

MOTHER ADOLESCENT STORYTELLING: ASSOCIATIONS BETWEEN MATERNAL
EMOTION SOCIALIZATION AND ADOLESCENT WELL-BEING AND EMOTIONAL
DEVELOPMENT

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MIKAYLA A. ELL

Dr. Jordan A. Booker, Thesis Supervisor

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The undersigned, appointed by the dean of the Graduate School, have examined the thesis entitled

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DEVELOPMENT

presented by Mikayla A. Ell,

a candidate for the degree of master of arts,

and hereby certify that, in their opinion, it is worthy of acceptance.

Professor Jordan
Booker

Professor Kristin
Hawley

Professor Sarah
Killoren

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Abstract

Within the context of family storytelling, parent-adolescent conversations are a rich, yet underexplored, means of capturing parental emotion socialization and its impacts on adolescents' emotional development (Fivush, et al., 2006b). Furthermore, adolescent autobiographical storytelling allows mothers to promote healthy development; the ways mothers socialize during discussions of past events has meaningful impacts on adolescent adjustment and self-esteem (Bohanek et al., 2008; Habermas & Reese, 2015). Therefore, the present study aims to examine maternal socialization behaviors during adolescent autobiographical storytelling and the ways these behaviors influence adolescent well-being and adjustment. Forty-five mother-adolescent (ages 12-16) dyads discussed three life stories together; these stories were coded for global and specific socialization behaviors. Results reveal that mothers utilize different socialization behaviors by adolescent gender and age, and unsupportive socialization strategies are negatively associated with adolescent well-being and academic motivation. Furthermore, adolescent emotion regulation does moderate the effects of mothers' socialization behaviors for adolescent outcomes. Implications of these findings and ways to further explore the variety of socialization strategies analyzed are discussed.

Emotion Socialization

Parental emotion socialization considers the ways in which parents teach their children about appropriate emotion-related values and behaviors (Gottman, Katz, & Hooven, 1997). Most research on parental socialization has addressed social-emotional development in children. Thus, there is a need to study the ways in which parents socialize adolescents. Within the context of socializing adolescents, parent-adolescent conversations, particularly autobiographical storytelling are an underexplored way to capture parental emotion socialization and its impacts on adolescents' emotional development. This thesis aims to address the ways in which mothers socialize adolescents within the context of mother-adolescent storytelling, how these processes influence adolescent well-being and academic and social adjustment, and if they are moderated by emotion regulation.

Theoretical Background

While several processes contribute to socialization, direct and indirect methods of emotion socialization are considered especially valuable for children's development (Lewis & Saarni, 1985). Through these parenting behaviors, children learn about emotion-related skills and about which contexts and types of emotional expression are acceptable. Parents can display beliefs about emotion regulation and competence indirectly through parental imitation, social referencing, or identification (Saarni, 1985; Klimes-Dougan, Brand, Zahn-Waxler, Usher, Hastings, Kendziora, & Garside, 2007). By contrast, parents can directly convey emotion socialization-related expectations through parent-child interactions and conversations (i.e., giving feedback to children, validating or encouraging children's expressions).

Meta-Emotion Philosophy

Gottman, Katz, and Hooven (1996, 1997) identified parental meta-emotion philosophy as an important component of emotion socialization and child emotion regulation. Parents may adopt an emotion coaching philosophy, in which they encourage children to express their emotions, assist with labeling emotions, and use emotional experiences as teaching opportunities. Otherwise, parents may embrace an emotion dismissing philosophy, characterized by avoiding discussion of or dismissing children's negative emotions. For example, they may view emotions as dangerous or manipulative. Emotion dismissing parents do not support feeling or expressing negative emotions. Parents' beliefs about emotions lead to adoption of either an emotion coaching or dismissing philosophy; emotion coaching parents hold an awareness of not only their own emotions, but also consider how they can use their child's negative emotions as a teaching opportunity (e.g, Katz, Maliken, & Stettler, 2012). Regardless of which philosophy is adopted, parents teach children which emotions are acceptable to express and the appropriate avenues of emotional expression. In turn, whether the lessons learned are adaptive for social-emotional development or are maladaptive depend on the chosen philosophy and relevant behaviors.

Building off of Gottman et al., (1997), Eisenberg, Cumberland, and Spinrad (1998) suggested child emotion socialization behaviors are influenced by several factors centered around parent and child individual differences (i.e., valence of emotion, emotional displays, child age) and context. Additionally, emotion regulation contributes to these emotion socialization behaviors by influencing social and emotional competence. For caregivers, non-supportive practices (i.e., punishing, minimizing) may extend child's emotional arousal of negative affect and lead to further challenges with emotion regulation. By contrast, supportive parenting

practices may reduce child emotional arousal and help improve emotion regulation by discussing negative emotional experiences (Eisenberg, Fabes, & Murphy, 1996). These supportive practices are a means by which children are socialized to adaptively express their emotions as well as learn how and when to regulate emotions.

Theory of Discrete Emotions

In addition to considering how parents broadly socialize negative emotions, emotion socialization can also involve the different ways parents respond to their children's specific emotions, particularly discrete emotions like sadness, anger, and fear. The practices parents use to socialize emotions in their children reinforce particular experiences and provide children with guidelines on how they should react during emotional situations, thus encouraging children to internalize these strategies and emotional states (Garside & Klimes-Dougan, 2002; Malatesta-Magai, 1991).

Malatesta and Wilson (1988) and Malatesta-Magai (1991) suggested there are five socialization strategies that parents may use to teach their children about emotions: reward, punish, override, neglect, and magnify. Reward strategies involve supportive practices such as providing comfort and displaying empathy. Punish strategies include disapproving of the way a child expresses an emotion or reacts to an emotional experience. This can include punishing, discouraging, and even mocking. Override strategies entail minimizing a child's emotions or distracting the child from the emotional experience. Strategies that use neglect involve ignoring the child's emotions and discussion of these emotions. Lastly, parents use magnify strategies when they mirror the child's emotion or even expand on the child's emotion at a higher level of intensity.

Additionally, Malatesta-Magai (1991) also suggests that parents may encourage the expression of some emotions more than others and/or discourage the expression of other emotions. Therefore, in addition to influencing children's emotion regulation strategies, the amount of and type of socialization practice can also affect children's psychological adjustment and well-being.

Generally, punish, neglect, and magnify strategies are thought to be negative responses that can maladaptively increase children's negative emotions (Klimes-Dougan, Brand, & Garside, 2001; Silk, Shaw, Prout, O'Rourke, Lane, & Kovacs, 2011). Both Silk and colleagues (2011) and Miller-Slough and colleagues (2018) found that non-supportive socialization responses, such as use of punish and override strategies, can lead to youth internalizing problems. Longitudinally, use of maladaptive and non-supportive strategies in childhood appears to have lasting implications for youth – adolescents whose parents did not use supportive strategies as much as they used punish, neglect, and magnify strategies in childhood had higher levels of psychological distress, internalizing symptoms, and externalizing behaviors (Garside et al., 2002; Klimes-Dougan et al., 2007; O'Neal & Magai, 2005). However, Miller-Slough, Dunsmore, Zeman, Sanders, and Poon (2018) also found that frequent supportive parental responses to sadness were associated with higher internalizing symptoms due to reinforcement of negative emotions and rumination. Therefore, while findings are mixed in regards to how these strategies influence children's negative emotions and mental health, it is important to consider the ways these parental socialization strategies are affecting youth as they transition into adolescence.

Emotion Socialization in Adolescence

Though emotion socialization begins in childhood, parents remain important and influential socializing agents for children as they mature into adolescence. While adolescents begin to navigate the complexities associated with new social relationships, physical maturation, and additional difficulties with emotion regulation, parental support continues to guide adolescent emotional development and socialization (Morris, Silk, Steinberg, Myers, & Robinson, 2007). Although adolescence is also characterized by increased desire for independence from parents, parents' socialization practices are still influential and necessary during times of difficult transitions and adolescent maturation (Collins & Laursen, 2004).

As discussed above, emotion dismissing practices and detrimental parental socialization methods continue to negatively influence adolescents. Exposure to punitive, neglect, and magnify socialization strategies during childhood has lasting implications for adolescents' well-being and mental health, and adolescents who reported more parental emotion dismissing practices also reported more emotional and behavioral problems (Klimes-Dougan et al., 2007). Maternal punitive socialization practices also predict more youth internalizing symptoms compared to youth whose mothers use supportive scaffolding practices (Hastings, Klimes-Dougan, Kendziora, Brand, & Zahn-Waxler, 2014). For example, Lunkenheimer, Shields and Cortina (2007) observed families discussing emotional events. Parents who displayed unsupportive emotion parenting practices reported poorer child emotion regulation and reported more child internalizing and externalizing problems compared to parents who used supportive emotion parenting practices. By contrast, maternal emotion coaching practices continue to positively influence adolescents, such that adolescents display fewer internalizing problems when their mothers adopt emotion coaching philosophies (Katz & Hunter, 2007). Positive

scaffolding is also associated with lower physiological reactions, while negative scaffolding is associated with higher physiological reactions (Manczak, McLean, McAdams, & Chen, 2015). Furthermore, while unsupportive parenting practices during discussion of emotional events were negatively associated with mental health and emotional outcomes, and supportive parenting practices were also related to more adaptive forms of emotion regulation (Morelen & Suvey, 2012).

Emotion Regulation

Emotion regulation includes an understanding of one's emotions, demonstration of appropriate emotional expressions, and entails attempts to control the frequency, intensity, and type of emotional response (Rothbart & Bates, 2006; Thompson, 1994). While poorer emotion regulation in youth is generally tied to poorer psychological and social well-being, use of adaptive emotion regulation strategies promotes healthy psychological, social, and emotional development (Bierman, Kalvin, & Heinrichs, 2015; Chervonsky & Hunt, 2019; Zeman, Cassano, Perry-Perish, & Stegall, 2006).

Parents' socialization of affect and promotion of emotion regulation strategies influences child and adolescent regulation of emotion in a variety of ways and is related to positive psychological, academic, and emotional outcomes. Building off of emotion regulation theories emphasizing the need for parents to communicate with and support children with emotion skill deficits (Greene, 1998; Greene & Doyle, 1999), Dunsmore and colleagues (2013, 2016) found that children with oppositional defiant disorder (ODD) benefited the most when mothers were more engaged in emotion coaching practices. Similarly, parents who participated in an emotion coaching intervention program had children who not only improved in emotion regulation, but also showed decreases in depressive symptoms and negativity during parent-child interactions

(Katz, Gurtovenko, Maliken, Stettler, Kawamura, & Fladeboe, 2020). Conversely, children whose parents display more unsupportive socialization practices, such as punish and minimize, have poorer emotion regulation, poorer emotion coping, and increased depressive symptoms (Morelen et al., 2012; Sanders, Zeman, Poon, & Miller, 2015). Furthermore, children can learn proper emotion regulation skills when experiencing negative emotions by parents emphasizing and supporting positive emotions (e.g., Gentzler & Root, 2019). When parents include more supportive than unsupportive responses during parent-child conversations children showed improved emotion regulation as well (Morelen et al., 2012).

Parents continue to socialize emotion regulation as children develop into adolescents, and the implications for fostering emotion regulation in adolescence are similar to those during childhood (Miller-Slough et al., 2018; Morris et al., 2007). Parental unsupportive responses, such as punish and neglect, are associated with poorer adolescent emotion regulation (Buckholdt, Parra, & Jobe-Sheilds, 2014). Adolescents with greater emotion dysregulation skills have more negative attitudes towards school and their academic abilities, especially when their parents do not provide a supportive learning environment (Oram, Ryan, Rogers, & Heath, 2017). However, parental socialization behaviors, such as encouraging, enhancing, and override responses, improve adolescent emotion regulation (e.g., Criss, Morris, Ponce-Garcia, Cui, & Silk, 2016; Nelis, Bastin, Raes, & Bijttebier, 2018). By coaching adolescents through their emotional experiences, validating their emotions, and helping them cope, parents scaffold greater emotion regulation skills (Miller-Slough & Dunsmore, 2020; Morris et al., 2007). Furthermore, increased emotion regulation, via supportive maternal socialization practices, has also been linked to fewer depressive symptoms for adolescents (Fredrick, Mancini, & Luebbe, 2018). Similarly, in a longitudinal study, Hastings and colleagues (2014) found that supportive maternal socialization

practices, including displays of warmth and reward responses, predicted less youth internalizing problems while punitive socialization practices predicted more youth internalizing problems during a follow up period. Therefore, emotion regulation is not only an important outcome of emotion socialization, but is important for anticipating adolescent well-being and adjustment.

Scaffolding

One of the ways in which parents can socialize emotions is by scaffolding, an important strategy that can improve emotion regulation (e.g., Bird & Reese, 2006). Scaffolding is defined as the ways parents help youth accomplish difficult tasks by a) guiding youth and modifying challenging tasks they may not be able to complete independently and b) by being more experienced partners during the task (Vygotsky, 1978). Scaffolding can be a means of parental socialization during which parents support children's learning and skill development. By scaffolding, parents can approach tasks that children may not be able to accomplish independently and re-structure them in ways that children can then complete (Wood, Bruner, & Ross, 1976; Vygotsky, 1978). While scaffolding was originally designed as a socialization tool for parents to help children complete tasks, it can also be used as a tool in conversations to guide emotion-laden discussions and to help children identify, understand, and regulate their emotions.

One of the richest contexts for parents to incorporate scaffolding for youth is during parent-child discussions. These interactions can improve children's knowledge about emotions and teach children how to respond to emotions (Eisenberg et al., 1998; Saarni, 1985). During discussions, parents support children's emotion regulation and expressivity by scaffolding their children's emotional experiences, therefore verbally and cognitively accomplishing the "task" of deciphering one's thoughts, feelings, and behaviors (Fivush, Marin, Crawford, Reynolds, & Brewin, 2007; Winning, Stiles-Shields, Driscoll, Ohanian, Crowe, & Holmbeck, 2020).

Furthermore, parents can present questions, expand on children's thoughts, and reframe ideas during conversations to influence how children consider and view the discussed experiences (Manczak et al., 2015; Pasupathi & Billitteri, 2015). The ways in which parents respond to their children and their children's emotions affect the decisions children will make about how to respond to, display, and discuss emotions (e.g., Granic, 2005). In a series of observed lab tasks between mothers and preschool-aged children, children whose mothers provided less overall scaffolding (emotional, motivational, and/or technical) had more behavior problems and further emotion regulation difficulties compared to children of mothers who provided more scaffolding support (Hoffman, Crnic, & Baker, 2006).

Parental scaffolding remains an important avenue of socialization for adolescents; increased scaffolding is linked to increases in meaning making, competence, and overall well-being in adolescents (e.g., Habermas, Negele, & Mayer, 2010; McLean & Mansfield, 2012). As children mature, parents modify their scaffolding behaviors to continue to meet the developmental needs of the adolescent (Bohanek & Fivush, 2010; Habermas et al., 2010; McLean et al., 2012). Guided conversations with parents about emotion experiences can further advance social-emotional development in adolescents through socializing strategies for cognitively processing information and emotion regulation (e.g., Sher-Censor, Koren-Karie, Getzov, & Rotman, 2017). Mothers, especially, help adolescents understand and regulate their emotional experiences – mothers discuss and explain emotional events more than fathers and these practices are associated with higher levels of self-esteem and better adjustment in adolescents (Bohanek, Marin, & Fivush, 2008). Therefore, positive scaffolding strategies that encourage expression of, discussion about, and consideration of negative emotions continue to support healthy emotional expression and regulation in children and throughout adolescence.

Autobiographical Storytelling

From an early age, parents begin telling their children stories about their lives and the past (Fiese, Hooker, Koatry, Scwagler, & Rimmer, 1995; Fivush, 2010). Through mother-child reminiscing, children learn to tell stories about their own past experiences and are encouraged to advance stories by providing evaluations and judgments, as well as expressing feelings (Fivush, Reese, & Booker, 2019). While reminiscing involves recounting lived experiences, autobiographical storytelling is a form of reminiscing that depends on consideration of personal, past events (Nelson & Fivush, 2004; Reese, Meins, Fernyhough, & Centifanti, 2019).

Autobiographical storytelling considers how one makes sense of themselves and their life (Grysmen, Fivush, Merrill, & Graci, 2016; Fivush, Habermas, Waters, & Zaman, 2011; McLean, Pasupathi & Pals, 2007). The ways in which one shares experiences of their past with others allows for reflection on one's previous experiences and involves connecting the current self to the past to further advance one's life story (Grysmen et al., 2016; Habermas & Bluck, 2000).

The Development of Autobiographical Storytelling

Children begin telling stories at a young age and participate in co-reminiscing with parents (e.g. Reese & Fivush, 1993). Through joint reminiscing, children learn to understand themselves, narrate their own stories, and connect their past to their present selves and experiences (Fivush & Nelson, 2006a; Nelson & Fivush, 2004). Conversations about the past allow individuals to establish and improve understanding of self and others (Fivush, Marin, McWilliams, & Bohanek, 2009). Autobiographical storytelling provides opportunities for families to discuss and reminisce on these past events. Furthermore, successful autobiographical storytelling in childhood is related to improved literacy and school achievement (Griffin,

Hemphill, Camp, & Wolf, 2004; Leyva, Reese, Grolnick, & Price, 2009; O'Neill, Pearce, & Pick, 2004)

Autobiographical storytelling and the sharing of narratives also creates opportunities for parents to scaffold children's emotional development as they understand and learn from past events (Reese et al., 1993). When parents guide children through reminiscing about the past, children learn proper ways to discuss and consider past experiences (Fivush, Haden, & Reese, 2006b). Discussing these emotions during the recollection of past experiences allows children to understand and interpret previous events in complex ways, thereby advancing their reflection on these experiences (Bohanek et al., 2008). Maternal scaffolding entails not only offering support when children tell their stories, but also involves assisting children with the organization, interpretation, and elaboration of past events (Bird et al., 2006; Fivush et al., 2009). Mothers also adjust their scaffolding to the child or adolescent by supporting reminiscing and encouraging advancement of storytelling (Habermas et al., 2010).

Though storytelling is present in childhood, the process of autobiographical storytelling becomes more refined and reflective as children mature into adolescents (e.g., Reese, Jack, & White, 2010). Reflecting on and discussing previous experiences in advanced ways creates opportunities for adolescents to make sense of and to learn from the past with support from parents (Reese et al., 1993). Increased social-emotional competence and cognitive advancement during adolescent development allows adolescents to deeply reflect on past experiences through autobiographical storytelling as well as interpret meaning, reveal insights, or explain the lessons they have learned in ways children cannot (Habermas et al., 2000; Thorne, McLean, & Lawrence, 2004). As adolescents mature, they require less support from parents during storytelling and increasingly develop the ability to tell their own stories (Habermas et al., 2000;

Pasupathi, Wainryb, Oldroyd, & Bourne, 2019). As a result, the ways in which mothers tell stories with their adolescents and support adolescents during their own storytelling change as well. When discussing past experiences with adolescents, mothers use more elaborative statements, ask fewer elaborative questions, and include more evaluation in their responses with adolescents than with young children (Manczak et al., 2015; McLean et al., 2012). Additionally, further integration of events and deeper consideration towards meaning and self-reflection during storytelling also advances with age (Fivush et al., 2019).

The Role of Socialization within Storytelling

Furthermore, storytelling remains an influential avenue for mothers to promote healthy development (e.g., Habermas & Reese 2015). The ways mothers scaffold discussions of the emotional components of these past experiences also have meaningful impacts on adolescent adjustment and self-esteem (Bohanek et al., 2008). Supportive scaffolding behaviors during storytelling promote adolescent well-being as well as cultivate social competence and academic support. Mothers who scaffold with more emotional expression and discussion of emotion have pre-adolescents with better coping skills, fewer internalizing symptoms, and fewer externalizing behaviors (Sales & Fivush, 2005). Parents who explained and discussed specific negative emotions with adolescents when reflecting on negative experiences had adolescents who gave themselves higher scores of social and academic competence compared to families who did not discuss specific negative emotions (Marin, Bohanek, & Fivush, 2008). Supportive socialization practices are also associated with better social competence compared to unsupportive parenting practices (e.g., Eisenberg, Fabes, Shepard, Guthrie, Murphy, & Reiser, 1999). Academically, parents' socialization of agentic values promote academic achievement and harsh parenting practices have been found to affect adolescent academic success and motivation (Camacho-

Thompson, Gonzales, & Tien, 2019; Kriegbaum, Villarreal, Wu, & Heckhausen, 2016).

However, most studies have relied on youth self-reports of parental academic socialization rather than *observations* of family behaviors.

Regardless, several maladaptive socialization strategies during storytelling can negatively impact adolescents. Lougheed and colleagues (2016) have found an association between maternal supportiveness and depression, such that likelihood of maternal supportiveness was lower for adolescents who reported more depressive symptoms. Mothers who center discussions of past experiences with adolescents around their *own* experiences and feelings, known as caregiver egocentrism, have adolescents with poorer mental health outcomes (Hendrickson, Abel, Vernberg, McDonald, & Lochman, 2020).

Maternal socialization practices, whether adaptive or maladaptive, produce enduring effects. While some longitudinal studies have investigated mother-child emotion conversations, many of these include young children and explore outcomes such as attachment (Hsiao, Koren-Karie, Bailey, & Moran, 2015), emotion talk (Oppenheim, Koren-Karie, & Sagi-Schwartz, 2007), and outcomes with specific vulnerable populations (e.g., Koren-Karie, Oppenheim, & Getzler-Yosef, 2008). When considering maternal socialization strategies within the context of storytelling, Jack and colleagues (2009) determined that co-construction of mother-child reminiscence conversations has long-term implications for adolescent autobiographical memory development, suggesting mother-child conversations continue to be important and influential beyond the early childhood years. Likewise, in a longitudinal study following children from preschool to early adolescence, Reese and colleagues (2020) determined there are long term implications for the ways mothers tell stories and coach children through past experiences. Mothers who are more elaborative with their young children have adolescents who elaborate

more and process difficult life events better. Conversely, when mothers and adolescents with cancer discussed the cancer diagnosis, increased use of harsh maternal socialization practices was related to poorer adolescent adjustment across time (Murphy, Rodriguez, Schwartz, Bemis, Desjardins, Gerhardt, Vannatta et al., 2016). In general, increased use of maternal elaboration and more engagement in discussion is related to positive child outcomes (e.g., Taumoepeau & Reese, 2013). Ultimately, the ways mothers talk with their children matters not only during current conversations, but also years later. The practices mothers adopt and employ with their children may have enduring influence on adolescent well-being and adjustment.

Differences in Emotion Socialization during Storytelling by Adolescent Age and Gender

Adolescent Age

By adolescence, the ability to fully integrate and discuss past experiences is rapidly increasing as the ability to autobiographically reminisce continues to develop (Bohanek & Fivush 2010; Habermas et al., 2010). As adolescents mature, the ways in which mothers approach conversations with young adolescents versus older adolescents begin to differ. However, *how* these socialization strategies differ is not clear.

As children develop and mature, it is possible mothers begin to spend less time socializing emotional messages, structuring stories, labeling, scaffolding, and reasoning with children. For example, when mothers conversed with adolescents (11-18 years) about recent self-related experiences, older adolescents needed less maternal scaffolding when discussing their event than younger adolescents (Weeks, 2013). In a similar study by Granheist & Habermas (2019), mothers discussed negative events with their 12-year-old and their 18-year-old. Mothers spent more time helping younger adolescents identify and label emotions than they did older adolescents. Recently, Pasupathi and colleagues (2019) asked children and adolescents (ages 8-

17 years) to narrate personal experiences with anger. Children and young adolescents reported learning more from the event than older adolescents, however, children and young adolescents reported learning more from the event when they had previously narrated the experience (i.e., before the study took place), suggesting that thinking explicitly about this emotional experience was more novel for younger youth in this study. Considering older adolescents reported recounting the stories they told more often than younger youth before the study began, it is possible older adolescents are able to rehearse life stories privately (i.e., journaling) or share stories with peers or other family members to learn from those experiences. Older adolescents may have more personal and social resources for managing complex emotions and emotional events, relative to children and younger adolescents (Booker & Dunsmore, 2017). By contrast, children and younger adolescents, who lack or have yet to discover these additional resources, may need more maternal scaffolding and coaching to learn from their experiences.

More maternal socialization can also help younger adolescents frame their life stories with emotional meaning, as skills in emotionally complex and integrative storytelling do not fully develop until mid-adolescence (Bohanek et al., 2010; Habermas et al., 2010). Youth who are too young to *independently* consider the positive takeaways from past experiences when storytelling may need and benefit the most from additional support that mothers provide when scaffolding (e.g., McLean et al., 2012). Maternal socialization behaviors, such as scaffolding, may be necessary to consider positive takeaways and cultivate growth for younger adolescents. As adolescents mature and are able to successfully engage in autobiographical storytelling on their own, they may not need the additional support that younger adolescents receive.

A competing viewpoint suggests that mothers are displaying socialization behaviors with older adolescents the same amount as with younger adolescents, but they are simply socializing

in *different ways*. While early discussions of emotions between parents and youth focus on increasing emotional understanding and competence (e.g., Eisenberg et al., 1998), the nature of conversations with older youth may shift once adolescents understand and have internalized the basic principles of emotion regulation and social-emotional competence. Miller-Slough & Dunsmore (2016, 2019) argue emotion socialization is “an ongoing process during which adolescents continue to receive feedback on their emotional displays with respect to age-based expectations.” While aging adolescents may continue to benefit from maternal socialization responses during storytelling, the ways in which mothers socialize may evolve. Indeed, older adolescents are less likely to need assistance structuring their stories or labeling emotions compared to children or younger adolescents (e.g., Habermas et al., 2010; Pasupathi et al., 2019). In a study examining maternal identity development during conversations with adolescents, mothers expressed vulnerability more often with older adolescents than younger youth (McLean & Morrison-Cohen, 2013). Similarly, when examining scaffolding in mother-adolescent conversations, McLean and Mansfield (2012) found mothers scaffolded more with younger adolescents when discussing meaning, but scaffolded more with older adolescents when discussing vulnerability. Mothers may adopt new socialization behaviors as their adolescents mature, and these may also depend on the content of the conversation. Additionally, adolescents may be influencing and directing these conversations more as they age. When adolescents discussed recent self-events with mothers, older adolescents were more likely to converse about identity without maternal scaffolding compared to younger adolescents (Weeks, 2013). This suggests it is not only mothers who change the direction and topic of conversation with maturing adolescents, but also adolescents themselves who introduce topics of discussion.

Furthermore, McLean et al., (2012) reported that increased use of negation by mothers was actually associated with higher levels of adolescent-reported meaning during discussions of past events. Similarly, when children and adolescent narrated times in which they have harmed friends and siblings, Recchia and colleagues (2013) found older adolescents pushed back against their friends' perspectives more often than younger youth. This finding may be related, such that use of negation during mother-adolescent storytelling may actually benefit older youth – older adolescents, presumably more mature than younger adolescents, may use mother-induced negation to further solidify their own arguments. Older adolescents may defend or support their own thoughts during conversations with mothers; they are more confident in their beliefs, not as easily swayed by their mother's opinions, and may disagree with corrections more often than younger children. While use of negatives may not benefit younger youth, it may help older adolescents gain confidence in their beliefs about themselves and those around them. Therefore, mothers may begin to incorporate and emphasize different socialization strategies during storytelling as a means to accommodate their maturing adolescent.

Adolescent Gender

Regarding gender, several child emotion socialization studies have found that parents discuss previous emotional experiences in different ways with sons versus with daughters. Parents tend to discuss more emotional aspects of past experiences with daughters than sons and mothers tend to elaborate more with daughters than sons (e.g., Buckner & Fivush 2003). However, possible gender differences are not as clear during adolescence; while Jobe-Shields and colleagues (2014) have found parents use punitive responses more often with boys than girls, other studies have not found any adolescent gender differences (e.g. Klimes-Dougan et al., 2007).

Some findings suggest parents tend to respond with more reward socialization behaviors with boys compared to girls when discussing anger, but parents reward sadness and worry responses more often with girls than boys (Brand & Klimes-Dougan, 2010, Garside & Klimes-Dougan, 2002, Miller-Slough et al., 2018; Zeman, Cassano, & Adrian, 2012). By early adolescence boys typically display higher levels of externalizing behaviors than girls (Leaderbeater, Kuperminc, Blatt, & Hertzog, 1999). Higher externalizing behaviors in boys may be partially due to reinforced cultural and societal stereotypes that boys should express anger more than girls and suppress sadness. For adolescent girls, emotion expression of sadness tends to increase in intensity throughout development along with increases in instability of emotional expression (Chaplin, 2015; Rosenblum & Lewis, 2003). Furthermore, women self-identify as more emotionally expressive than men (e.g., Bronstein, Briones, Brooks, & Cowan, 1996). Hence, the need to regulate emotions—whether by anticipating emotional events, shifting attention toward or away from emotional stimuli, or reappraising emotional experiences—may become increasingly valued for girls (Rosenblum et al., 2003).

Additionally, the ways mothers socialize their adolescent's emotions and emotion regulation skills may differ by gender as a result of different emotion experiences and norms in childhood and adolescent development. Less supportive maternal socialization predicted more youth depressive symptoms, but only for girls who showed the most negative emotion suppression (Hastings et al., 2014). By contrast, Galliher and Kerpelman (2012) suggest adolescent boys may need more support structuring and elaborating when telling emotional stories due to inexperience discussing emotional experiences related to the self. When McLean et al., (2012) examined elaborations, confirmations, and negations during mother-adolescent conversations, they found that sons received more elaborative prompting than daughters during

discussion of sad memories, but not happy memories. Some evidence suggests adolescent girls are more emotionally competent than boys because they were socialized to elaborate and express themselves emotionally in conversations from a young age (McLean et al., 2012, Miller-Slough et al., 2020). Therefore, by the time girl mature into adolescents they may not need as much support as adolescent boys.

It is possible gender differences seen in maternal emotion socialization practices with children will continue into adolescence – mothers may spend more time elaborating on emotions with daughters and emphasizing emotional experiences with daughters than sons. However, it is also possible sons may need more maternal socialization support due to lack of comfort with discussing emotions. Mothers may also intentionally work harder to discuss emotions with boys than girls due to girls willingness to self-disclose more often than boys (e.g., Hyde, 2007; McLean et al., 2012). Hence, one of the goals of this project was to consider whether the overall amount of mothers' socialization effort that was directed toward girls and boys during family storytelling differed. Further, another goal of this project was to consider whether the *types* of socialization mothers' incorporated tended to emphasize different behaviors toward girls and boys (i.e., elaboration, dismissing).

The Present Study

Storytelling goes beyond simple reconsideration of past experiences; these conversations support development of adolescents' life story. However, autobiographical storytelling is also socialized and directed by those with whom adolescents share these stories (e.g., McLean et al., 2007). Therefore, it is crucial to investigate the ways in which mothers continue to act as socializing agents for adolescents during these conversations and how these socialization strategies continue to influence adolescents. Furthermore, while discussing negative emotion-

related and challenging events together can help youth work through negative emotions or events (Hendrickson et al., 2020), less research has investigated how discussion of positive experiences may influence adolescents.

Therefore, the present study aims to further explore the ways mothers scaffold and socialize emotions with adolescents during mother-adolescent conversations about past events, including positive childhood memories. This study explores the ways in which mothers socialize differently given adolescent gender, age, and/or parenting practices. Mothers' specific socializing behaviors (i.e., reward, punish) and broader socializing styles (i.e., structure, factual communication) and how they may inform adolescent outcomes of mental health, academic motivation, and social support were also investigated. Additionally, this study addresses whether mothers' specific and broad socialization behaviors had enduring effects on their adolescents. Lastly, this study explored whether the effects of mothers' socialization behaviors were moderated by adolescents' emotion regulation, as reported by mothers. In order to answer these questions, 50 mother-adolescent dyads (adolescent ages 12-16) will be recruited from the mid-Missouri area between January-September of 2021. Dyads will discuss four life events together and then independently completed questionnaires on parenting, adolescent emotion regulation, and adolescent adjustment (i.e., well-being, mental health). Dyads will complete computerized follow-up measures after four-months, using the same questionnaires.

Research Questions

1. Do mothers socialize differently given adolescent gender and/or age?

We did not have *a priori* hypotheses regarding adolescent gender due to conflicting findings in previous literature. Regarding adolescent age, we hypothesized mothers would socialize younger adolescents differently than older adolescents, such that mothers

would scaffold less with older adolescents and push back against older adolescents' statements more often than with younger adolescents.

2. Do mothers socialize differently given self-reports of parenting practices?

We hypothesized mothers would socialize differently given self-reports of parenting practices, such that mothers who reported more positive parenting practices would incorporate more emotional communication and reward-oriented socializing behaviors into their conversations with adolescents.

3. Do mothers' specific socializing behaviors (i.e., reward, punish) inform outcomes at baseline and four-month follow-up?

We hypothesized mothers who used more positive specific socializing behaviors (i.e., reward) would have adolescents with improved well-being, higher academic motivation, and more perceived social support at baseline and at 4-month follow-up.

4. Do mothers' broader socializing styles (i.e., structure, factual communication) inform outcomes at baseline and follow-up?

We hypothesized mothers who incorporated broader socializing behaviors that focused on the adolescent and his or her emotions (i.e., less egocentrism, more emotional communication) would have adolescents with improved well-being, higher academic motivation, and more perceived social support at baseline and at 4-month follow-up.

5. Are the effects of mothers' socialization behaviors moderated by adolescents' emotion regulation (as reported by mothers)?

Lastly, we hypothesized that increased use of positive specific and broad socialization behaviors would be moderated by adolescents' emotion regulation. In line with existing theories (Greene, 1998; Greene et al., 1999) and previous work in clinical studies of

emotion socialization between mothers and children (Dunsmore et al., 2013, 2016), we expected that positive effects mothers' constructive socialization behaviors would be larger for adolescents who show deficits in emotion competence—those who have lower scores in emotion regulation.

Method

Participants

Forty-five mothers and their adolescents ($N = 45$) were recruited from the mid-Missouri area. Mothers were between the ages of 32 and 59 (Mean age = 44.66). The majority of mothers were white (80.5%) and well-educated; 41.5% had earned a Bachelor's degree and 48.8% had earned a post-Bachelor degree. Adolescents were between the ages of 12-to-16-years old (Mean age = 13.60) and 51.1% identified as female. Sixty-three percent of adolescent were white, 30.3% identified as mixed and 6.1% identified as Asian. All families spoke, read, and wrote in English as the primary language in the home. Exclusion criteria for adolescents included having a recognized intellectual disability, diagnosis on the autism spectrum, and/or diagnosis with experiencing episodes of psychosis.

Procedures

All procedures were approved by the institution's Institutional Review Board and met the standards for ethical and responsible conduct of research.

Participants were recruited through community flyers, social media posts, and university advertisements. Mothers were contacted for scheduling purposes after they completed a screener questionnaire to ensure they meet criteria for the study. Families met with the principal investigator over Zoom for one hour, during which verbal consent was obtained and mother-

adolescent dyads answered and discussed four story prompts together. Mothers and adolescents then individually completed internet-based surveys through Qualtrics after the Zoom session ended. Families were given as much time as needed to complete the surveys, but it is estimated the survey took 30 minutes to complete. As part of a larger study, mothers completed several self-report measures on well-being, mental health, parenting stress, parenting practices, and adolescent emotion regulation. Adolescents completed self-reports on well-being, mental health, risk taking, academic motivation, social support, relationship quality with mothers, and identity development. Families received a \$25 Amazon gift card as compensation for participating.

Participants were contacted via email four months after initial data collection and invited to complete another round of internet-based surveys via Qualtrics in exchange for another \$25 Amazon gift card.

Storytelling Prompts

Families were asked to discuss four events together, reflecting on their own lives and sharing a personal story from each prompt. For this thesis, the first three stories were coded and considered (see Table 1). Mothers and adolescents were encouraged to make comments, ask questions, and discuss each other's stories together. Both mothers and adolescents each shared a positive childhood memory, a life lesson they learned from their parent, and a time during which the other person with them in the study supported them. For each prompt, participants were asked to provide details about who was involved, when and where this happened, what they were thinking and feeling, and what the story may say about them or their life.

Measures

Mothers

The short-form of the Alabama Parenting Questionnaire (APQ-9; Elgar, Waschbush, Dadds, & Sigvaldason, 2007; Frick, 1991) was used to capture parenting practices. This 9-item measure uses a 5-point Likert scale (1 = *Never*; 5 = *Always*; sample item = “You threaten to punish your child and then do not actually punish him/her;” consists of three subscales: positive parenting ($\alpha = .95$), inconsistent discipline ($\alpha = .62$), and poor supervision ($\alpha = .40$). This measure was also completed at the second timepoint: positive parenting ($\alpha = .83$), inconsistent discipline ($\alpha = .81$), and poor supervision ($\alpha = .58$).

The Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) was used for parent-reported adolescent emotion regulation at both time points. This 36-item measure used a 5-point scale (1 = *Almost never*; 5 = *Almost always*; sample item = “My child has difficulty making sense out of his/her feelings.” The DERS consists of six subscales: nonacceptance of emotional responses ($\alpha = .90 - .91$); difficulty engaging in goal-directed behavior ($\alpha = .82 - .87$); impulse control difficulties ($\alpha = .71-81$); lack of emotional awareness ($\alpha = .76 - .85$); limited access to emotion regulation strategies ($\alpha = .83 - .88$); and lack of emotional clarity (T1 $\alpha = .70$, T2 $\alpha = .58$).

Adolescents

The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988) was used to capture 1) familial ($\alpha = .88 - .95$), 2) peer ($\alpha = .94 - .95$), and 3) significant other ($\alpha = .94 - .97$) social support. This 12-item measure uses a 7-point scale (1 = *Very strongly disagree*; 7 = *Very strongly agree*; sample item = “My family is willing to help me make decisions.”

The Academic Motivation Scale (AMS; Vallerand, Blais, Briere, & Pelletier, 1989) was used to capture motivation for attending school. This 28-item measure uses a 5-point scale (1 = *Does not correspond at all*; 5 = *Corresponds exactly*) to answer the prompt, “Why do you go to school?” (sample item = “In order to obtain a more prestigious job later on). Responses were collected at both timepoints and include seven subscales; intrinsic motivation – to know ($\alpha = .88 - .91$), intrinsic motivation – toward accomplishment ($\alpha = .91 - .93$), intrinsic motivation – to experience stimulation ($\alpha = .86 - .87$), extrinsic motivation – identified ($\alpha = .87 - .88$), extrinsic motivation – introjected ($\alpha = .85 - .86$), extrinsic motivation – external regulation ($\alpha = .73 - .91$), and amotivation ($\alpha = .84 - .85$). These subscales were re-arranged into three broad factors: intrinsic motivation (intrinsic motivation – to know, intrinsic motivation – toward accomplishment, and intrinsic motivation – to experience stimulation), extrinsic motivation (extrinsic motivation – identified, extrinsic motivation – introjected, extrinsic motivation – external regulation), and amotivation (attrinsic motivation).

The Patient Health Questionnaire (PHQ-9; Kroenke, Spitzer, & Williams, 2001) was used to capture adolescent depression. This 9-item measure uses a 4-point scale (0 = *Not at all*; 3 = *Nearly every day*) to answer the prompt, “Over the last 2 weeks, how often have you been bothered by any of the following problems?” (sample item = “Feeling down, depressed, or hopeless;” $\alpha = .82 - .90$).

Family Story Coding

Stories were recorded and manually coded to capture maternal responses to adolescent’s stories and mothers’ behaviors involving adolescent emotions. Each story provided by adolescents (3) were coded at 1) the global level and 2) at the level of specific instances for

mothers' responses, using the Emotion Discussion Coding System (EDCS, Section on Developmental Psychopathology, 2002; Hastings et. al., 2014).

Global scores captured the overall nature of mothers' emotion socialization practices while discussing stories with adolescents. Stories were coded on a 5-point Likert scale (0 = *Absence*; 4 = *High Quality Effort*) for four scales: Structure (how much mothers directed the conversation); Egocentrism (how much mothers centered the discussion around themselves); Emotion Communication (how much mothers communicated with emotion words and discussed the internal state); and Factual Communication (how much mothers discussed the facts of events). Scores indicate the type of effort mothers used during storytelling and the quality of their comments, not the frequency. Lower quality behaviors include offhand remarks, brief and/or glib behaviors, and times in which mothers are not guiding or coaching the adolescent. Higher quality behaviors are defined as those in which there is intentionality associated with what the mother is sharing, mothers add novel information to the adolescent's story, and provide scaffolding for the adolescent.

Instance-based scores captured specific maternal responses to adolescent emotions and responses and include four scales adapted from Malatesta-Magai's theory of discrete emotions (1991): Reward (e.g., empathize, comfort); Override (e.g., minimize, distract); Punish (e.g., discourage, disapprove); and Magnify (e.g., mirror emotion, expand). Every 30-second interval of the prompts was coded as *Absent* (score of 0) or *Present* (score of 1) for each of the four codes. The total count of codes for each family was averaged across the length of the story to standardize for time across families.

Coding Procedures and Reliability

Two groups of three coders were trained on the global based coding scheme. Twenty percent of the stories were coded for training purposes to achieve reliability. Discrepancies were resolved through consensus meetings. Stories used to achieve reliability were then re-coded by an individual coder after reliability had been achieved. For global coding, group 1 coders were sufficiently reliable (ICCs = .93 for structure, .87 for egocentrism, .83 for emotional communication, and .85 for factual communication. Group 2 coders were similarly reliable (ICCs = .95 for structure, .93 for egocentrism, .73 for emotional communication, and .97 for factual communication. For instance coding, reliability was not sufficiently achieved between all four coders to move into independent coding (ICCs = .70 for reward, .59 for override, .60 for punish, .53 for magnify). All stories for specific socialization behaviors were coded between the master coder and an additional coder independently. The master coder and one coder then met and resolved all discrepancies via consensus meetings.

Analytical Plan

Due to poor attrition across timepoints, imputation was conducted for self-report outcomes of interest. Mothers had complete responses for socialization behaviors, but imputed data was entered and analyzed for mothers' self-reports of parenting practices (APQ), mothers' reports of adolescent emotion regulation (DERS), adolescent self-reported mental health (PHQ), adolescent self-reported academic motivation, and adolescent self-reported perceived social support. Mothers' socialization behaviors and demographics, as well as adolescent demographics were used as sources of additional information. We sought to find the most reasonable estimates possible by leaving all self-reports open to imputation as well as using them as a source of additional information. SPSS was used to run 100 sets of different imputation models and then

merge all scores together to obtain an aggregate score from all imputed models. Imputed data was utilized for all analyses.

Additionally, missing data for adolescent age and gender was obtained by watching recordings of mother-adolescent storytelling and referring to the screener questionnaire mothers initially filled out before data collection. We then ran descriptive of our raw and imputed data to confirm adolescent self-report outcomes were very similar across both datasets (see Table 2).

Preliminary analyses include correlation tests to investigate associations between adolescent age and adolescent gender with any adolescent reported outcomes, including mental health, academic motivation, and social support.

ANOVAs addressed whether mothers socialize differently given adolescent gender and/or age (Research Question 1). Multiple regressions addressed whether mothers socialize differently given self-reports of parenting practices, as captured by the 3 subscales of the APQ-9 (Research Question 2). Repeated measures ANCOVAs addressed Research Questions 3 and 4: do mothers' specific socializing behaviors or mothers' broader socializing behaviors inform adolescent-reported outcomes of mental health, academic motivation, and social support at baseline and four-month follow-up? Continuous predictors in these models included the four specific socialization behaviors of reward, override, punish, and magnify. (Research Question 3) or the four global socialization behaviors of structure, egocentrism, emotion communication, and factual communication (Research Question 4). Gender and/or age were added as covariates if preliminary analyses indicate any meaningful associations are present. Lastly, to address whether the effects of mothers' socialization behaviors are moderated by adolescents' emotion regulation (as reported by mothers), moderation analyses were conducted (Research Question 5).

Results

Preliminary Analyses

Associations between Adolescent Age, Gender, and Adolescent-Related Outcomes

Pearson correlations examined the associations between adolescent age, adolescent gender and adolescent outcomes of mental health (PHQ-9), academic motivation (AMS) and its three factors, and perceived social support (MSPSS) and its three subscales. Adolescent age was divided into younger adolescents (ages 12-13) and older adolescents (ages 14-16). Adolescent age was associated with mental health ($r = -.56, p < .001$). Older participants reported fewer depressive symptoms. Adolescent gender was associated with academic motivation broadly ($r = -.35, p = .05$) and intrinsic motivation specifically ($r = -.34, p = .02$). Girls reported higher levels of overall intrinsic motivation (see Table 3). There were no significant correlations for social support with adolescent gender or age.

Additionally, we also considered correlations between our adolescent outcomes. There were significant correlations between the PHQ-9 and social support, as well as between the PHQ-9 and academic amotivation. There were also many significant correlations between several subscales of perceived social support and academic motivation. These correlations were within the expected directions (see Table 4).

Hypothesis Tests

We recognize $p < .05$ is an arbitrary cutoff for interpreting findings as significant and chose to also consider associations supported at $p < .10$ with a 90% confidence interval, given our focus on a modest sample size. We include effect sizes where possible.

Do mothers socialize differently given adolescent gender and/or age?

ANOVAs investigated whether there was an association between mothers' use of any specific or global socialization behaviors and adolescent gender and/or age. There was a significant difference between mothers' socialization behaviors and adolescent gender in regards to mothers' use of override ($F(2, 42) = 3.25, p = .08, \eta^2 = .07, 90\% \text{ CI} = [-0.08 - -0.00]$).

Mothers used more override behaviors with daughters than with sons (see Figure 1)

We explored the interaction between adolescent age and gender with mothers' socialization behaviors. There were not any significant interactions between mothers' instance based socialization behaviors on adolescent age and gender. However, there was a significant interaction between age and gender for mothers' use of a global emotional communication ($F(3, 41) = 3.40, p = .07, \eta^2 = .07, 90\% \text{ CI} = [-0.02 - 1.13]$). Mothers displayed the highest level of emotional communication with younger boys and the lowest level of emotional communication with older boys (see Figure 2).

Do mothers socialize differently given self-reports of parenting practices?

We used multiple regressions to assess whether there were associations between mothers' socialization behaviors and baseline reports on the APQ. The three APQ subscales were mean-centered for interpretation purposes.

We first ran models examining possible main effects of age and the three subscales of APQ – positive parenting, inconsistent discipline, and poor supervision. All omnibus models were nonsignificant.

We then explored interaction effects between age and mother endorsements of parenting on the APQ. Three, two-way interactions were tested separately for each observed socialization behavior. There was a significant interaction between positive parenting and adolescent age

when considering mothers' use of magnify behaviors ($\beta = .17$, $SE = .05$, partial $R^2 = .24$, $p = .001$) and mothers' use of emotional communication ($\beta = .51$, $SE = .27$, partial $R^2 = .08$, $p = .072$). Mothers who reported more positive parenting with younger adolescents used fewer magnify behaviors. Mothers who reported more positive parenting with older adolescents used more magnify behaviors (see Figure 3). Mothers who reported more positive parenting with younger adolescents used less emotional communication, whereas mothers who reported more positive parenting with older adolescents used more emotional communication (see Figure 4). Lastly, there was a significant interaction between inconsistent discipline and adolescent age for mothers' use of factual communication ($\beta = .47$, $SE = .24$, partial $R^2 = .09$, $p = .054$). Mothers who reported more inconsistent discipline with younger adolescents incorporated more factual communication in conversations, whereas mothers who reported more inconsistent discipline with older adolescents incorporated less factual communication into their discussions (see Figure 5).

Do mothers' specific socialization behaviors inform adolescent mental health, academic motivation, and social support at baseline and four month follow-up?

Repeated measures ANCOVAs investigated between- and within-subjects differences across two timepoints of adolescents' self-reports of depressive symptoms, academic motivation, and perceived family support. Mothers' scores for the four specific socialization behaviors (reward, override, punish, and magnify), composited across the three interactions, were included in the models as continuous effects, along with the covariate adolescent age.

For depressive symptoms, there was not support for within-subjects effects. There were significant between-subjects effects given mothers' use of punish ($F(1, 39) = 5.76$, $p = .02$, partial $\eta^2 = .13$), override ($F(1, 39) = 4.10$, $p = .05$, partial $\eta^2 = .10$), and magnify behaviors

($F(1, 39) = 3.24, p = .08, \text{partial } \eta^2 = .08$). Adolescents reported more depressive symptoms when mothers used more punitive and magnify socialization behaviors. Adolescents reported fewer depressive symptoms when mothers used more override behaviors (see Figure 6).

For academic motivation, there were significant within-subjects effect for adolescents' academic intrinsic motivation. When mothers used more magnify socialization behaviors, adolescents reported a decrease in intrinsic motivation across time points ($F(1, 39) = 3.44, p = .07, \text{partial } \eta^2 = .08$). There was a significant within-subjects effect for adolescents' amotivation. When mothers used more magnify behaviors, adolescents reported an increase in amotivation across time points ($F(1, 39) = 10.94, p = .002, \text{partial } \eta^2 = .22$).

There were significant between-subjects effect for academic intrinsic motivation ($F(1, 39) = 4.10, p = .05, \text{partial } \eta^2 = .10$) and academic amotivation ($F(1, 39) = 13.27, p < .001, \text{partial } \eta^2 = .25$) given mothers' uses of punitive behaviors. Adolescents reported higher levels of academic intrinsic motivation and lower levels of amotivation when mothers used fewer punitive behaviors (see Figure 7).

For perceived social support, there was a significant within-subjects effect regarding perceived familial social support and magnify ($F(1, 39) = 11.03, p = .002, \text{partial } \eta^2 = .22$). Mothers who used more magnify behaviors had adolescents who reported greater perceived familial support over time.

Do mothers' broader socialization behaviors inform adolescent mental health, academic motivation, and social support at baseline and four-month follow-up?

We used repeated measures ANCOVAs to test between- and within-subjects differences in adolescents' self-reports given mothers' global socialization behaviors. Age was again included as a covariate.

For depressive symptoms, there were no significant within-subjects or between-subjects effects given mothers' behaviors.

For academic motivation, there was evidence of between-subjects effects. Structure had a between-subjects effect for extrinsic motivation ($F(1, 39) = 9.49, p = .004, \text{partial } \eta^2 = .20$) and for amotivation ($F(1, 39) = 4.55, p = .04, \text{partial } \eta^2 = .10$). Mothers who used more structure had adolescents who reported less extrinsic motivation (see Figure 8) and more amotivation (see Figure 9).

For family support, there were no supported within- or between-subjects effects.

Are the effects of mothers' socialization behaviors moderated by adolescents' emotion regulation?

We ran multiple linear regressions to explore the two-way interactions between mothers' socialization behaviors and reports of adolescents' emotion regulation difficulties. Two sets of models were tested: one with instance-based mother behaviors; and the other with global measures of mother behaviors. Age was included as a model covariate. We examined the role of mothers' reports of adolescent emotion regulation.

There was a significant interaction between adolescent emotion regulation and mothers' use of factual communication for adolescents' depressive symptoms ($\beta = -.14, SE = .06, \text{partial } R^2 = .13, p = .023$). When mothers used more factual communication and adolescents had fewer emotion regulation difficulties, adolescents reported highest depressive symptoms (see Figure 10). There was also a significant interaction between adolescent emotion regulation and mothers' use of egocentrism when considering adolescents' perceived familial social support ($\beta = -.26, SE = .14, \text{partial } R^2 = .09, p = .071$). When mothers used more egocentrism and adolescents had fewer emotion regulation difficulties, adolescents reported lower family support (see Figure 11).

Discussion

We examined the ways mothers socialize adolescents during storytelling with consideration towards the ways in which these socialization behaviors are related to adolescent outcomes of mental, academic, and social adjustment. We examined eight socialization behaviors moms can use, encompassing both specific ways of responding to youth and broader styles of interacting with youth in the context of emotion socialization. Furthermore, we also explored the moderating role of adolescent emotion regulation on mothers' socialization strategies.

Mothers Socialize Differently by Adolescent Age

Our hypotheses that mothers would socialize adolescents differently by adolescent age and adolescent gender partly were supported. Mothers used more distracting and minimizing behaviors with girls than boys. Mothers used the same amount of emotional communication with girls regardless of age, but mothers' use of emotional communication differed depending on boys' age. Mothers used the most emotion talk with younger adolescent boys, but used the least amount of emotion talk with older adolescent boys. Broadly, these findings are noteworthy considering previous literature has found mixed findings regarding whether or not mothers socialize differently given adolescent gender (e.g., Klimes-Dougan et al., 2007; Jobe-Shields et al., 2014). Specifically with boys, it is possible there is more nuance in socialization approaches with boys and these approaches may depend on age or level of emotional maturity. These findings may be more pronounced in boys due to delayed emotional readiness compared to girls (e.g., McLean et al., 2012). Otherwise, it is possible we are capturing novel ways in which mothers are socializing adolescents differently than they socialized children and this is more pronounced in boys.

Mothers' Self-Reports of Parenting Practices Inform Socialization Behaviors

Mothers' beliefs about parenting were associated with their socialization behaviors. Mothers who endorse positive parenting mirror and expand more on adolescents' emotions as well as use more emotional communication with older adolescents than younger adolescents. These findings fit existing work, as past studies have found empathetic responses to be associated with supportive parenting practices and magnify responses to be associated with negative child emotion (e.g., Klimes-Dougan et al, 2001). These results also fit with earlier findings – increased use of magnify behaviors and emotional communication with older adolescents could be used as a means of disclosing more information about themselves to adolescents (e.g., McLean et al., 2013). Additionally, mothers who reported frequent use of inconsistent discipline used more factual communication with younger adolescents, but not older youth. It is possible mothers who supervise less struggle to connect with their adolescents as much. As a result, they discuss objective information during storytelling more often than emotional content.

Mothers' Socialization Behaviors Inform Adolescent Well-Being, Academic Motivation, & Social Support

We hypothesized mothers who used more positive socializing behaviors (i.e., reward) would have adolescents with greater adjustment at baseline and at 4-month follow-up. Our hypothesis was partly confirmed, as most findings revealed mothers who used negative socialization behaviors had adolescents with more depressive symptoms and poorer academic motivation. When mothers used more punish and magnify behaviors, their adolescents reported more depressive symptoms. Mothers who minimized or dismissed their adolescents' emotional expressions had adolescents who reported less depressive symptoms. These findings support

previous results that unsupportive socialization behaviors (i.e., punish, magnify) negatively impact adolescents' well-being (e.g., Miller-Slough et al, 2018). Considering research on maternal socialization behaviors during adolescent autobiographical storytelling is severely limited, these findings emphasize the continued importance of mother-adolescent socialization throughout adolescent development and need for further exploration of this topic. Furthermore, they highlight the multi-faceted influence of socialization; not only does emotion socialization help children identify and label emotions, but it also relates to adolescent well-being and adjustment. Mothers can use supportive socialization strategies during discussions to promote adolescent social-emotional development and functioning.

Mothers who expanded on adolescents' emotions and mirrored their child's emotions had adolescents who reported lower levels of academic intrinsic motivation and higher levels of academic amotivation over time. Additionally, mothers who used more punitive behaviors had adolescents who reported lower levels of academic intrinsic motivation and higher levels of academic amotivation. These findings build off of previous literature by Glasgow and colleagues (1997) – mothers who used unsupportive parenting practices were more likely to have adolescents with lower levels of intrinsic motivation. Furthermore, mothers who structured more of adolescents' storytelling had adolescents who reported lower levels of extrinsic motivation, and higher levels of academic amotivation. Previous studies with children have found increased parental autonomy support leads to greater autonomous motivation in academic settings (e.g., Grolnick and Ryan, 1989; Roth, Assor, Niemiec, Ryan & Deci, 2009). It is possible too much structuring during discussions with adolescents could undermine opportunities for adolescents to develop and refine skills in structuring and organizing their *own* emotional processes and thoughts. Deficits in these skills may then lead to lower levels of academic motivation.

Finally, mothers who expanded on adolescents' emotions and mirrored these emotions more often had adolescents who reported greater perceived familial support over time. Considering magnify behaviors have been traditionally recognized as unsupportive socialization practices and are negatively associated with adolescent well-being and academic intrinsic motivation, this is a surprising finding. It is possible there *are* aspects of magnifying socialization behaviors that are beneficial for adolescent social-emotional development. When mothers expand on adolescents' emotions, often by sharing their own emotional experiences, adolescents may perceive these instances as mothers' attempts to connect with or validate the adolescent. Indeed, Main and colleagues (2018) found that adolescents shared more information with mothers when mothers used more validation during discussions. Alternatively, adolescents may perceive magnify socialization behaviors as supportive and therefore lead to higher reports of perceived familial support, but in reality these behaviors may be detrimental to adolescent social-emotional development. It is possible mothers' use of magnify behaviors hinders adolescents from processing their own emotions; mothers' expansion on adolescent emotion may lead to greater fixation on emotions instead of mothers scaffolding these conversations to help adolescents work through their emotional experiences. Consistent with findings and discussion in a study conducted by Briscoe, Stack, Dickson, and Serbin (2019), adolescents may perceive mothers' use of magnify behaviors as supportive, when in turn these behaviors provide adolescents with less coping strategies and lead to poorer emotional processing and adjustment.

Are the effects of mothers' socialization behaviors moderated by adolescents' emotion regulation?

Our expectation that increased use of positive specific and broad socialization behaviors would be moderated by adolescents' emotion regulation was partially supported. Endorsements

of depression did not differ between adolescents with more emotion regulation differences, regardless of mothers' factual communication. This was surprising, given existing family research in the context of externalizing behavior problems (e.g., Dunsmore et al., 2016). It is possible our findings deviate from previous literature because factual communication focuses more on objective information in storytelling than emotional content. The theoretical model for affective social competence (ASC) emphasizes the critical role of emotion communication for adolescent emotion development and competence (Booker et al., 2017; Halberstadt, Denham & Dunsmore, 2001). While this theory does acknowledge several skills and experiences can influence ASC, it is possible discussion of factual information is too distant from emotion-related conversations to be of influence. Therefore, it may be a socialization strategy that does not impact emotion regulation because it does not address the emotional components of conversations. However, adolescents with fewer emotion regulation difficulties reported more depressive symptoms, particularly when mothers used more factual communication. As previously discussed, it is possible mothers who use more factual communication may do so *at the cost of* emotion-focused strategies. In turn, adolescents whose mothers use more factual communication are less equipped to understand their own emotions and less likely to receive support throughout their emotional experiences, leading to an association with higher depressive symptoms.

When examining the relationships between mothers' use of egocentric behaviors and adolescents' perceived familial support, there were not any differences in perceived social support for adolescents whose mothers used less egocentric behaviors, regardless of emotion regulation difficulties. These adolescents also reported the highest levels of perceived familial support. This is unsurprising, as it fits with past research and evidence that parents' egocentric

behaviors negatively impact adolescents. For example, when discussing traumatic experiences together, mothers who used less egocentrism had adolescents with less post-traumatic stress (Hendrickson et al., 2020). However, with mothers who used more egocentrism, adolescents with greater emotion regulation difficulties reported more support than adolescents with fewer difficulties. This was intriguing. This could be because this egocentrism is misconstrued as support by the adolescent—that mothers who center conversations on themselves are perceived as self-disclosing and empathizing more often with their adolescent through the eyes of the adolescent. In reality, mothers who center conversations on themselves are not sufficiently scaffolding adolescents' through their *own* emotional experiences and helping them learn strategies for coping and increased emotional competence. When parents make themselves the focus of the conversation, previous studies have found that adolescents display lower levels of self-esteem (e.g., Lindsey, Colwell, Frabutt, Chambers & MacKinnon-Lewis, 2008).

Alternatively, adolescent emotion regulation was reported by mothers—the same mothers showing more egocentrism in some cases. It is possible more egocentric mothers, those who talk about themselves more during discussions with adolescents, are quicker to view their adolescents as more emotionally unpredictable and volatile. In a study that examined the same global socialization behaviors we coded for, mothers who displayed more negative emotions and egocentric behaviors reported that their children had higher depressive symptoms and more internalizing problems two years later (Hastings et al, 2014). Nonetheless, this preliminary finding is worth further consideration. There may be unique challenges for parents and adolescents when one or both partners expresses more egocentrism and struggles with managing the other's perspective.

Strengths and Limitations

Our study is novel in several ways. This is a rarer use of observational data in mother-adolescent emotion socialization. This is also a rarer use of multiple emotion socialization coding schemes that captured several aspects of socialization. While the coding scheme capturing socialization behaviors has been used in previous studies that involve mother-adolescent discussions (e.g., Hastings et al., 2014), these studies have not encouraged autobiographical storytelling as part of mother-adolescent discussions and have focused on adolescent well-being more often than adolescent academic motivation and social support. It is the first study we are aware of that incorporates all of these elements into a single study. This research was conducted during major disruptions and quarantine periods of the COVID-19 pandemic. While conditions were less than ideal, we benefitted from a study design and computerized approach that allowed for collecting video recordings of family behaviors from the comfort of safety of families' homes. This was an important step for navigating safety while still collecting quality data.

While our study boasts several strengths, it is not without limitations. Our sample was small ($N = 45$) and lacked diversity in several demographic areas, including race/ethnicity, maternal education status, and adolescent gender. We analyzed a cis-gender sample of adolescents because a sample that included non-binary/gender queer adolescents was not sufficiently powered. Though common for multi-wave research, there was a attrition across our two timepoints. Attrition was disruptive to the point that data imputation was a recommended step for data preparation. Though our results reveal several significant findings with regards to punitive behaviors, we must acknowledge that punitive behaviors were rare overall. Future analyses may benefit from rescaling this variable to a binary score of absent (0) or present (1). Lastly, it is important to acknowledge that our storytelling prompts inherently encouraged discussion of positive events and emotions more often than negative emotions. We specifically

asked adolescents to reflect on a *positive* childhood memory and instances of learning and support from mothers. Previous studies have found that it is critical to examine the ways in which parents support adolescents' negative experiences and coach them through their negative emotions, and the ways parents socialize adolescents during these instances are meaningful for adolescent internalizing symptoms (e.g., Stocker, Richmond, and Rhoades, 2007). It is possible mothers may socialize differently when discussing negative memories with adolescents or when considering difficult times of challenge instead of instances of support, but we were not able to fully explore these differences.

Implications and Future Directions

Despite its limitations, this study has meaningful implications for the ways in which parents discuss emotions with adolescents and how these parenting practices influence adolescent well-being, academic motivation, and social support. Traditionally unsupportive parenting practices of punish and magnify continue to be negatively associated with adolescent well-being and academic motivation. Mothers do appear to socialize differently given adolescent gender and age, but only for specific socialization strategies. With older adolescents, mothers expand on adolescents' emotions more often, mirror adolescents' emotion frequently, and talk about themselves more often. It is possible mothers see their older adolescents as more mature and use these strategies to connect with them in different ways. Additionally, mothers may use these socialization strategies with older adolescents because they believe younger adolescents need simpler, more surface level scaffolding of emotions. In order to further explore the different ways mothers socialize by gender and age, future research should use longitudinal methods to determine the ways in which mothers' socialization strategies evolve as adolescents age.

Mothers' use of factual communication and structure and their implications on adolescent adjustment should be further explored as well, as increased use of factual communication in this study was associated with higher depressive symptoms and was used more often by mothers who reported higher levels of inconsistent discipline, and more structuring was associated with poorer academic motivation. Future studies should explore if these behaviors themselves are associated with poorer adolescent outcomes, or if there is an underlying deficit in supportive emotion socialization practices with mothers who use more factual communication and/or structuring.

Lastly, adolescent emotion regulation does appear to moderate the relationship between mothers' socialization strategies of factual communication and egocentrism, but only for adolescent well-being and perceived familial support, respectively. Improved emotion regulation abilities do appear to buffer adolescents whose mothers use less factual communication from higher depressive symptoms, but the same cannot be said of adolescents whose mothers use more factual communication. Interestingly, adolescents with greater emotion regulation difficulties and mothers who used more egocentric behaviors reported greater levels of perceived familial support. This is an early set of findings that deserves replication with larger and more diverse samples of families. Future research should examine emotion regulation as a moderating factor in this relationship, but should measure adolescents' self-reported or objectively reported emotion regulation instead of mothers' reports. Ultimately, our findings support previous findings for emotion socialization and its associations with adolescent age, gender, mental health, academics, and social support. Furthermore, this study extends past findings on emotion socialization by considering these behaviors in the context of parent-adolescent dyadic, autobiographical storytelling and across broad and specific socialization practices.

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Appendix

Table 1*Prompts and Instructions for Storytelling*

<p style="text-align: center;">Prompt 1: Positive Childhood Memory</p>	<p>Please think about an event from an earlier memory – from childhood or your teenaged years – that stands out as especially <i>positive</i> in some way. This would be a very positive, happy memory from your early years. Please describe this good memory in detail. What happened, where and when, who was involved, and what were you thinking and feeling? Also, what does this memory say about you or about your life?</p>
<p style="text-align: center;">Prompt 2: Life Lesson from your Parent</p>	<p>Throughout our lives, people are often exposed to many valuable life lessons that are shared in different ways by their family members. These lessons can be helpful to carry forward and apply as individuals become increasingly independent from their families. Please describe one of the most valued and important life lessons you've received from your parents. What did that lesson involve? How was it first shared with you? How has that lesson factored into your life?</p>
<p style="text-align: center;">Prompt 3: Support from the Partner</p>	<p>Please describe a recent time when you were supported by the other person you are with in this study—a time when they went along with your ideas, went the extra mile on your behalf, or did or said something that lifted your spirits. What happened and where? What were your thoughts and feelings during and following the experience? What were some of your takeaways from that experience?</p>

Table 2*Adolescent Self-Report Outcomes in Raw vs. Imputed Data*

	Raw Data	Imputed Data
Depressive Symptoms (PHQ)	Mean = 1.69	Mean = 1.71
Academic Motivation	Mean Intrinsic = 3.04 Mean Extrinsic = 3.52 Mean Amotivation = 1.72	Mean Intrinsic = 3.03 Mean Extrinsic = 3.52 Mean Amotivation = 1.74
Family Social Support	Mean = 5.90	Mean = 5.89

Table 3

Correlations between Adolescent Age and Gender and Academic Motivation and Depressive Symptoms

	1	2
1. Adolescent Age	--	
2. Adolescent Gender	.03	--
3. Depressive Symptoms	-.56***	-.16
4. Overall Academic Motivation	.18	-.35*
5. Intrinsic Motivation	.13	-.34*

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4

Descriptive Statistics and Correlations between Adolescent Depressive Symptoms, Social Support, and Academic Motivation

	1	2	3	4	5	6	7
1. Depressive Symptoms	--						
2. Overall Social Support	-.41*	--					
3. Social Support from Family	-.46**	.66***	--				
4. Overall Academic Motivation	-.25	.35*	.53**	--			
5. Intrinsic Motivation	-.21	.34	.53**	.95***	--		
6. Extrinsic Motivation	-.19	.30	.46**	.94***	.80***	--	
7. Amotivation	.46**	-.33	-.43*	-.64***	-.52**	-.58***	--
Mean	1.7	5.8	.5.9	3.3	3.0	3.5	1.7
SD	.51	.96	1.0	.80	.99	.85	.92

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Figure 1

Mothers' Use of Override Behaviors and its Associations with Adolescent Age and Adolescent Gender

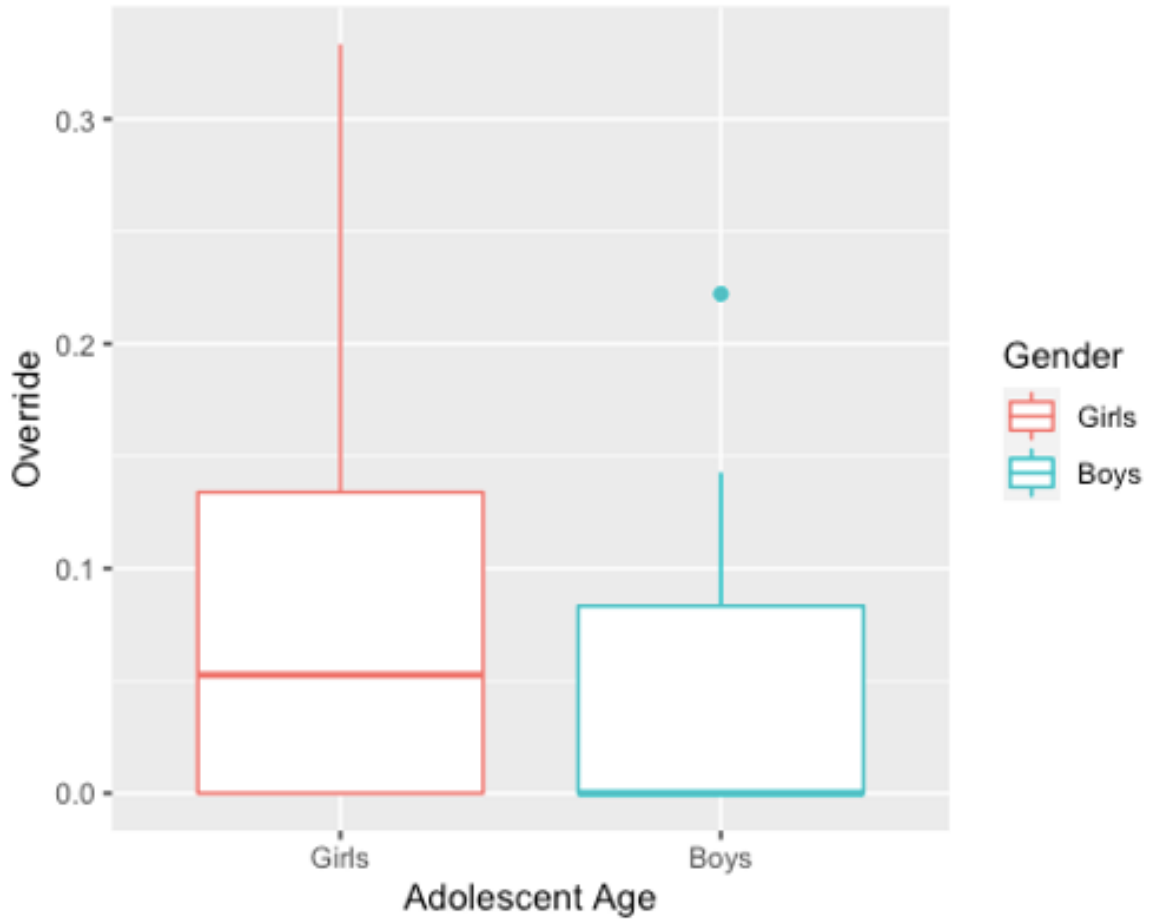


Figure 2

Mothers' Use of Emotional Communication and its Associations with Adolescent Age and Adolescent Gender

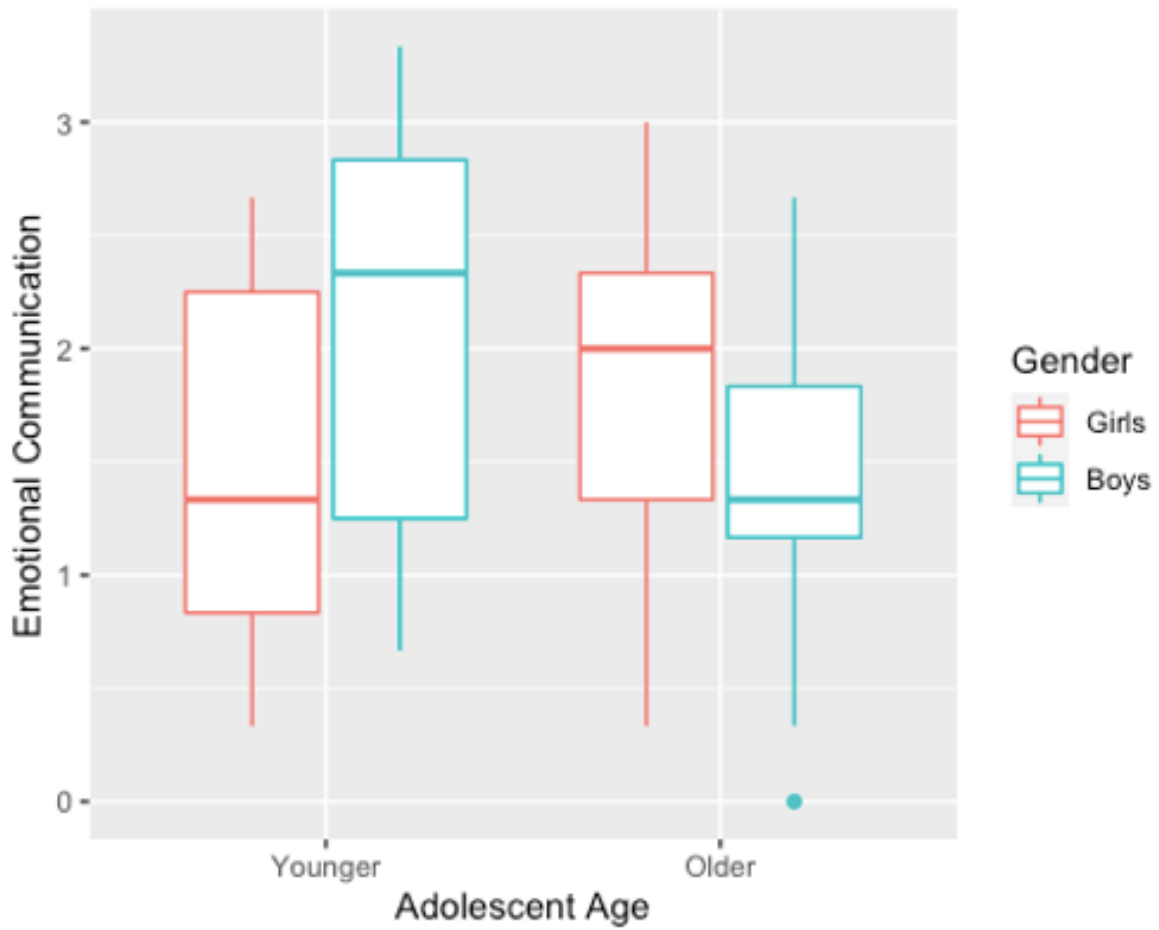


Figure 3

The Interaction Between Mothers' Self-Reports of Positive Parenting Practices and Mothers' Use of Magnify Behaviors and Adolescent Age

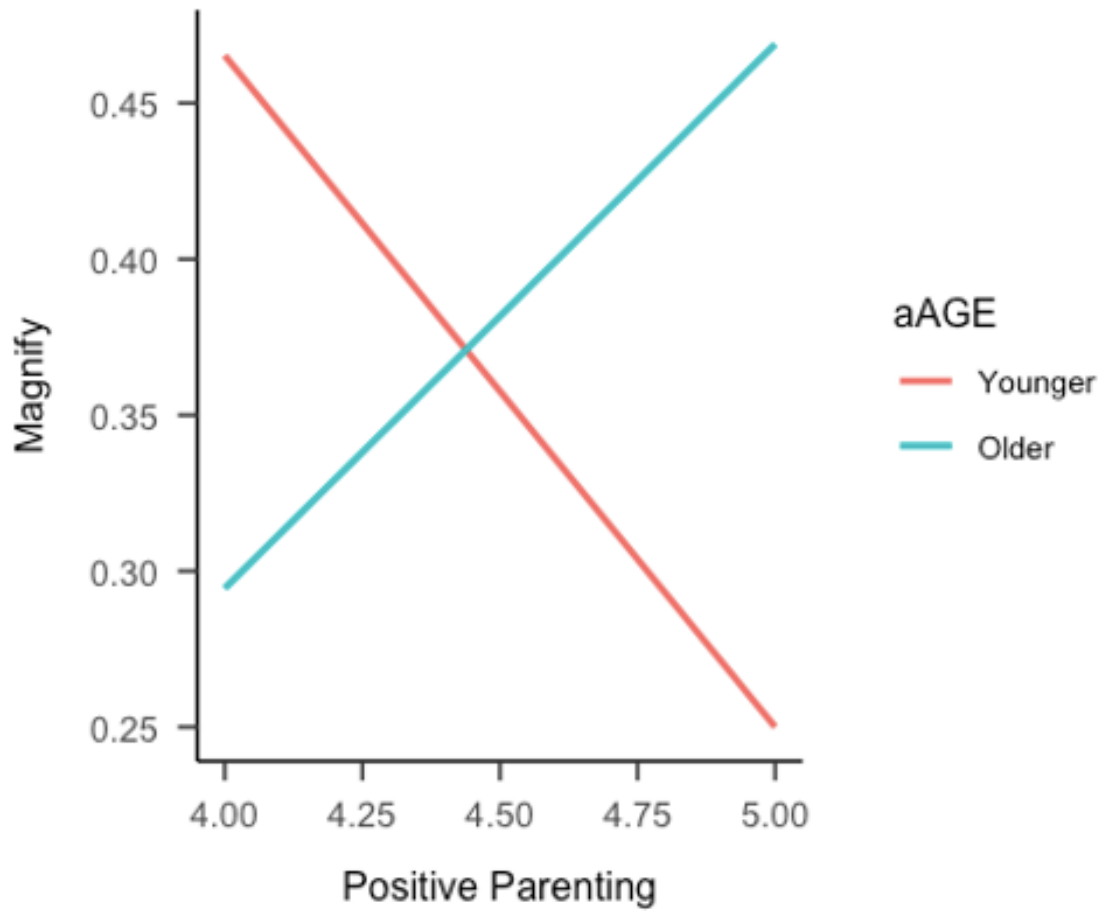


Figure 4

The Interaction Between Mothers' Self-Reports of Positive Parenting Practices and Mothers' Use of Emotional Communication and Adolescent Age

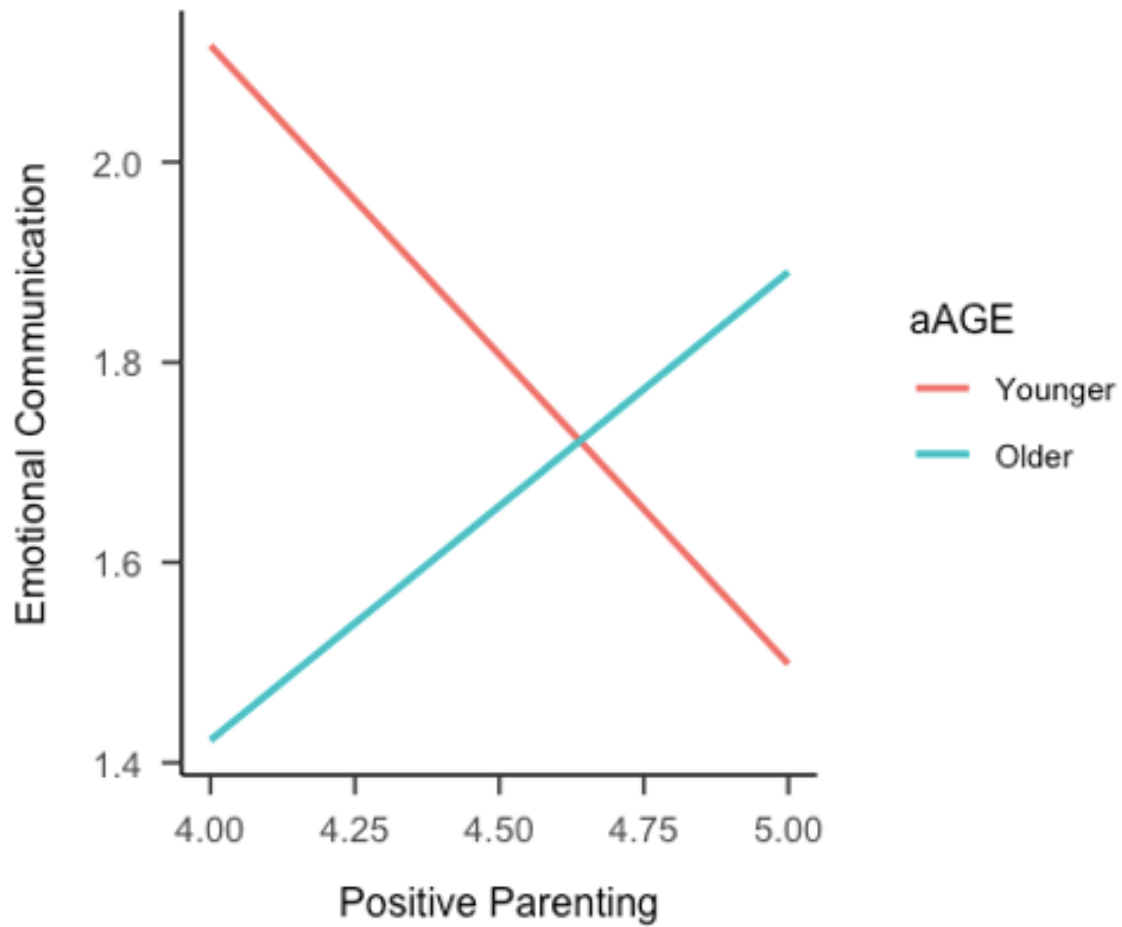


Figure 5

The Interaction Between Mothers' Self-Reports of Inconsistent Discipline Parenting Practices and Mothers' Use of Factual Communication and Adolescent Age

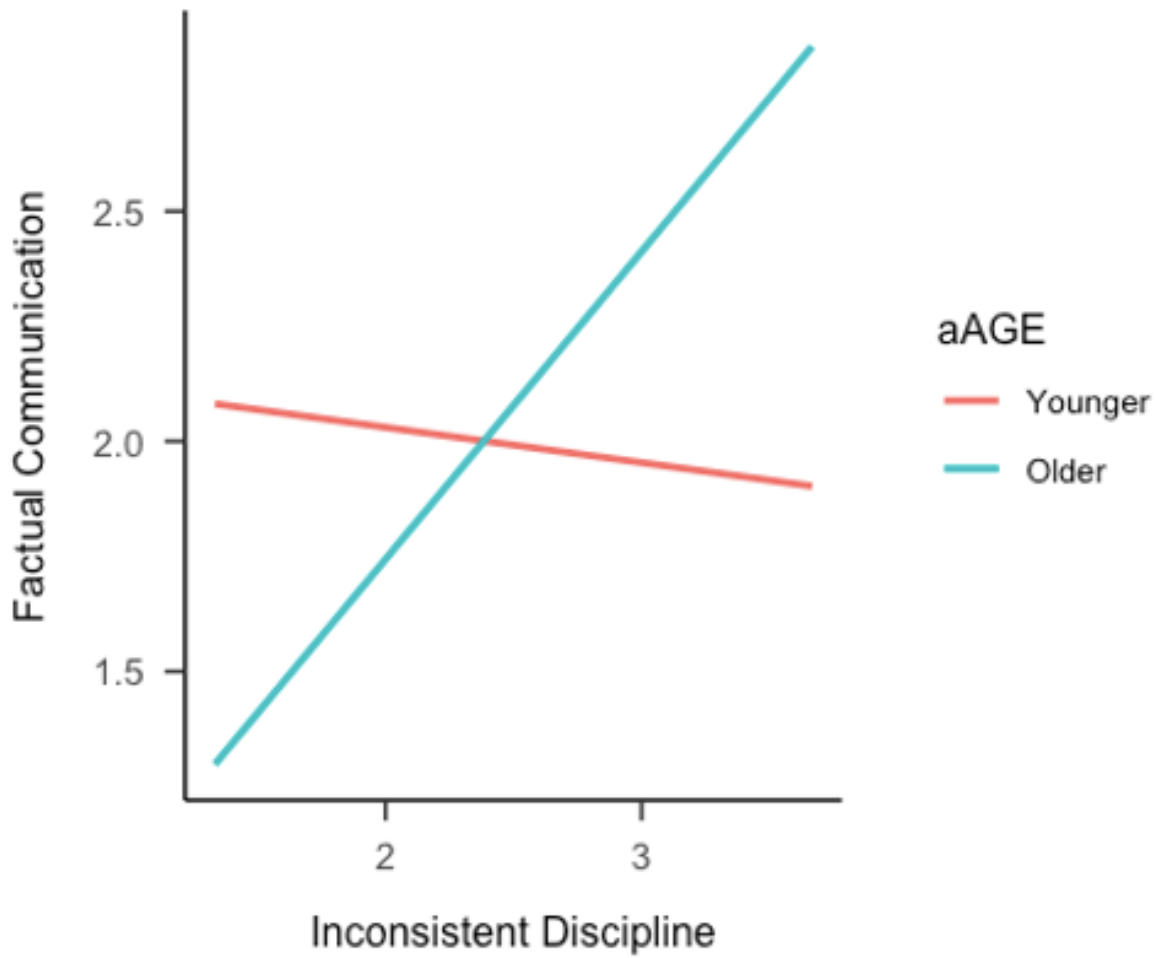


Figure 6

Between-Subjects Differences in Adolescents' Reports of Depressive Symptoms and Mothers'

Use of Override Socialization Behaviors

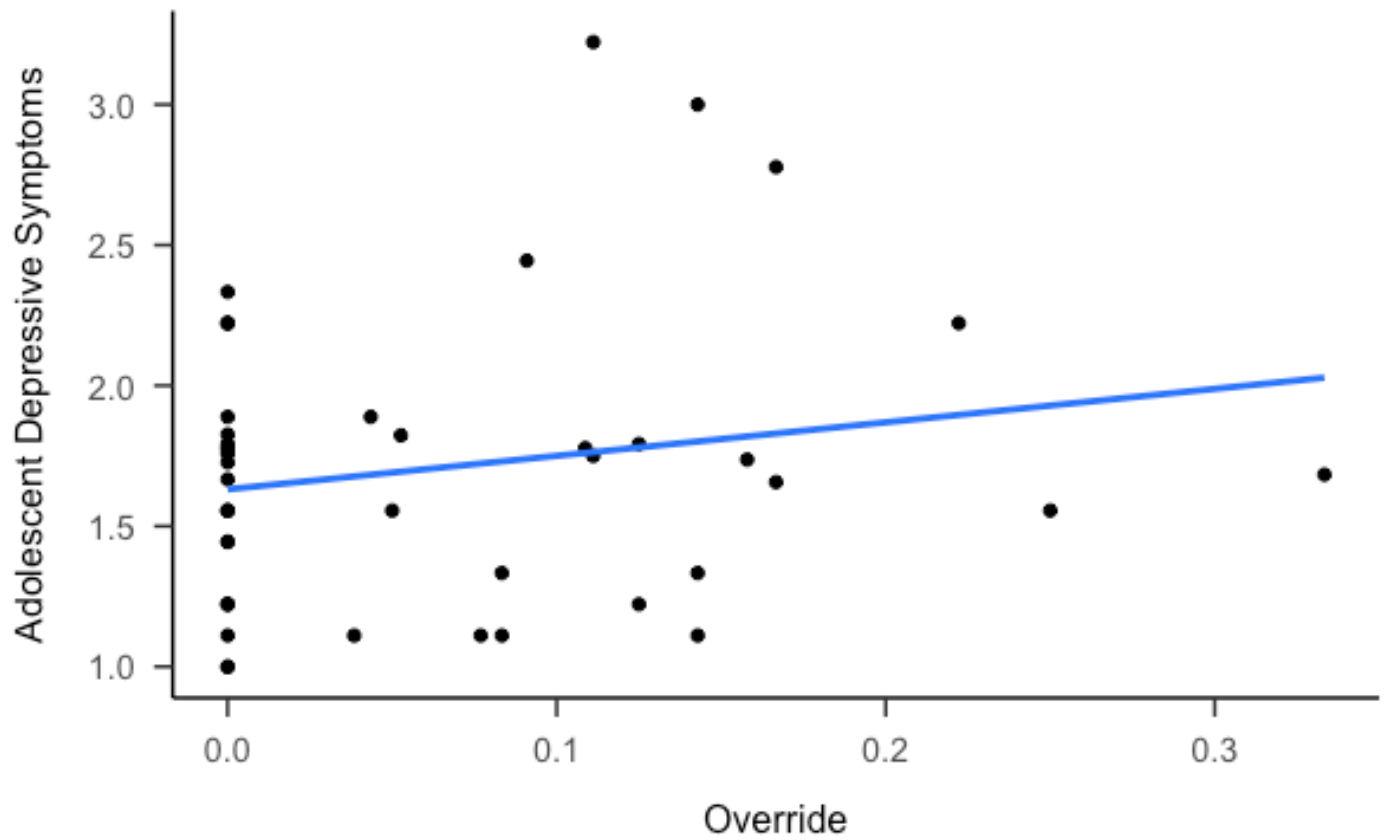


Figure 7

Between-Subjects Differences in Adolescents' Reports of Academic Amotivation and Mothers' Use of Punitive Behaviors

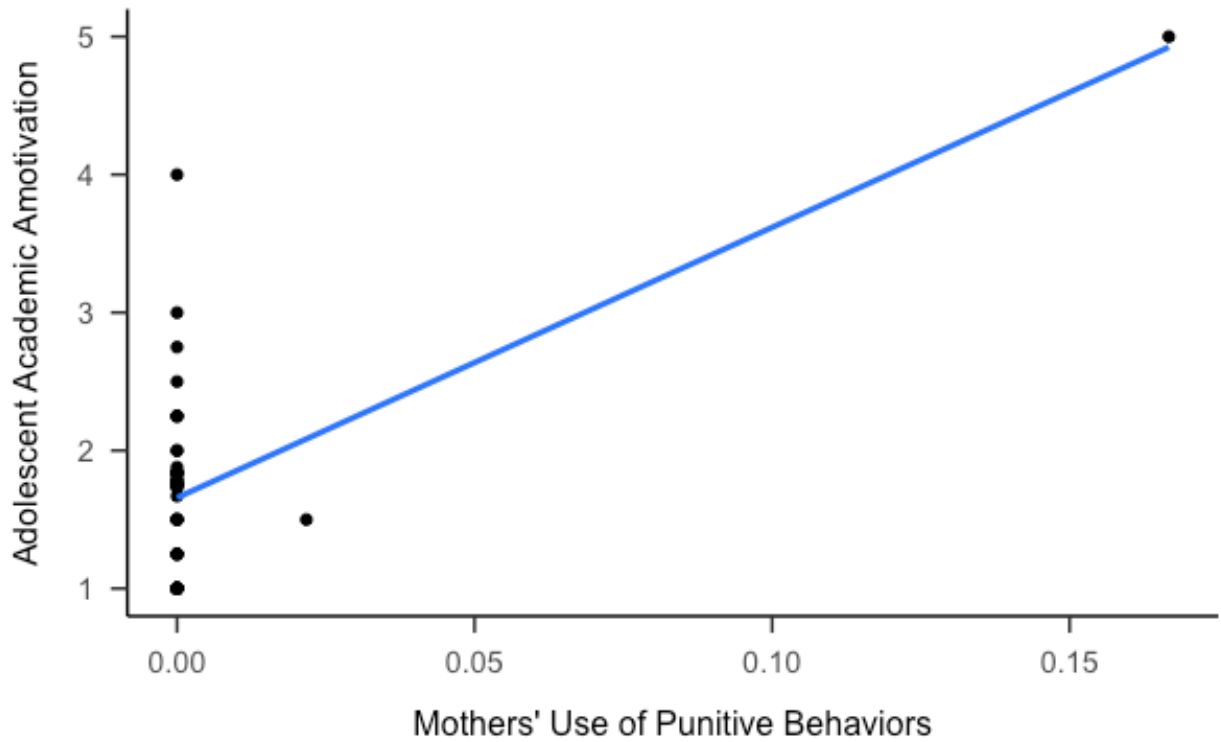


Figure 8

Between-Subjects Differences in Adolescents' Reports of Academic Extrinsic Motivation and Mothers' Use of Structure

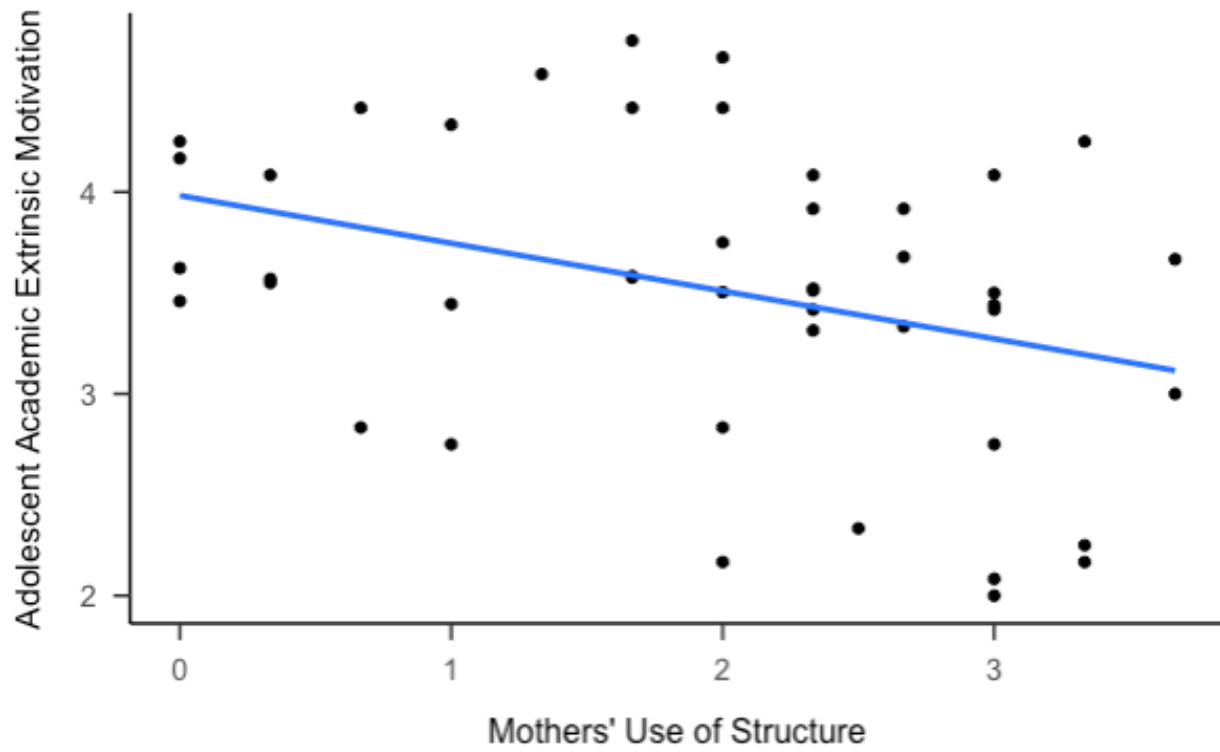


Figure 9

Between-Subjects Differences in Adolescents' Reports of Academic Amotivation and Mothers' Use of Structure

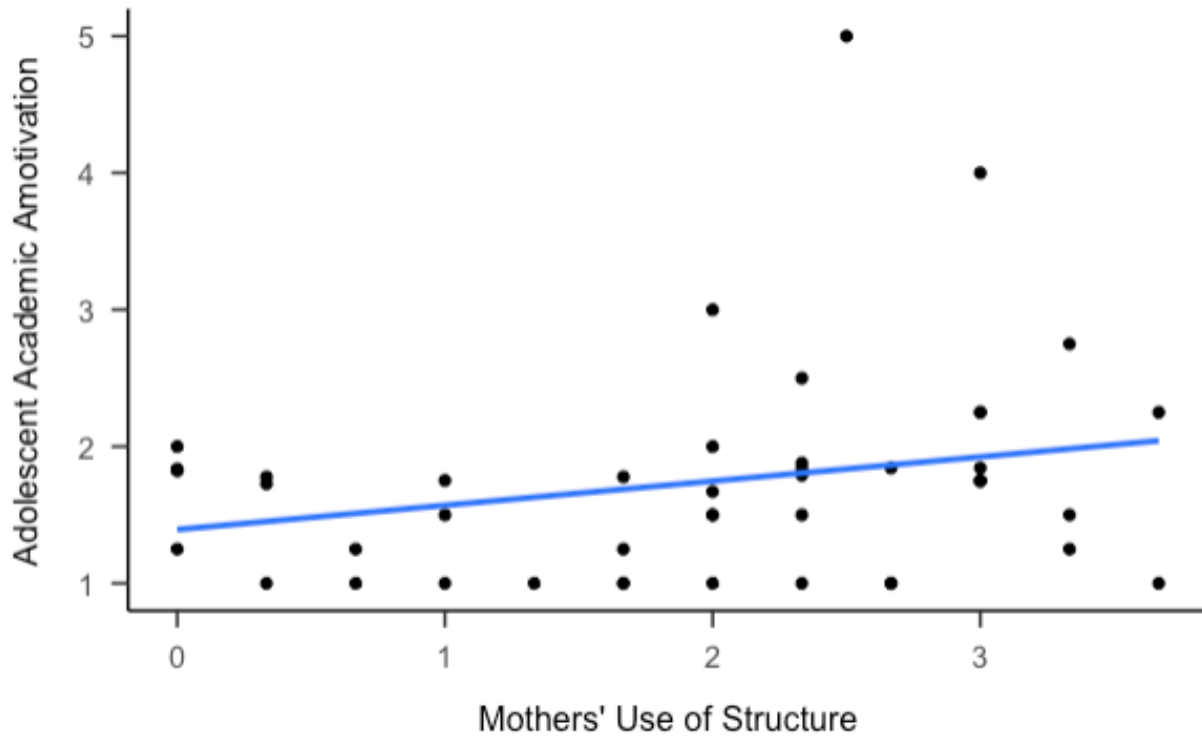


Figure 10

Moderating Role of Adolescent Emotion Regulation in Mothers' Use of Factual Communication and Adolescent Depressive Symptoms

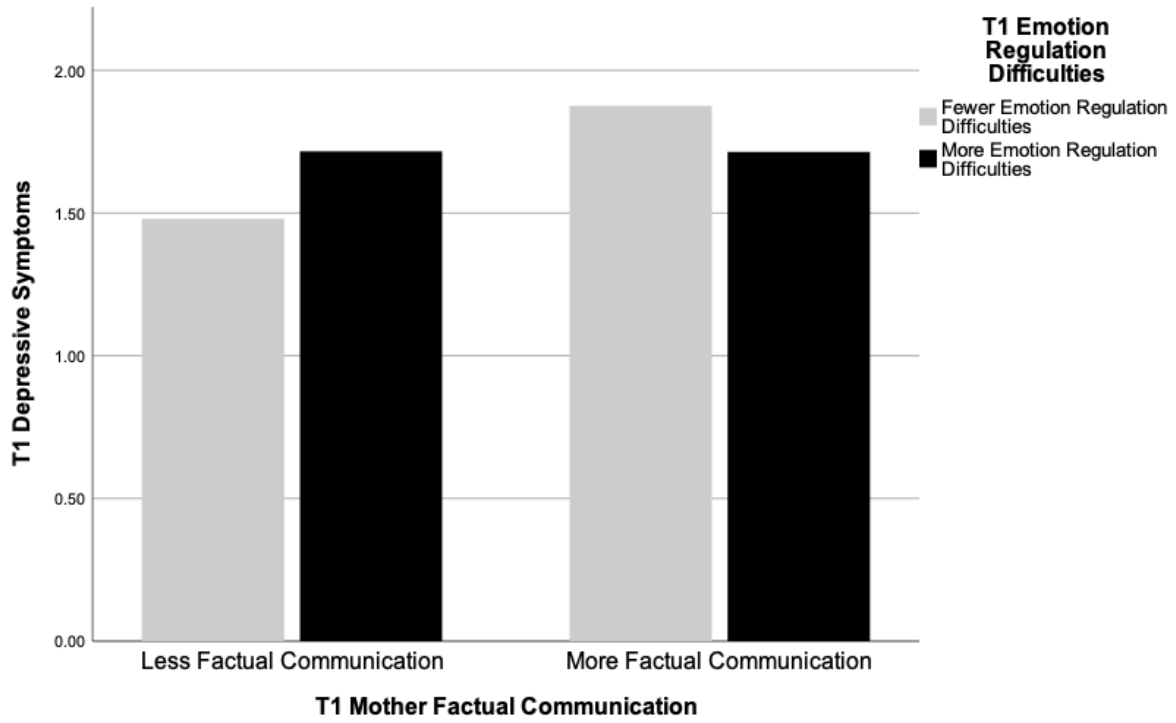


Figure 11

Moderating Role of Adolescent Emotion Regulation in Mothers' Use of Egocentric Behaviors and Adolescents' Perceived Familial Support

