suggestions from MTurk, to reach the desired number of participants after participation started to decline. In the second wave, participants ($n = 215$) were compensated \$3.00 for their time and effort through Turk Prime. Previous researchers have used MTurk for data collection (Cheung, Burns, Sinclair, & Sliter, 2017; Hauser & Schwarz, 2016). One benefit to using MTurk and Turk Prime is the use of data from participants that are within the ages of emerging adulthood but are not necessarily in a college population or restricted by geographic location, therefore increasing generalizability. While concerns have been raised about the quality of MTurk Workers' responses (Goodman, Cryder, & Cheema, 2013), researchers have suggested that MTurk data as equivalent or even more representative than a college sample (Casler, Bickle & Hackett, 2013; Minton, Gurel-Atay, Khale, and Ring, 2013). Following the recommendations of Harms and DeSimone (2015) the data was cleaned to discard participants who appeared to not be paying attention (e.g., missing three of the four attention check items) and matching demographics.

An a priori power analyses, using a Monte Carlo Power Analysis application, specific to mediation analyses, that accounts for both the direct and indirect effects was used to identify sample size needed (Schoemann, Boulton, & Short, 2017). Both a medium and large effect size of the relationships between the variables were calculated with a standard power level of .80 and $\alpha = .05$. Results suggested that a sample size of $N = 535$ would be sufficient

to find a medium effect and a size of $N = 241$ would be sufficient to find a large effect (Schoemann, Boulton, & Short, 2017). Data collection occurred over a span of 10 days, at the end of which, 556 were paid. After data cleaning procedures were completed 497 remained (see additional description below).

Measures

Emotion Socialization

Emotion socialization was measured with the *Emotions as a Child* scales (EAC; Klimes-Dougan et al., 2007). The EAC is a 45-item self-report scale with five main categories (reward, punish, override, neglect, and magnify) assessing eight supportive strategies (rewarding anger, rewarding sadness, rewarding fear, overriding anger, overriding sadness, overriding fear, magnifying sadness, and magnifying fear) and seven non-supportive strategies (punishing anger, punishing sadness, punishing fear, neglecting anger, neglecting sadness, neglecting fear, and magnifying anger). Each of the five categories include three items for anger, sadness, and fear, measured on a 5-point Likert scale from one (*not at all typical*) to five (*very typical*). For each emotion category, respondents will be asked, “When you have been sad (or angry, or afraid), what did your parent do?” with each strategy rated on the Likert scale. For example, “comforted me” would be scored as a rewarding strategy (see Appendix A for full measure).

Prior researchers conducted a confirmatory factor analysis and found good model fit for a two-factor model for emotion socialization (i.e., supportive and non-supportive strategies; Guo, Mrug, & Knight, 2017; Klimes-Dougan et al., 2007). Internal consistency for the emerging adult self-report was presented for the three emotion categories of anger, sadness, and fear for both supportive ($\alpha = .96$) and non-supportive ($\alpha = .87$) strategies and for each strategy (reward $\alpha = .82-.84$, neglect $\alpha = .58-.74$, override $\alpha = .63-.68$, punish $\alpha = .50-$

.57, and magnify $\alpha = .66-.77$ (Guo, Mrug, & Knight, 2017). In terms of validity, higher scores on the EAC have been found to be positively correlated with self-reported psychological distress (Garside & Klimes-Dougan, 2002) and lower scores have been found to be positively correlated with parent-child connectedness (Guo, Mrug, & Knight, 2017).

In the current study, there were 22 participants that only provided emotion socialization information for their mothers, and there were 13 participants that only provide emotion socialization information for their fathers, so for these participants ($n = 35$), the only score provided was used. For the remaining participants ($n = 465$), the higher score between the mother and father's supportive strategies was used for their supportive strategy score, following previous researchers' procedures for the child's perception of the "dominant socializer" or the one parent that tends to use more socialization strategies within a category (Eisenberg, Cumberland, & Spinrad, 1998; Garside & Klimes-Dougan, 2002). In addition, the higher score between the mothers and fathers' non-supportive strategy was used for their non-supportive strategy score. The parent who contributed the highest score for both supportive ($n = 329$; 66.2%) and non-supportive strategies ($n = 322$; 64.8%) was predominately the mother, which is consistent with previous research (Garside & Klimes-Dougan, 2002). Higher scores indicate greater use of the socialization strategy. The current study found internal consistency scores (α) to be .95 for mothers and .97 for fathers the 45 socialization strategy items.

Emotional Intelligence

Given the controversy with measurement within emotional intelligence, many studies have compared two chief measures the MSCEIT, and the STEU/STEM, and related constructs to demonstrate which measure is better (Adriaenssens, 2015; Austin, 2010; Hagen, 2010; Maul, 2012; Palladina, 2008; Siegling, Vesely, & Petrides, 2015). From these results,

Emotional Intelligence was measured using two scales assessing the two dimensions, the Situational Test of Emotion Understanding (STEU) for emotion recognition and the Situational Test of Emotion Management (STEM) for emotion regulation.

Emotion Recognition. In 2008, MacCann and Roberts created the STEU developed according to Roseman's appraisal theory to measure emotion recognition. Specifically, the STEU aimed to measure the individual differences of participants according to their emotional response to a vignette in 42 items. The vignettes focused on different contexts in which we use emotion including personal-life contexts, workplace contexts, and a non-specific context (MacCann & Roberts, 2008). An example personal life context is "Charles is meeting a friend to see a movie. The friend is very late, and they are not in time to make it to the movie. Charles is most likely to feel? (a) Depressed, (b) Frustrated, (c) Angry, (d) Contemptuous, (e) Distressed" and *angry* would be the correct answer (MacCann & Roberts, 2008). A work-place example is "Edna's workmate organizes a goodbye party for Edna, who is going on holidays. Edna is most likely to feel? (a) Surprise, (b) Gratitude, (c) Pride, (d) Hope, (e) Relief" and a context reduced is "Something unpleasant is happening. Neither the person involved, nor anyone else can make it stop. The person involved is most likely to feel? (a) Guilty, (b) Distressed, (c) Sad, (d) Scared, (e) Angry" (MacCann & Roberts, 2008, p. 1; see Appendix B for full measure). Participants emotional recognition was assessed by their selecting an emotion associated with the vignette from a multiple-choice option (i.e. anger, sadness, happiness). Scores were determined to be correct recognition or incorrect recognition according to appraisal theories process. One study which examined the STEU, found internal consistency to be $\alpha = .72$ (Libbrecht & Lievens, 2012). These measures have been examined and validated by many researchers since becoming available (Collin, 2017;

Ferguson & Austin, 2010; Livvrecht & Lievens, 2012; MacCann & Roberts, 2008; MacCann, 2010; MacCann, Pearce, & Roberts, 2011). The current study found internal consistency scores (α) to be .76 for the 42 items emotion recognition items.

Emotion Regulation. In addition, MacCann and Roberts (2008) created the STEM to assess emotion regulation. They did this by using “the situational judgement test method” (McDaniel, Morgeson, Finnegan, Campion, & Braverman, 2001) by conducting interviews to generate emotional situations and possible responses. Then experts with an academic knowledge of emotions from the field of psychology in Australia, selected which multiple-choice answer was correct. Both are scored based off closeness to expert scoring. This 44-item scale which also addresses personal life (e.g., “Clayton has been overseas for a long time and returns to visit his family. So much has changed that Clayton feels left out. What action would be the most effective for Clayton?”) and workplace (e.g., “Max prides himself on his work being of the highest quality. On a joint project, other people do a lousy job, assuming that Max will fix their mistakes. What action would be the most effective for Max?”) with context-rich narratives (MacCann & Roberts, 2008). These are scored according to expert scoring so that the four options have varying degrees of being correct. For example, the item above from personal life has the options (a) Nothing. It will sort itself out soon enough (score = 0), (b) Tell his family he feels left out (score = .167), (c) Spend time listening and getting involved again (score = .75), (d) Reflection that relationships can change with time (score = .083) (MacCann & Roberts, 2008; see Appendix C for full measure). When one study examined the STEM, internal consistency was found to be $\alpha = .85$ (Libbrecht & Lievens, 2012). The current study found internal consistency scores (α) to be .78 for the 44 emotion regulation items.

Psychological Distress

Psychological distress will be measured using 53 item version of the Brief Symptom Inventory (BSI-53; Derogatis & Melisaratos, 1983). The BSI-53 covers 9 symptom dimensions (i.e., somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism; Derogatis & Melisaratos, 1983; See Appendix D for full measure). The items are scored on a 5-point Likert scale from zero (*not at all*) to four (*extremely*). Three indices can be calculated from this inventory, but the one included in the current study is the Global Severity Index, which measures an overall psychological distress level. In addition, this scale has been normed for a sample of adult nonpatient (or non-clinical). Given the focus of this research on a non-clinical sample, the Global Severity Index score will be used in the current study. In a recent study of adults, descriptive statistics were collected with the BSI-53 and researchers found that “the Global severity factor explains 83% of common variance supporting the presence of a strong global factor” (Urban et al., 2014, p.148). In addition, the factor structure was examined, and researchers suggest using the BSI-53 as a bifactor model with general and domain-specific components (Urban et al., 2014). In a recent study with emerging adults, the BSI-53 was used to measure depression and anxiety and found good reliability estimates (depression $\alpha = .90-.92$ and anxiety $\alpha = .89-.94$ (Lev Ari & Shulman, 2012), and another study examined that examined the factor structure found good reliability estimates for the GSI ($\alpha = .83$; Urbán et al., 2014). The current study found internal consistency scores (α) to be .99 for the 50 distress items, excluding items assessing for suicidal thoughts or actions.

CHAPTER 4. RESULTS

Data Preparation and Cleaning

Data was screened prior to analyses. The survey included four attention checks (e.g., For this item, choose the response “Agree”). Participants who responded incorrectly to two or more of the four attention check items were removed from future analyses. Out of 556 participants who were paid for completion of the survey, there were 19 participants that got at least two attention checks incorrect and were, therefore, excluded. Individuals who had greater than 20% missing data on any of the individual scales were also excluded from future analyses. Thirty participants were dropped from analyses due to not responding to at least 80% (36 of the 45) of the emotion socialization items. Three participants were dropped due to not responding to at least 80% (35 of the 44) of the emotion regulation items. Three participants were also dropped due to not responding at least 80% (40 of the 50 items) of the distress items. This left 501 participants.

To check for univariate outliers, z-scores (i.e., less than -3.29 or more than 3.29) were examined for each scale measure. There were no univariate outliers. The z-scores for supportive strategies ranged from -2.84 to 2.31 and non-supportive strategies ranged from -1.63 to 2.16. The z-scores for emotion recognition ranged from -1.99 to 2.16, and the z-scores for emotion regulation ranged from -1.89 to 2.16. The z-scores for distress ranged from -1.44 and 2.19. To check for multivariate outliers, Mahalanobis distance among the variables was examined (Tabachnick & Fidell, 2001). There were four multivariate outliers with Mahalanobis distances from 31.8 to 20.2 ($p < .001$). These multivariate outliers were removed from future analyses, leaving a final sample of 497 participants.

Preliminary Analyses

Descriptive Statistics

Means, standard deviations, and ranges are shown in Table 2. A paired samples *t*-test indicated that participants reported their parents, in general, used more supportive strategies ($M = 3.21, SD = .77$), than non-supportive strategies ($M = 2.72, SD = 1.05; t(496) = 10.93, p < .001$). Participants also reported mothers as using more supportive strategies ($M = 3.13, SD = .80$) when compared to fathers ($M = 2.86, SD = .92; t(466) = 9.17, p < .001$). However, there was not a significant difference of their mother using more non-supportive strategies ($M = 2.51, SD = 1.1$) when compared to fathers ($M = 2.54, SD = 1.06; t(465) = -1.18, p = .24$). The parent who contributed the highest score for both supportive ($n = 329; 66.2\%$) and non-supportive strategies ($n = 322; 64.8\%$) was predominately the mother. As Table 3 indicates, all zero-order correlations between the variables were significant.

Table 2

Sample Means, Standard Deviations, and Ranges of Study Measures

	<i>M (SD)</i>	Range	Scale Range	Alpha coefficient
EAC supportive	3.21 (0.77)	1-5	0-5	.89
EAC non-supportive	2.72 (1.05)	1-5	0-5	.95
STEU correct	18.04 (8.67)	3-36	0-42	.76
STEM correct	16.50 (5.27)	6.22-27.42	0-44	.78
BSI GSI	24.78 (10.88)	10-49.83	0-50	.99

Notes. EAC = Emotions As a Child; STEU = Situational Test of Emotional Understanding;

STEM = Situational Test of Emotion Management; BSI GSI = Brief Symptom Inventory

Global Severity Index

Table 3

Zero-Order Correlations and Alpha Coefficients of Study Measures

	EAC supportive	EAC non-supportive	STEU	STEM	BSI GSI
EAC supportive	--	.42***	-.41***	-.30***	.51***
EAC non-supportive		--	-.66***	-.54***	.78***
STEU			--	.75***	-.66***
STEM				--	-.55***
BSI GSI					--

Notes. EAC = Emotions as a Child; STEU = Situational Test of Emotional Understanding; STEM = Situational Test of Emotion Management; BSI GSI = Brief Symptom Inventory Global Severity Index. *** indicated $p < .001$

Model Analyses

The mediation models were examined using path models in PROCESS (v3.3; Hayes, 2013). PROCESS is statistical software add-on to SPSS package v22. The PROCESS program allows users to select from a variety of established mediation and moderation models. The current model, Model 4, is a mediation model that allows for parallel mediations, in which there are two potential mediators (emotion recognition and regulation) between the independent (emotion socialization) and outcome variable (psychological distress). Bootstrapping is a procedure that allows for empirical testing of statistical significance (Efron & Tibshirani, 1994) by randomly sampling with replacements from the original data set. This procedure does not require normality because the bootstrapping results provide asymmetric confidence limits. If the 95% confidence interval 95% for the estimate of the indirect effect does not include zero, it can be concluded that the indirect effect is

statistically significant at the .05 level (Shrout & Bolger, 2002). Therefore, I conducted bias-corrected bootstrapping, with 5,000 bootstrap data samples. Additionally, in a parallel mediation model, mediators are not assumed to be independent, and are often correlated. With parallel mediation, we can test each proposed mediator while accounting for the shared variance between them (Hayes, 2013).

Supportive Strategies Model. The overall model was significant, $F(3, 493) = 173.77, p < .001, R^2 = .51$. All the paths were also significant at the $p = .01$ level (see Figure 3.1). When examining the full model, about 51% of the variance in distress was accounted for by supportive socialization strategies and emotional intelligence variables.

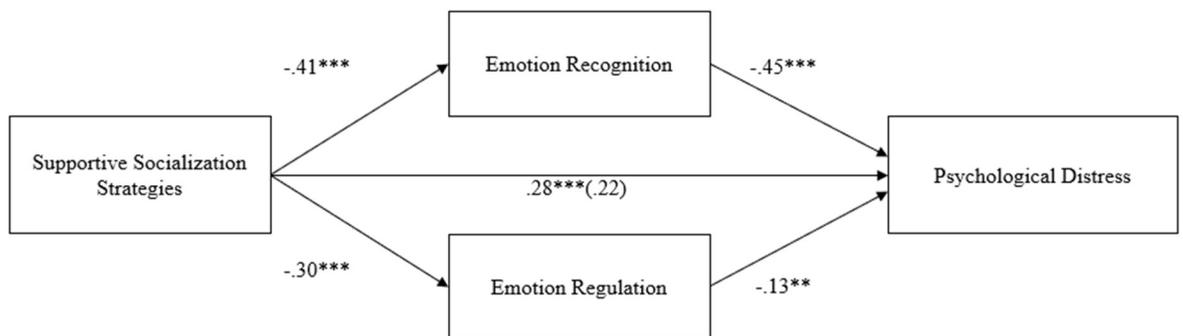


Figure 3.1 *Supportive Strategies Model*. Standardized betas are reported in the figure.

As seen in Table 4 and consistent with hypotheses, emotion recognition and emotion regulation were separate and negative predictors of distress. Interestingly, emotion recognition showed a large effect while emotion regulation showed a small effect. Consistent with the zero-order correlations, the paths between supportive socialization strategies and each of the other variables were significant, although these relationships were opposite than predicted. Specially, the increased use of supportive strategies was associated with lower emotion recognition, lower emotion regulation, and greater distress. These findings will be discussed in detail later.

Table 4

Mediation Model of Supportive Strategies

	β	<i>se</i>	<i>t</i>	<i>p</i>	95% CI
Direct paths					
Supportive to STEU (path a)	-.41	.46	-9.97	<.001	-5.51 to -3.69
STEU to BSI (path b)	-.45	.06	-9.15	<.001	-0.69 to -0.45
Supportive to BSI (path c')	.28	.49	8.16	<.001	3.01 to 4.92
Supportive to STEM (path d)	-.30	.29	-6.92	<.001	-2.61 to -1.45
STEM to BSI (path e)	-.13	.10	-2.75	.01	-0.46 to -0.08
Supportive to BSI (path c)	.50	.55	13.00	<.001	6.05 to 8.20
Indirect paths					
Mediation thru STEU (a*b)	.19	.38	--	--	1.89 to 3.39
Mediation thru STEM (d*e)	.04	.22	--	--	0.13 to .98
Total indirect effect	.22	.36	--	--	2.48 to 3.89

Notes. Path c refers to the total effect and path c' refers to the direct effect. CI is derived from the unstandardized regression coefficient.

It was also hypothesized that emotion recognition and emotion regulation will both be unique mediators of the relationship between supportive emotion socialization and psychological distress (see Figure 3.1). Generally supporting these mediational hypotheses, both indirect effects through emotion recognition and emotion regulation were significant (see Table 4). However, there was also a direct effect between supportive strategies and distress suggesting that emotion recognition and regulation served as partial mediators between supportive socialization strategies and distress. This suggests that there may be other factors that could also account for this relationship.

Non-Supportive Strategies Model. The overall model was significant, $F(3, 493) = 307.13, p < .001, R^2$ of .65. All but one of the direct and indirect paths were also significant at the $p = .01$ level, (see Table 5). When examining the full model, about 65% of the variance in distress was accounted for by the non-supportive socialization strategies and emotional intelligence variables.

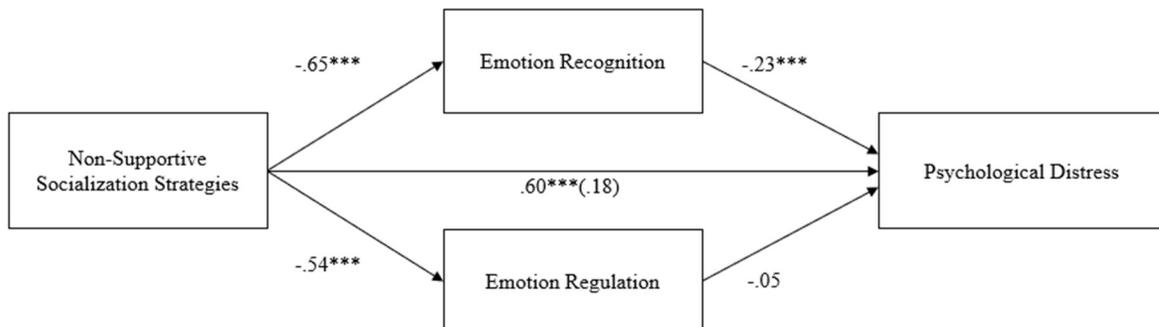


Figure 3.2 *Non-Supportive Strategies Model*. Standardized betas are reported in the figure.

As seen in Table 5 and consistent with hypotheses, emotion recognition and emotion regulation were separate and negative predictors of distress. Interestingly, emotion recognition showed a large effect while emotion regulation showed a small, non-significant effect. Consistent with the zero-order correlations, the paths between non-supportive socialization strategies and each of the other variables were significant and were in the same direction as predicted. Specially, the increased use of non-supportive strategies was associated with lower emotion recognition, lower emotion regulation, and greater distress. This will be discussed in detail later.

Table 5

Mediation Model of Non-Supportive Strategies

	β	<i>se</i>	<i>t</i>	<i>p</i>	95% CI
Direct paths					
Non-Supportive to STEU (path a)	-.65	.28	-19.27	<.001	-5.93 to -4.84
STEU to BSI (path b)	-.23	.06	-5.16	<.001	-0.40 to -0.18
Non-Supportive to BSI (path c')	.60	.37	16.95	<.001	5.47 to 6.91
Non-Supportive to STEM (path d)	-.54	.19	-14.29	<.001	-3.07 to -2.33
STEM to BSI (path e)	-.05	.08	-1.36	.17	-0.28 to 0.05
Non-Supportive to BSI (path c)	.78	.29	27.76	<.001	7.48 to 8.62
Indirect paths					
Mediation thru STEU (a*b)	.15	.34	--	--	1.30 to 2.43
Mediation thru STEM (d*e)	.03	.24	--	--	-.17 to .77
Total indirect effect	.18	.29	--	--	1.30 to 2.43

Notes. Path c refers to the total effect and path c' refers to the direct effect. CI is derived from the unstandardized regression coefficient.

It was hypothesized that emotion recognition and emotion regulation will both be unique mediators of the relationship between non-supportive emotion socialization and psychological distress (see Figure 3.2). Generally supporting the mediational hypotheses, both indirect effects through emotion recognition and emotion regulation were significant. In addition, there was a direct effect between non-supportive strategies and distress suggesting that emotion recognition and regulation severed as partial mediators between supportive socialization strategies and distress. This suggests that there may be other mediators that could also account for this relationship.

CHAPTER 5. DISCUSSION

The goal of the current study was to expand the existing literature by examining the relationships between emotion socialization as a child, with emotional intelligence and psychological distress. Previous research has separately found that emotion socialization is linked to distress (Eisenberg et al., 1999; Johnson, Hawes, Eisenberg, Kohlhoff, & Dudensy, 2017; Klimes-Dougan et al., 2007; Teo, Raval, & Jansari, 2017; Rodas, Chavira, & Baker, 2017), emotion socialization is linked to emotional intelligence (Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006; Kafetsios, 2004; Zeidner, Roberts, & Matthews, 2002; Zimmermann & Iwanski, 2014), and that emotional intelligence is linked to distress (Ciarrochi, Heaven & Supavadeeprasit, 2008; Gross & John, 2003). The current findings extend the conceptual background provided in a previous study (Mirabile, 2010) to a sample of emerging adults. However, the current findings extend the previous research by being one of the first studies to examine the full model and the variables' separate contributions with emerging adults. Overall, both supportive and non-supportive models as were found to be partial mediation models, so that both emotion recognition and emotion regulation served as partial mediators between emotion socialization and distress. The results suggest that interventions increasing emotional intelligence may buffer distress symptoms.

Furthermore, one of the key findings of the current study is that the emotional intelligence facets of emotion recognition and emotion regulation were separate and parallel mediators in the relationship between emotion socialization and distress. Previous research examining the role of emotional intelligence has generally not separated these unique facets of emotion recognition and emotion regulation (Joseph & Newman, 2010). Examining these as separate factors in the model, specifically, illuminated their unique contributions. While

both were separate predictors in the supportive strategies model, only emotion recognition was a significant predictor of distress in the non-supportive strategies model. Furthermore, in both models, emotion recognition showed a large effect, while regulation showed a small effect. This finding might suggest that an intervention specifically focused on emotion recognition could be beneficial. Often emotion recognition interventions are targeted at children, where the goal is to address the inability to accurately name and recognize emotions as to reduce further distress, especially among those diagnosed with Autism Spectrum Disorder (Bal et al., 2010). Emerging adults may also benefit from emotional recognition interventions, feasibly through individual therapy. For example, therapists (especially Emotion Focused Therapists) make emotions present in the session by directly asking clients questions like “Your face just seemed to change now, can you tell me what is happening for you right now?” and asks follow up question “What’s that like for you?” in relevant emotion-heavy discussions (Greenberg, 2010). If a client is struggling with both emotion recognition and emotion regulation, it may be best to first target the emotion recognition of self and others, due the developmental nature of emotional intelligence as recognition is more primary than emotion regulation (Mayer, Salovey, & Caruso, 1999).

On the other hand, emotion regulation may be a target of interest. Researchers have tended to show that emotion regulation is a higher-order skill that comes with the development of the pre-frontal cortex (Olsson & Ochsner, 2008). Emerging adults may be within this window of development where they are more susceptible to interventions targeted at increasing emotion regulation. For example, one study held a four weeklong course consisting of short lectures, role plays, group discussions, readings, and journaling that

increased participant's emotion regulation (Nelis, Quoidbach, Mikolajczak, & Hansenne, 2009).

While the current results suggest potential importance of emotion recognition and current feelings of distress, it is also important to note that the differences between the emotional intelligence variables may also be due to concerns with measurement and conceptualization (Joseph & Newman, 2010). Some researchers have focused on emotional intelligence in terms of *functions*. Functions focus on the 'why' of emotional intelligence, (e.g., to signal an individual's motives; Campos, Campos, & Barrett, 1989). In turn, other researchers have focused on emotional intelligence in terms of *forms*. The forms focus on the way in which an individual enacts emotional intelligence, or the 'how' (Matthews, Zeidner, & Roberts, 2007). For example, how an individual is able to identify an emotion (Holodyski & Friedlmeier, 2005). These conceptual differences have led to different ways of assessing emotional intelligence by the way items are written. The current study used an "objective" emotion regulation measure written for situational, third-person regulation (MacCann & Roberts, 2008) while other measures use more subjective measures of emotion regulation (Mayer, Salovey & Caruso, 2002; Schutte, 1998). Emotion regulation may have been measured if a different type of measurement was used, particularly a first-person measure where the participant can share their own regulation approaches.

It is also important to note that in the current study, there was still a direct effect from emotion socialization to distress in both models suggesting that other potential factors could be at play. Emerging adults are in a developmental period where many things are changing, besides emotional intelligence, that may also be impacting the mediation model. In particular, a key developmental stage for emerging adults is developing interpersonal

relationships. As such, it may be important to directly assess related interpersonal factors such as attachment or communication styles, or personality characteristics (Denham & Grout, 1993; Guo, Mrug & Knight, 2017). With a direct effect between emotion socialization and distress, interventions can also be targeted at the source of emotion socialization, the parents. It may be too late to intervene with the parents of emerging adults, however, there are recommendations for the parents of today (Eisenberg et al., 1999).

Another important addition of the current study was separating supportive and non-supportive emotion socialization strategies. Previous published studies have found connections between emotion socialization and distress but tended to only report the links between non-supportive strategies and distress (Hastings & De, 2008; Johnson et al., 2017; Miller-Slough, Zeman, Poon, & Sanders, 2016; Silk et al., 2017). Therefore, it is not fully known how supportive strategies (i.e., reward and magnify) in response to negative emotions (i.e., sadness, fear, and anger) predict psychological distress. Theoretically, supportive strategies (i.e., reward and magnify) have an opposite effect than non-supportive strategies (i.e., punish, override, and neglect), as they tend to be viewed as a positive response, rather than a negative response (Garside & Klimes-Dougan, 2002). In the current study, however, both supportive and non-supportive strategies were found to have similar effects (i.e., positively associated with distress and negatively associated with both emotion recognition and emotion regulation), though a stronger relationship was found with the non-supportive strategies.

While not initially expected, there are a couple reasons why supportive and non-supportive strategies showed effects in the same direction. One reason is that the “positive” strategies were not actually viewed by the participants. For example, while previous research

has suggested that override (e.g., told me to cheer up, bought me something I liked, told me not to worry, told me to change my attitude) is a supportive strategy because it is thought to helped the child move on from the distressing event (Garside, 2004; Gottman et al., 1997; Klimes-Dougan, Brand & Garside, 2001; Klimes-Dougan et al., 2007) it may be that it may also be considered dismissive. This might particularly be the case in response to negative emotions (i.e., sadness, fear, and anger) where the child could feel that their emotions are trivialized (i.e., it's not a big deal, and I should feel differently than I do). The parent's response may also serve as a distractor rather than teaching their child to learn from experiencing their emotions. In one study of adolescents, researchers found some support that override could be considered similar to punish and neglect (Martins, Ferreira-Santos, & Meira, 2018)".

Another example of how a previous described supportive strategy could be interpreted as a non-supportive strategy, is magnification, which is used when the parent matches the emotion of their child. Magnification may be both a supportive and non-supportive strategy depending on the specific emotion being responded to. For example, magnification of anger has generally been considered as a non-supportive strategy (Klimes-Dougan et al., 2007). Current results suggest that magnification of fear and sadness (i.e., the parent would get tearful or cry, get sad or upset, get scared themselves, or look worried) may also be a generally non-supportive strategy. In this case, a child's negative feelings may be increased due to their parents' expression of the same emotion.

Limitations and Future Directions

As noted above, one of the limitations to the current study is the measure of emotion socialization. The Emotions as a Child scale (Klimes-Dougan et al., 2007) is designed to separate supportive parent socialization strategies, from non-supportive parent socialization

strategies. This measure has been used in a number of studies however, the current results suggest that additional research into when parental socialization strategies lead to positive or negative outcomes may be warranted. Specifically, future researchers may want to clarify the strategies that directly help the child develop emotion recognition and regulation. In other words, future researchers may reassess supportive and non-supportive strategies in response to negative emotions, and possibly adding additional supportive strategies. For example, “rewarding” strategies (e.g., asked me about it, helped me deal with the issue, comforted me, empathized with me, held me) in response to negative emotions may be most beneficial for their emotional development. Additionally, the age of the child may dictate which strategies are supportive or non-supportive in nature. For example, a younger child may benefit from an overriding strategy where the parent gives them a toy to cheer them up, while an older child may be stunted in their emotional development by an overriding strategy (Mirabile, Oertwig, & Halberstadt, 2018). Future researchers may want to clarify the age range in which the participants should be remembering their parents’ emotion socialization.

The second limitation of the EAC (Klimes-Dougan et al., 2007) is the way it is generally calculated. The directions do not clearly identify who is the target parent. Most often participants respond only about one parent, typically the mother, or if two parents are assessed then it is not clear if one parent or both parents’ responses should be used. In the current study, the highest of either parents’ responses were used as this more “extreme” behavior is believed to be remembered most accurately. However, future studies could assess other possibilities including separate models for the mothers and fathers or take the average of their parent’s scores.

The measures used to assess emotion recognition and emotion regulation also have some limitations. The Situational Tests of Understanding and Managing (MacCann & Roberts, 2008) measure emotion recognition and emotion regulation as a percent of total items correct. The average percentage correct was between 37.5% and 43% suggesting that either emerging adults are poor at emotional intelligence, or that the items may be too difficult, or that they are not measuring what they are intended. If the former is true, emerging adults may need further knowledge and training about the emotions' effects on facial expressions, contexts in which emotions are used, and self-observation of the specific feelings of different emotions. Or even further, the parents might need better parent training on emotion recognition and emotion regulation so that they can accurately teach their children (Hunter et al., 2011). On the other hand, it may also be important to use a measure of emotional intelligence that is more encompassing of the individual. This might include a measure that assesses not only objective emotion recognition of others, but also subjective emotion recognition of self. They might entail items such as "I am quite capable of controlling my own emotions" or "I have a good sense of why I have certain feelings most of the time". Additionally, due to the developmental nature of these variables, a sequential mediation model could test the consequential nature of emotion recognition to regulation.

Another limitation of the current study is the use of a cross-sectional, retrospective design where emerging adults were asked to reflect on their experiences as a child. It is possible that some strategies were more easily recalled than others, consistent with previous research (Bariola, Gullone & Hughes, 2011; Garside & Klimes-Dougan, 2002). For example, due to the retroactive nature of this scale, the most impactful strategy may have been over-represented due to be the most memorable (Gross & John, 2003; Magai et al., 2004). As

such, certain strategies (i.e., non-supportive strategies) may have shown greater impact, due to their ease of accessibility. It is also important to note that a cross-sectional design does not imply causality, future longitudinal and experimental design are needed to capture the true effect of emotion socialization on distress. Future researchers could follow children through childhood and adolescence into emerging adulthood and observe the changes in these variables. Such a design could also allow for measurement of additional variables such as the impact that their peers and/or media (i.e., television shows, video games, social media) have on their emotional development (Klimes-Dougan, Pearson, Jappe, Mathieson, Simard, Hastings, & Zahn-Waxler, 2014; Miller-Slough & Dunsmore, 2016). In particular, with the rapid advancement of different ways in which individuals communicate using different technologies, it may be important to directly assesses their role on emotional development. Another drawback of a cross sectional design with this research is that the parents of the participants can no longer be the target of interventions. However, the parents of today can benefit from the findings of the current research. Results suggest that emotion socialization is associated with distress later in life, and it can be inferred that if the parents use less non-supportive strategies with their child, they may experience less distress as they enter emerging adulthood. In addition, parents could potentially impact their child's emotional intelligence by intentionally teaching skills of emotion recognition and emotion regulation. For example, parents read a story to their child that involves an emotional response, and then the parent addresses that emotion by either fostering constructive emotions or reducing unconstructive emotions, a term in the early childhood education literature known as emotional scaffolding (Rosiek, 2003). Future research should address best practices for the parents regarding emotion socialization.

An additional limitation is the sample. First, participants were recruited using MTurk and Turk Prime. Conducting research fully online has some benefits of being able to reach a larger community-based sample, but also has some limitations in that there is less control on who takes the test, and on the test-taking environment. There were many participants that began the survey but did not finish it, or left answers near the beginning blank in order to reach the end quicker. As such, it is not yet known how the current results may coincide with results from other ways. Future studies might further examine potential differences between emerging adults collected in different formats. In addition, while the current study had some diversity in terms of disability and sexual orientation, future researchers might consider assessing other diverse samples that might further our understanding of potential moderating variables.

Conclusion

Overall, the current results provide some initial evidence for a parallel mediation model of emotion socialization as a child on current distress through emotional intelligence (i.e., emotion recognition and emotion regulation). However, while the emotional intelligence variables (emotion recognition and emotion regulation) were both predictors of distress within the supportive strategies model, this was not fully supported within the non-supportive strategies model. In particular, emotion recognition showed larger effects than emotion regulation across both models. As such, it seems that developing emotion recognition may be more important when reducing psychological distress. In addition, the current study found that both supportive and non-supportive strategies had similar effects on distress, though a stronger relationship was found with the non-supportive strategies. As such, it seems that the emotion socialization strategies should be examined by their impact on emotional development. Future directions include changes to the study design including a longitudinal design, or the inclusion of additional variables to help better explain the relationships.

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